

~~SECRET~~
Security Information

TAB A

<u>INTERVIEWEES (cont)</u>	<u>ORGANIZATION</u>	<u>FIELD OF COMPETENCY</u>
Mr. Philip G. Strong	Chief, Operations Staff, O/SI, CIA	Scientific and technical intelligence
Mr. Stephen T. Fossony	Acting Chief, Special Study Group, D/I USAF	Scientific and technical intelligence
Capt. Edward J. Ruppelt, USAF	Chief, Aerial Phenomena Branch, ATIC, USAF	Scientific and technical intelligence
Mr. J. Dewey Fournet, Jr.	The Ethyl Corporation	Aero Eng.
Lt. R. S. Neesham, USN	USN Photo Interpretation Laboratory, Anacostia	Photo interpretation
Mr. Harry Wac.	USN Photo Interpretation Laboratory, Anacostia	Photo interpretation

Released in MORI

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Approved For Release 2001/08/07 : CIA-RDP81R00560R000100030028-9

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Security Information

TAB B

SCIENTIFIC ADVISORY PANEL ON

UNIDENTIFIED FLYING OBJECTS

Released in MORI 14 - 17 January 1953

EVIDENCE PRESENTED

1. Seventy-five case histories of sightings 1951 - 1952 (selected by ATIC as those best documented).
2. ATIC Status and Progress Reports of Project GRUDGE and Project BLUE BOOK (code names for ATIC study of subject).
3. Progress Reports of Project STORK (code name for Battelle Memorial Institute contract work supporting ATIC).
4. Summary Report of Sightings at Holloman Air Force Base, New Mexico.
5. Report of USAF Research Center, Cambridge, Mass., Investigation of "Green Fireball" Phenomena (Project TWINKLE).
6. Outline of Investigation of U.F.O.'s Proposed by Kirtland Air Force Base (Project FOUNGE).
7. Motion Picture Films of sightings at Tremonton, Utah, 2 July 1952 and Great Falls, Montana, August 1950.
8. Summary Report of 89 selected cases of sightings of various categories (Formations, Blinking Lights, Hovering, etc.).
9. Draft of manual: "How to Make a FLYOVER", prepared at ATIC.
10. Chart Showing Plot of Geographic Location of Unexplained Sightings in the United States during 1952.
11. Chart Showing Balloon Launching Sites in the United States.
12. Charts Showing Selected Actual Balloon Flight Paths and Relation to Reported Sightings.
13. Charts Showing Frequency of Reports of Sightings, 1948 - 1952.
14. Charts Showing Categories of Explanations of Sightings.
15. Kodachrome Transparencies of Polyethylene Film Balloons in Bright Sunlight Showing High Reflectivity.

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Approved For Release 2001/08/07 : CIA-RDP81R00560R000100030028-9

16. Motion picture of seagulls in bright sunlight showing high reflectivity.
17. Intelligence Reports Relating to U.S.S.R. Interest in U. S. Sightings.
18. Samples of Official USAF Reporting Forms and Copies of Pertinent Air Force, Army and Navy Orders Relating to Subject.
19. Sample Polyethylene "Pillow" Balloon (54 inches square).
20. "Variations in Radar Coverage", JANP 101 (Manual illustrating unusual operating characteristics of Service radar).
21. Miscellaneous official letters and foreign intelligence reports dealing with subject.
22. Copies of popular published works dealing with subject (articles in periodicals, newspaper clippings and books).

Released in MORI

REPORT OF THE SCIENTIFIC PANEL
ON
UNIDENTIFIED FLYING OBJECTS
JAN 17 1953

Released in MORI

1. Pursuant to the request of the Assistant Director for Scientific Intelligence, the undersigned Panel of Scientific Consultants has met to evaluate any possible threat to national security posed by Unidentified Flying Objects ("Flying Saucers"), and to make recommendations thereon. The Panel has received the evidence as presented by cognizant intelligence agencies, primarily the Air Technical Intelligence Center, and has reviewed a selection of the best documented incidents.

2. As a result of its considerations, the Panel concludes:

- a. That the evidence presented on Unidentified Flying Objects shows no indication that these phenomena constitute a direct physical threat to national security.

We firmly believe that there is no residuum of cases which indicates phenomena which are attributable to foreign artifacts capable of hostile acts, and that there is no evidence that the phenomena indicate a need for the revision of current scientific concepts.

3. The Panel further concludes:

- a. That the continued emphasis on the reporting of these phenomena does, in these parlous times, result in a threat to the orderly functioning of the protective organs of the body politic.

We cite as examples the clogging of channels of communication by irrelevant reports, the danger of being led by continued false alarms to ignore real

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Approved for Release 2001/06/07 : CIA-RDP81R000000100030028-9

indications of hostile action, and the cultivation of a morbid national psychology in which skillful hostile propaganda could induce hysterical behavior and harmful distrust of duly constituted authority.

4. In order most effectively to strengthen the national facilities for the timely recognition and the appropriate handling of true indications of hostile action, and to minimize the concomitant dangers alluded to above, the Panel recommends:

a. That the national security agencies take immediate steps to strip the Unidentified Flying Objects of the special status they have been given and the aura of mystery they have unfortunately acquired;

b. That the national security agencies institute policies on intelligence, training, and public education designed to prepare the material defenses and the morale of the country to recognize most promptly and to react most effectively to true indications of hostile intent or action.

We suggest that these aims may be achieved by an integrated program designed to reassure the public of the total lack of evidence of inimical forces behind the phenomena, to train personnel to recognize and reject false indications quickly and effectively, and to strengthen regular

Released in
MORI

Approved

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Security Information
INC-D-
Date

INTELLIGENCE ADVISORY COMMITTEE

UNIDENTIFIED FLAME OBJECTS

1. Transmitted herewith for your information and appropriate action is a copy of the report of the scientific panel convened as a result of the action taken by the Intelligence Advisory Committee on 4 December (INC-4-90, paragraph 3 a) on this subject. Attached to the report are a list of personnel participating and a summary of evidence presented.

2. It is proposed to transmit copies of this report to the Secretary of Defense; the Director, Federal Civil Defense Administration; and the Chairman, National Security Resources Board for their information and such action as they may feel necessary.

3. The results of the panel's studies have moved CIA to conclude that no National Security Council Intelligence Directive on this subject is warranted.

4. Please inform the undersigned by _____ if you do not concur in the action and conclusions contained in paragraphs 2 and 3, above.

25X1A

██████████
Acting Secretary

Attachments:

1. Panel report
2. List of personnel
3. Summary of evidence presented

~~SECRET~~

Security Information

E

~~SECRET~~
POSSIBLE EXPLANATIONS

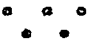

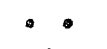

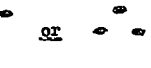





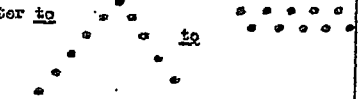


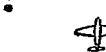
- A. Hysteria, hallucinations, hoaxes, etc. (Psychological)
- B. Misidentifications of conventional objects:
 - X₁ 1. Aircraft, missiles, searchlight reflections, etc. (man-made, controlled)
 - x₂ 2. Balloons, kites, etc. (man-made, uncontrolled)
 - x₃ 3. Birds, bugs, etc. (animal)
 - γ 4. Dust, seeds (e.g. dandelion), paper, etc. (foreign matter)
- C. Natural Phenomena:
 - x₁ 1. Light aberrations, reflections, refractions, etc.
 - X₂ 2. Anomalous radar propagation.
 - x₃ 3. Ionization, static electricity, ball lightning, etc.
 - γ 4. Planets, meteors and other astronomical bodies.
 - 5. Others.
- D. Unconventional man-made devices:
 - γ 1. US
 - X₄ 2. USSR and other foreign
- E. Extraterrestrial origin
 - 1. Animal
 - 2. Machine.

*Basis of Maj. Jounes' presentation
to OSI Adv. Sp 14-17 Jan 53
(given on 16 Jan)*

~~SECRET~~

SECURITY INFORMATION

SECRET
FORMATION
FORMATIONS

<p>(1) ↑  (2 in rear darted around in circular or sig-bag manner)</p>	<p>(2) ↑  (All objects had a swerving motion from side to side)</p>	<p>(3) ↑  .</p>	<p>(4) ↑ </p>
<p>(5) ↑ ↑  or</p>	<p>(6) ↑ </p>	<p>(7) ↑ ↑  to (Presumed)</p>	<p>(8) ↑  (Presumed)</p>
<p>(9) ↑ .2 in general trail formation (trailing object varied position)</p>	<p>(10) ↑ 4 objects (exact formation not specified)</p>	<p>(11) ↑ ↑  (Perfect formation)</p>	<p>(12) ↑ ↑  to (Presumed)</p>
<p>(13) ↑ ↑ Cluster to  to (Presumed)</p>	<p>(14) ↑ </p>	<p>(15) ↑ </p>	
<p>(16) ↑ 2 objects, one above other 5° apart</p>	<p>(17) ↑ </p>		

SECRET

E R62-1348

25X1A

DIRECTOR OF CENTRAL INTELLIGENCE AGENCY

WASHDC

POWERS CASE CLOSELY PARALLELS THAT OF AIR FORCE C118 DOWNED NEAR ORTING WASHINGTON APRIL 1ST 1959. IN BOTH CASES THERE WAS AN INITIAL SHOCK ACCOMPANIED BY A PERSISTANT ORANGE GLOW FOLLOWED BY STRUCTURAL FAILURE CAUSING CRASH. IN BOTH CASES PARACHUTE LIKE OBJECTS WHICH COULD NOTHAVE BEEN PARACHUTES WERE SEEN OVERHEAD. I SUGGEST AIRCRAFT FAILURE WAS THAT USSR WAS TESTING WEAPONS IN WASHINGTON THEREFOR THEIR CLAIM TO HAVE DOWNED POWERS WITH NEW SECRET WEAPON IS PROBABLY PROPACANDA WHICH TAKES ADVANTAGE OF U.S. UNREALISTIC APPROACH TO UFO PROBLEM. WILL FURNISH COMPLETE CASE HISTORY IF DESIRED

25X1A

C118 ORTING 1 1959 USSR UFO

1248A EST MAR 8 62

SENDER WILL CHECK CLASSIFICATION TOP AND BOTTOM

UNCLASSIFIED

CENTRAL INTELLIGENCE AGENCY
OFFICIAL ROUTING SLIP

TO	NAME AND ADDRESS	DATE	INITIALS
1	Col. Grogan		
2			
3			
4			
5			
6			

ACTION	DIRECT REPLY	PREPARE REPLY
APPROVAL	DISPATCH	RECOMMENDATION
COMMENT	FILE	RETURN
CONCURRENCE	INFORMATION	SIGNATURE

Remarks:

For your information and for whatever action you deem appropriate. You may want to send this on to [redacted]

25X1A

FOLD HERE TO RETURN TO SENDER

FROM: NAME, ADDRESS AND PHONE NO.	DATE
	3/8/62

UNCLASSIFIED	CONFIDENTIAL	SECRET
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UNCLASSIFIED

INTERNAL USE ONLY

CONFIDENTIAL

SECRET

Approved For Release 2001/08/29 : CIA-RDP75-00001R000400120074-0

ROUTING AND RECORD SHEET

SUBJECT: (Optional)

FROM: CABLE SECRETARIAT

NO. IN 39074
DATE 8 MARCH 1968

TO: (Officer designation, room number, and building)

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

NO.	TO	DATE		OFFICER'S INITIALS
		RECEIVED	FORWARDED	
1	25X1A			
2	[REDACTED]			
3	3-E-37 HCS BLDG.			
4	[REDACTED] 25X1A			
5	1 D 39			
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

PREPAID INCOMING TELEGRAM FOR YOUR ACTION.
1-3 Subject not on W.L.

FORM 1 DEC 54 610 USE PREVIOUS EDITIONS SECRET CONFIDENTIAL INTERNAL USE ONLY UNCLASSIFIED

ORD 4763-66
29 October 1966

MEMORANDUM FOR THE RECORD

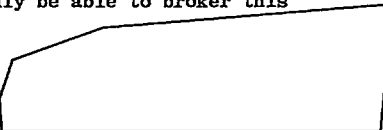
SUBJECT: Meeting with Drs. Price, Sander, Savely, and
Finch of AFOSR on 28 October 1966

1. Dr. Johnston and I met with representatives of AFOSR at their request. At a previous meeting with Drs. Savely and Finch, Dr. Savely asked if we would brief their boss, Dr. Price, about our use of AFOSR as a channel for Agency grants and contracts. Apparently AFOSR is somewhat nervous about the university problem. Dr. Price was cooperative and quite willing to continue and augment this cooperative program as soon as he understood how the system worked. I noted, however, that internal Air Force regulations require that projects in the behavioral and social sciences not involved in psychophysiology require approval at the legislative counsel level, and they anticipate problems with a Col. Hessberg. It turns out that Col. Hessberg works for Gen. Giller, so I told Dr. Price I would call Gen. Giller and see if he could smooth the path.

2. Dr. Price asked whether the Robinson report on UFO's could be declassified and released. Apparently the Agency and Air Force wrote the report in 1963 and the Agency has refused to declassify it, probably because it wishes to protect its sources. Dr. Price feels that with sanitation this report would appreciably assist them in their current difficulties over UFO's. I told him I would mention this to Gen. Giller. He should certainly be able to broker this with the Agency.

25X

USAF review(s)
completed.



Deputy Director
of
Research and Development

Distribution:

Original - Record; 1 - C/MBSD thru D/ORD; 1 - DD Chrono;
1 - ORD Chrono

25X1

ORD/DD/S&T: [redacted] (28 October 1966)

~~SECRET~~

138

THE JOHNS HOPKINS UNIVERSITY
OPERATIONS RESEARCH OFFICE
7100 CONNECTICUT AVENUE
CHEVY CHASE, MARYLAND
WASHINGTON 15, D. C.

OPERATING UNDER CONTRACT
WITH THE
DEPARTMENT OF THE ARMY

TELEPHONE
OLIVER 4-4200

4 December 1957

25X1A

[REDACTED]
Deputy Assistant Director
Central Intelligence Agency
Washington 25, D. C.

25X1A

Dear [REDACTED]

In answer to your letter of 19 Nov I fully agree that the report of the Panel on UFO's should be declassified, and have no objection to my name being released as a signatory. In fact, I feel that members of the Panel should all be willing to have their names used to back the Panel's conclusions.

As to paragraphs 3 and 4b, that Drs Robertson and Goudsmit wish to withhold, I have no strong opinion. It seems to me that paragraph 4 less subparagraph 4b should be released, and that release of a paraphrase of the second half of paragraph 3 (after 3a) might be desirable.

25X9

[REDACTED]
The enclosed exchange of letters may be of interest to you and for the Air Force. (My interest in calming the UFO jitters has not abated.)

Yours sincerely,

Thornton Page

THORNTON PAGE

Encl.

Log No. S65192

Copy 1 of 3 Copies

~~SECRET~~

10/24
Winter 52-53
UFO's

STATINTL *declassify enclosure.* STATINTL

Panel report.
Tab A - 2 conclusions.
Major J F Byrne x 74903.
AFCIN-XIA.

General - 10/25 - OK para 2
no para 3.

STANDARD FORM NO. 64

Approved For Release 2001/04/02 : CIA-RDP81R00560R000100080017-6
Office Memorandum • UNITED STATES GOVERNMENT

149

TO : AD/SI

DATE: 26 October 1957

FROM : DAD/C/SI
STATINTL

SUBJECT:

STATINTL

[redacted] called to tell me that Air Force had approached him for permission to declassify the conclusions of the "Report of the Scientific Panel on Unidentified Flying Objects", which OSI organized in January 1953. The request had come to *[redacted]* from Maj. James F. Byrne of AFCIN-XIA (ext. 74903).

STATINTL

I told *[redacted]* we would examine the matter and Maj. Byrne should contact me directly. I will take the necessary action on this on my return.

P. G. S.

Enclosure

Government Operations, Senate Permanent
Subcommittee on Investigations

Staff
Acting Chief, Donald F. O'Donnell

STATINTL

[Redacted]

Maj. Byrne called 28 Oct. re the declassification of the UFO report. He is going to send over the portion the AF wishes to declassify.

Marie

DOCUMENT DESCRIPTION	TOP SECRET	REGISTRY
SOURCE		CIA CONTROL NO. 115967
DOC. NO. <i>21/57</i>		<i>115967</i>
DOC. DATE <i>21 Sept 1957</i>		DATE DOCUMENT RECEIVED
COPY NO. <i>3 of 38</i>		LOGGED BY
NUMBER OF PAGES <i>2</i>		
NUMBER OF ATTACHMENTS <i>none</i>		

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REFERRED TO OFFICE	RECEIVED			RELEASED		SEEN BY	
	SIGNATURE	DATE	TIME	DATE	TIME	SIGNATURE AND OFFICE	DATE
<i>CSI</i>	[Redacted]	<i>23 Sept 57</i>		[Redacted]		[Redacted]	<i>23 Sep 57</i>
		<i>23 SEPT</i>					
		<i>29 Sept</i>					<i>10 Oct 57</i>
<i>ORD</i>	[Redacted]	<i>24 Oct 57</i>					<i>28 Oct 57</i>
<i>612 - Cont.</i>		<i>27 Jan 67</i>					
<i>To: R. C. G.</i>		<i>27 Jan 67</i>				<i>25X1A</i>	
	<i>25X1A</i>						

NOTICE OF DETACHMENT: When this form is detached from Top Secret material it shall be completed in the appropriate spaces below and transmitted to Central Top Secret Control for record.

DOWNGRADED	DESTROYED	DISPATCHED (OUTSIDE CIA)
TO	BY (Signature)	TO
BY (Signature)	WITNESSED BY (Signature)	BY (Signature)
DATE	DATE	DATE

~~TOP SECRET~~
NOFORN

Copy 5 of 30 cys
TS# 115947

25X1C

21 September 1957

MEMORANDUM FOR: Acting Director, Central Intelligence

SUBJECT : Unidentified Flying Object Reported on 20 September 1957

1. As reported by components of the US Air Defense Command, an unidentified flying object (UFO) was tracked by US radars on a relatively straight course from the eastern tip of Long Island to the vicinity of Buffalo. The object was reportedly moving westward at an altitude of 50,000 feet and speed of 2,000 kts. "Jamming" was reported by several radars in this vicinity and westward as far as Chicago. In a subsequent briefing for representatives of the IAC, the US Air Force reported that the original reports had been degraded somewhat by information that: (a) there was an 11 minute break in the track; (b) weather conditions in the area were of the type which have in the past produced false radar pips and electronic interference; (c) B-47's of SAC were in the area near Chicago on an ECM training flight. The ADC has not completed its investigation of this incident, but in any event it now seems clear that the phenomena reported west of Buffalo were not related to the UFO.

2. We have no intelligence on Soviet activities (e.g., long-range air, submarine, or merchant shipping operations) which can be related specifically to this reported event. We believe it unlikely that a Soviet aircraft could conduct a mission at this speed and altitude and return to Bloc territory. However, we credit the USSR with the capability to have a submarine-launched cruise-type missile of low ^{subsonic} performance and a range of about 500 n.m., but we have no specific evidence of the existence of such a missile.

3. We have examined possible Soviet motives for launching a one-way vehicle on an operation over the US, and consider that there would be little motivation at this time, except possibly a psychological or retaliatory motive, which we believe is marginal. One-way reconnaissance operations are largely ruled out by the likelihood that the results would be of small value, and the risk of compromise would be very great.

25X1C

~~TOP SECRET~~
NOFORN

~~TOP SECRET~~

NOFORN

4. We conclude, therefore, that it is highly improbable that a Soviet operation is responsible for the UFO reports of 20 September.

5. Considering the facts that the ADC investigation is incomplete, and that weather phenomena are increasingly likely explanations of the original reports, we recommend that no IAC meeting be called on this subject at this time.

25X1A

HERBERT SCOVILLE, Jr.

Copies to IAC Agencies as follows:

AEC	1
ONI	3
FBI	1
JIG	2
ARMY	3
AIR FORCE	3
STATE	3
CIA	5

NOFORN

~~TOP SECRET~~

-14-

making responsibilities and is inherent authority to receive confidential advice.

Q: Fred Smerck from Buffalo Grove, Illinois.

Mr. Carlucci, over a period of time, the CIA enjoyed a vast period of freedom. Then the Hughes-Ryan Amendment was passed to limit its power. It states that the President must approve all CIA movements and eight House and Senate committees consisting of 200 people must be informed shortly before or after the movement.

Do you think that -- the CIA wants to stop this. Do you think this will give the CIA too much power and freedom?

DEPUTY DIRECTOR CARLUCCI: A couple of points of clarification. The Hughes-Ryan Amendment applies only to those activities which are not solely for the purpose of intelligence collection. Turned around, those are known as special activities; that is, covert activity, activities by the CIA to try and influence events in other countries and to do so clandestinely. Such determinations are only made after a meeting of the National Security Council and a presidential finding.

We are required under the Hughes-Ryan Amendment to brief eight committees of Congress. We are asking not that we be relieved from the burden of briefing Congress, but that the eight committees be cut down to two committees, which is the normal oversight process, because, as I indicated earlier, eight committees learning about a covert action is almost a contradiction in terms. It's very difficult for it to remain covert, and I think the Congress is sympathetic towards a change in that.

Q: Mr. Carlucci, my name is George Braddock, and I'm from Bridgewater, Massachusetts.

You mentioned that the CIA was established to prevent another surprise attack on the United States, such as Pearl Harbor, and that you brief the President each day on the happenings of the various countries in the world. And I'd like to know why the CIA does not feel it necessary to brief the President on its findings in regards to many UFO sightings. After all, it's possible that they are invaders from another galaxy.

DEPUTY DIRECTOR CARLUCCI: Well, the responsibility for looking into UFOs rests with the Air Force and not with the CIA. So I would respectfully refer your question to the Air Force.

Memorandum

TO : Mr. Duckett

DATE: 18 July 1967

FROM : *[Signature]* [Redacted] 25X1A

SUBJECT: 1000 Meeting on UFO - 19 July

Just to confirm that the following plan to attend a meeting with you tomorrow (Wed at 1000) to discuss the UFO problem:

25X1A Jake Goodwin
Karl Weber
25X1A : [Redacted] (for Larry Houston,
who will be out of town)
25X1A [Redacted] (for Howard Osborn,
who has schedule conflict)
25X1A [Redacted] would like to sit in
if possible)

I have asked OSI for the 1953 Panel Report and pertinent data, and they have promised to have it available by meeting time tomorrow.

The file ^{was} is at the Records Center. *Was a Holed.*

ORD 4763-66
29 October 1966

MEMORANDUM FOR THE RECORD

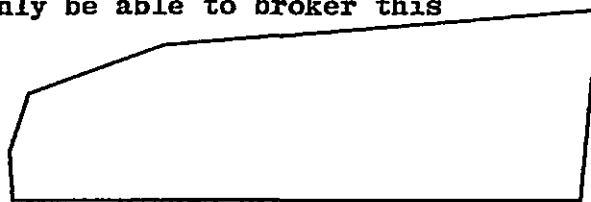
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2. Dr. Price asked whether the Robinson report on UFO's could be declassified and released. Apparently the Agency and Air Force wrote the report in 1963 and the Agency has refused to declassify it, probably because it wishes to protect its sources. Dr. Price feels that with sanitation this report would appreciably assist them in their current difficulties over UFO's. I told him I would mention this to Gen. Giller. He should certainly be able to broker this with the Agency.

25X

USAF review(s)
completed.



Deputy Director
of
Research and Development

Distribution:

Original - Record; 1 - C/MBSD thru D/ORD; 1 - DD Chrono;
1 - ORD Chrono

25X1

ORD/DD/S&T: [redacted] (28 October 1966)

~~SECRET~~

138

THE JOHNS HOPKINS UNIVERSITY
OPERATIONS RESEARCH OFFICE
7100 CONNECTICUT AVENUE
CHEVY CHASE, MARYLAND
WASHINGTON 15, D. C.

OPERATING UNDER CONTRACT
WITH THE
DEPARTMENT OF THE ARMY

TELEPHONE
OLIVER 4-4200

4 December 1957

25X1A

[Redacted]
Deputy Assistant Director
Central Intelligence Agency
Washington 25, D. C.

25X1A

Dear [Redacted]

In answer to your letter of 19 Nov I fully agree that the report of the Panel on UFO's should be declassified, and have no objection to my name being released as a signatory. In fact, I feel that members of the Panel should all be willing to have their names used to back the Panel's conclusions.

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25X9

[Redacted]
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Yours sincerely,

Thornton Page

THORNTON PAGE

Encl.

Log No. S65192

Copy 1 of 3 Copies

~~SECRET~~

~~SECRET~~ 10/24
Winter 52-53
UFO's

STATINTL

declassify enclosure STATINTL

Panel report.

Tab A - 2 enclosures.

Major J F Byrne x 74903.

AFCIN-XIA.

Goodman - 10/25 - OK para 2
no para 3.

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

149

TO : AD/SI

DATE: 26 October 1957

FROM : DAD/C/SI STATINTL

SUBJECT:

STATINTL

STATINTL

[redacted] called to tell me that Air Force had approached him for permission to declassify the conclusions of the "Report of the Scientific Panel on Unidentified Flying Objects", which OSI organized in January 1953. The request had come to [redacted] from Maj. James F. Byrne of AFCIN-XIA (ext. 74903).

I told [redacted] we would examine the matter and Maj. Byrne should contact me directly. I will take the necessary action on this on my return.

P. G. S.

DPD-2170-59

17 August 1959

MEMORANDUM FOR: Director, Photographic Intelligence Center

SUBJECT :

25X1A

25X1A 1. I have been negligent in writing to you, as has long been my intention, to record my favorable reactions to the work of your Deputy, [REDACTED]

25X1A 2. You are well aware of the fact that I am in almost daily communication with [REDACTED] on a number of questions bearing upon the relationship of your office to the handling and exploitation of materials and information resulting from a very sensitive project. It has been a source of satisfaction to me to be able to get the information and assistance which I need promptly and which I get through [REDACTED] careful and precise management. His technical competence and familiarity with both the policies and details bearing on these problems is a great asset. 25X1A

25X1A 3. May I also take this occasion to say that [REDACTED] recent mission [REDACTED] may be judged a success by virtue of the development since that time. I commend his performance in that regard. 25X1A

[REDACTED]
JAMES O. REBER
Chief, Special Requirements Staff
DPD-DD/P

cc: DD/I via Asst to DD/I (P)

C/SRS/DPD-DD/P:JQReber:alw
O&I - Addressee
1 - A/C/DPD-DD/P
2 - C/SRS/DPD-DD/P
✓ - Registry/DPD-DD/P

NRO REVIEW COMPLETED

[Redacted]

25X1

5 April 1963

MEMORANDUM FOR: Assistant Director, OSA
Deputy Assistant Director, OSA

SUBJECT: Summary of OSA Activities for Week Ending
3 April 1963

NERO

1. On 23 February 1963 Dr. Seville forwarded a memorandum to the Director, NRO requesting, (a) the transfer of two U-2 aircraft from the Air Force to CIA, (b) the procurement of four J-75 engines for IDEALIST, and (c) the transfer of [Redacted] to CIA in support of this program. However, as of this date, these requests have not been approved by the NRO.

25X1

[Redacted]

25X1

3. The NRO is interested in an improved search type satellite reconnaissance system, and desires the earliest comparative evaluation of the possibilities for development of such a system, which will be capable of large area coverage with ground resolution of six feet for target contrast of 2:1. Eugene Klefer and [Redacted] are completing evaluation with the NRO and Air Force group this week. Evaluation will include the [Redacted] proposal known as M-2 and all applicable variations of the [Redacted] project.

25X1

25X1

IDEALIST

1. On 27 March, the DD/R approved the Activity Program for three additional "B" Cameras from Kycan Corporation in the amount of [Redacted] and on 29 March he approved the Activity Program for a digital timing system for the IDEALIST aircraft totaling [Redacted]

NRO

25X1

25X1

[Redacted]

25X1

[Redacted]

25X1

OSCAR

1. The Director visited [Redacted] on 2 April 1963 where he witnessed launching of aircraft #124, toured the hangar, operations and [Redacted] building and was briefed by [Redacted] on status of pilot training and the F1 G4 construction program plans.

25X1

25X1

25X1

2. The Air Force has advised that a F-101F is available at Tyndall Air Force Base for transfer to our OSCAR project for training purposes. [Redacted] and a crew chief from [Redacted] are enroute to accept the aircraft.

25X1

25X1

25X1

3. OSCAR aircraft status for the week ending 3 April is as follows: There are presently six A-12 aircraft [Redacted] although aircraft #123 and #124 are the only vehicles flying at this time. Aircraft #121 and 122 were grounded the better part of this period due to the necessity of incorporating a plumbing change in the J-58 engine, but it is anticipated that these two vehicles will be in commission 4 or 5 April. Aircraft #125 is currently out of commission while a pressurized nose, which can accommodate the ARC 50, is being installed; aircraft #126 is in the reassembly process. Both #125 and #126 are expected to be ready for flight test on approximately 15 May. The next A-12 aircraft to be delivered to [Redacted] will be #127 about 14 May.

25X1

25X1

25X1

4. Eighteen J-58 engines have been delivered to the OSCAR Program. At the moment three of these engines are undergoing maintenance and overhaul at Hartford. Of the total of fifty-seven J-58 engines ordered, we anticipate delivery of four more in April.

25X1

5. There are three ARC 50 sets at [Redacted] and each earmarked for aircraft #125, 126 and 127. We expect delivery of four more sets in April and eight sets in May. Three ARC 50 sets are currently available for installation in KC-135 s, and four more will be available for KC 135 installation in April.

25X1

[Redacted]

25X1

NRO
25X1

~~SECRET~~

[Redacted]

25X1

6. In addition, thirteen full pressure suits, six seat pack kits, six parachutes, six oxygen pans and six timer pans are in stock at [Redacted]

25X1

7. [Redacted] manning is in fairly good shape at this time with [Redacted] positions and a proposed increase of [Redacted] personnel. We may, however, shortly experience critical problem areas in the Flight Planning Section, Physiological and Personal Equipment, Control Center/Command Post, Supply, and ME in order to fulfill our operational staging demands by 1 September.

25X1

25X1

25X1

8. The major problem in the OMBART Program at this time is the propulsion system match. We now have a fair definition of the problem, and plan to increase the instrumentation in flight test aircraft in order to further define this problem. Our objective is to match precisely the three prime components of the propulsion system, namely, the airframe inlet, the engine itself, and the airframe ejector. At this time the OMBART vehicle has only a Mach 2.5 capability because of the noticeable rattiness in the flight upon reaching that speed, however, we hope to achieve a Mach 3.2 speed after solving this system match problem.

[Redacted]

25X1

10. Regarding the profile and fuel consumption problems, a brief check of the climb and cruise performance of the aircraft at the original full fuel weight of 117,000 lbs and with the original specification engines when compared with the latest P8V engine data revealed very little change in overall performance. Although it is too early to predict any specifics on actual range, we can definitely say that the new thrust figures have brought our operational altitudes back to where they were originally, provided the aircraft has not grown too much in weight. The actual weight of the aircraft is next to impossible to ferret out.

25X1

(Signed)

[Handwritten signature]

JOHN H. McMAHON
Chief, Program Staff
(Special Activities)

[Redacted]

25X1

~~SECRET~~

~~CONFIDENTIAL~~

OTS/CB Memo #75-66
9 June 1975

MEMORANDUM FOR THE RECORD

SUBJECT: Briefing National Security Agency (NSA)
Concerning the Parapsychology Project at
Stanford Research Institute

SG1A

1. At the request of [redacted] chief of [redacted] branch at NSA, several research and analysis officers were briefed on 27 May 1975 concerning the above subject. The NSA personnel included [redacted]

SSG

SG

SG1I

[redacted]

SG1I

The briefing began by reviewing the history of OTS involvement with parapsychology at SRI since 1972. The major portion of the briefing was spent on the past one year contract at SRI. Mention of continuing operational evaluation of one subject and the discontinuance of further R&D was made.

2. The audience was told the subject matter was sensitive and controversial within CIA. It was my intention to give them the facts, my opinion and interpretation of the facts and summary of counter opinions and interpretations of those same facts.

3. The briefing continued for about 1-1/2 hours and was seriously received. The bottom line was the usual "very interesting, important....but I don't see where we have a role to play to effect anything. Please keep us informed."

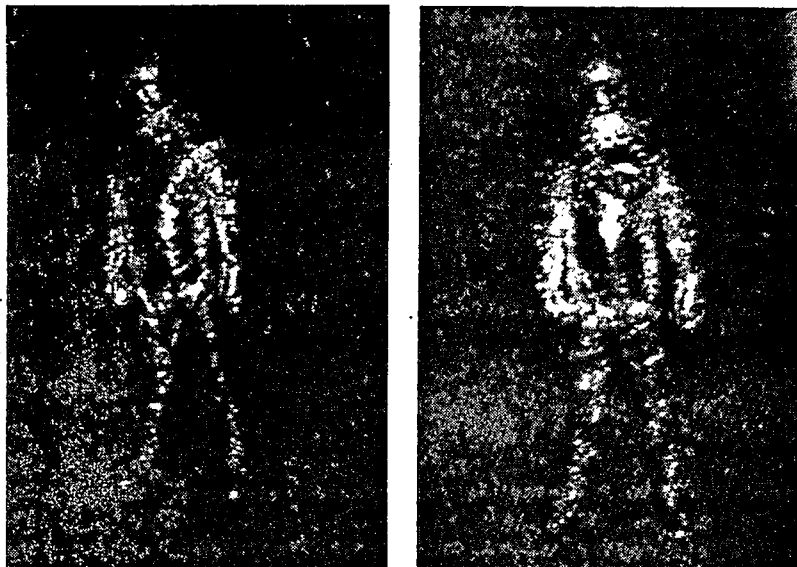
[redacted]
OTS/CB

SG

DECLASSIFIED
E.O. 11652, Sec. 3(E) and 5(D) or (E)
Authority AND 923065
By _____ NARS, Date _____

SG
B

Captive by Robots in UFO'



HERE ARE TWO of the shots taken by Falkville, Ala. policeman Jeff Greenhaw (below) of creatures he said were standing in middle of town's highway.

"ITS RELATIVE position was south-southeast and the moon that night was in the northeast, so it couldn't have been a reflection," the governor said.

"I'm absolutely serious," he told TATTLER. "It was not a plane, not a bird and it did not wear a cape." The governor said the light disappeared before he and his wife got to Ohio and added they were driving under a clear sky.

Greenfield Police Sgt. Hugh Oyer and Patrolman Mike Conklin said they chased separate UFOs in squad cars the night after Gov. Gilligan made his sighting.

At 8 p.m., Conklin was called to a house, where 30 people had gathered to watch a circular white object hovering 200 feet overhead.

"IT MADE A dull, humming noise that increased in frequency as it increased its speed," said the patrolman. He watched it five minutes - it had been there 10 minutes before - then followed the UFO.

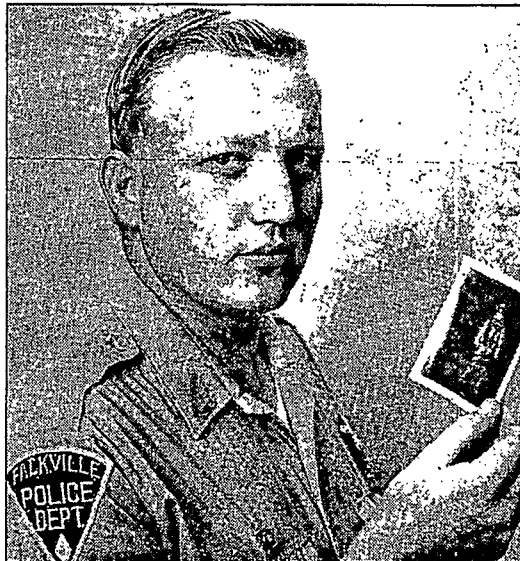
"It was a glowing white color with a red glow on the top," said Conklin. "I was only about 200 feet away from it and I would say it was about 100 feet in diameter with no windows and big enough to have three or four compartments stacked vertically."

Conklin told TATTLER that, when he pursued it, the saucer-like object began to hover above his car and stayed with him for each turn in the road.

"I WAS SCARED half to death," he said. "Then I saw it go down ahead of the road in a ravine. It could have landed, but I don't know if it did. I looked through some binoculars, saw something that looked like an egg and heard the noise. But I can't be sure it landed, although it still glowed white."

Sgt. Oyer, at the same time, was sighting a UFO of similar description.

"We couldn't have been looking at the same thing, because I was



looking to the southeast and Conklin was looking southwest," Oyer told TATTLER.

About 30 people were also around Oyer, watching the white glow "quite a distance away."

"I WASN'T afraid, but some of the people were standing behind me, holding on to my back," Sgt. Oyer said. "I could see the light speed up and slow down while it was moving, and then saw it go up and down real fast."

Conklin said he had previously believed in the possibility of flying saucers. Oyer said he never did. They both do now.

"I'm glad there were other people around when I saw it, because I might think I was crazy," Conklin said. "You see one like I did and you'll believe it."

As it has in more than half the

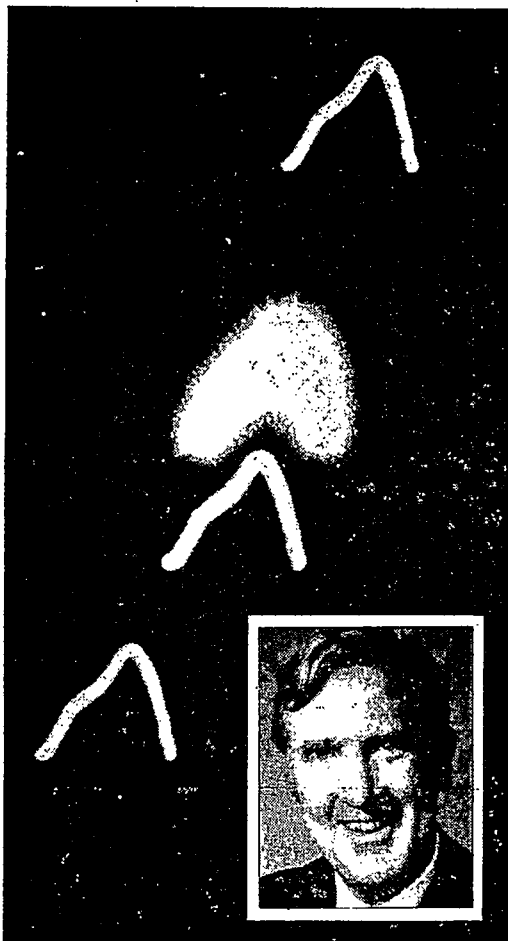
states in America, the UFO reports flooded in across Ohio.

THE SAME NIGHT the policemen saw the objects, a woman near Chillicothe, in southern Ohio, said three flying objects forced her car off a road, In Columbus, Ohio State University student Jesse Dunagan, 21, said he and a girlfriend saw a UFO land near his home the night of Oct. 14.

Dunagan told TATTLER: "The bluish-white object made all the stars in the sky look dim, as it zig-zagged across the sky before going down near a soybean field."

Dunagan said he waited until the next morning to investigate. Then he found an oblong imprint made in some weeds.

"It measured 42 feet, 7 inches in length and 27 feet, 5 inches in width,"



OHIO GOV. JOHN GILLIGAN (inset) says he spotted UFO sightings such as these while driving home one night.

he said. "The weeds were just mashed down and broken, but were not scorched and there were no signs of a helicopter or farm vehicle."

Dunagan, an Air National Guard flight controller, said the object moved at about 25 to 35 miles per hour and was about 500 feet overhead when he first saw it.

FAMILIAR WITH conventional aircraft, Dunagan said he is positive the object he saw was not a helicopter or an airplane.

"I was fascinated by the sight," he said. "I have always been interested in such things, but never thought I would see one."

Another Greenfield policeman, Roger Poole, saw a UFO in late September. Fearing the harassment now being inflicted on others who have revealed UFO sightings, Poole kept secret about what he saw until after his fellow patrolmen made public their sightings.

Poole told TATTLER the object he saw "was white with a red glowing light on top that changed to green and back to red."

A woman in Columbus who made a sighting said she is convinced "when we die, we don't go to Heaven; we go to another planet."



OHIO STATE student Jesse Dunagan kneels near place he said he saw UFO land and take off.

AIR FORCE REGULATION }
 NO. 200-2

ASL
File
 DEPARTMENT OF THE AIR FORCE
 WASHINGTON, 5 FEBRUARY 1958

INTELLIGENCE

Unidentified Flying Objects (UFO)

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This regulation establishes the responsibility and procedure for reporting information and evidence on unidentified flying objects (UFO) and for releasing pertinent information to the general public.

SECTION A—GENERAL

1. Background Information. The Air Force investigation and analysis of UFO's over the United States are directly related to its responsibility for the defense of the United States. Prompt reporting and rapid identification are necessary to carry out the second of the four phases of air defense—detection, identification, interception, and destruction; therefore, the Air Force maintains the Unidentified Flying Object Program. To implement this program successfully requires strict compliance with this regulation by all commanders.

2. Definitions. To insure proper and uniform usage in UFO screenings, investigations, and reportings, the objects are defined as follows:

a. *Familiar or Known Objects*—Aircraft, birds, balloons, kites, searchlights, and astronomical bodies (meteors, planets, stars).

b. *Unknown Aircraft:*

(1) Flying objects determined to be air-

craft. These generally appear as a result of ADIZ violations and often prompt the UFO reports submitted by the general public. They are readily identifiable as, or known to be, aircraft, but their type, purpose, origin, and destination are unknown. Air Defense Command is responsible for reports of "unknown" aircraft and they should not be reported as UFO's under this regulation.

(2) Aircraft flares, jet exhausts, condensation trails, blinking or steady lights observed at night, lights circling or near airports and airways, and other similar phenomena resulting from, or indications of aircraft. These should not be reported under this regulation as they do not fall within the definition of a UFO.

(3) Pilotless aircraft and missiles.

c. *Unidentified Flying Objects*—Any airborne object which, by performance, aerody-

*This regulation supersedes AFR 200-2, 12 August 1954.
 USAF Declass/Release Instructions On File

dynamic characteristics, or unusual features, does not conform to known aircraft or missiles, or which does not correspond to definitions in a and b above.

3. Objectives. Air Force interest in UFO's is three-fold: First, as a possible threat to the security of the United States and its forces; second, to determine the technical or scientific characteristics of any such UFO's; third, to explain or identify *all* UFO sightings as defined in paragraph 2c.

a. *Air Defense.* The great majority of flying objects reported have been found to be conventional, familiar things of no great threat to the security of the United States and its possessions. However, since the possibility cannot be ignored that UFO's reported may be hostile or new foreign air vehicles of unconventional design, it is imperative that sightings be reported rapidly, factually, and as completely as possible.

b. *Technical and Scientific.* The Air Force will continue to collect and analyze reports of UFO sightings until all can be scientifically or technically explained, bearing in mind that:

- (1) To measure scientific advances, the Air Force must have the latest experimental and developmental information on new or unique air vehicles or weapons.
- (2) The possibility exists that foreign air vehicles of revolutionary configuration or propulsion may be developed.
- (3) There is a need for further scientific knowledge in such fields as geophysics, astronomy, and the upper atmosphere which the study and analysis of UFO's and similar aerial phenomena may provide.
- (4) The reporting of all pertinent factors will have a direct bearing on scientific analyses and conclusions of UFO sightings.

c. *Reduction of Percentage of UFO "Unknowns."* Air Force activities must reduce the percentage of unknowns to the minimum. Analysis thus far has provided explanation for all but a few of the sightings reported. These unexplained sightings are carried statistically as unknowns. If more immediate, detailed objective data on the unknowns had been available, probably these too could have been explained. Due to the human factors involved, and the fact that analyses of UFO sightings are based primarily on the personal impressions and interpretations of the observers, rather than on accurate scientific data or facts obtained under controlled conditions, it is improbable that all of the unknowns can be eliminated.

4. Responsibilities:

a. *Reporting.* Commanders of Air Force bases will report all information and evidence of UFO sightings, including that received from other Services, Government agencies, and civilian sources. (See section C.)

b. *Investigation.* The commander of the Air Force base nearest to the location of the reported UFO sighting will be responsible for the conduct of all investigative action necessary to submit a complete initial report of a UFO sighting. Every effort will be made to resolve the sighting in the initial investigation. A UFO sighting reported to an Air Force base other than that closest to the scene of such sighting, immediately will be referred to the commander of the nearest Air Force base for appropriate action. (See paragraph 6.)

c. *Analysis.* The Air Technical Intelligence Center (ATIC), will analyze and evaluate:

- (1) Information and evidence reported within the zone of interior after the investigators of the responsible Air Force base nearest the sighting have exhausted their efforts to identify the UFO.
- (2) Information and evidence collected in oversea areas.

NOTE. *Exceptions:* The ATIC, independently or in participation with pertinent Air Force activities, may conduct any additional investigations necessary to further or conclude its analyses or findings.

d. *Public Relations and Information Services.* The Office of Information Services, Office of the Secretary of the Air Force, will be responsible for releasing information on sightings, and, in coordination with ATIC, for answering correspondence from the public regarding UFO's. (See paragraphs 7 and 8.)

e. *Congressional Inquiries.* The Office of Legislative Liaison will:

- (1) In coordination with the ATIC and/or the Office of Information Services, when necessary, answer all congressional mail regarding UFO's addressed to the Secretary of the Air Force and the United States Air Force.
- (2) Forward those inquiries which are scientific and technical to the ATIC for information on which to base a reply. The ATIC will return this information to the Office of Legislative Liaison for reply to the inquiry.
- (3) Process requests from congressional sources in accordance with AFR 11-7.

f. *Cooperation.* All Air Force activities will cooperate with Air Force UFO investigators to insure the economical and prompt success of investigations and analyses. When feasible, this cooperation will include furnishing air or ground transportation and other assistance.

5. Guidance. The thoroughness and quality of a report or investigation of UFO's are limited only by the skill and resourcefulness of the person who receives the initial information and/or prepares the report. The usefulness and value of any report or investigation depend upon the accuracy and timeliness of its contents. Following are aids for screening, evaluating, and reporting sightings:

a. Logic, consistency, and coherence of the observer's report should be given careful study. An interview with the observer by personnel preparing the report is especially valuable in determining the source's reliability and the validity of the information given. Particular attention should be given to the observer's age, occupation, and education; whether his occupation involves observation reporting or technical knowledge.

b. Theodolite measurements of changes of azimuth, and elevation and angular size.

c. Interception, identification, or air search if appropriate and within the scope of air defense regulations.

d. When feasible, contact with local aircraft control and warning (ACW) units, ground observer corps (GOC) posts and filter centers, pilots and crews of aircraft aloft at the time and place of sighting. Also contact with any other persons or organizations that may have factual data on the UFO or can offer corroborating evidence—visual, electronic, or other.

e. Consultation with military or civilian weather forecasters for data on tracks of weather balloons released in the area and any unusual meteorological activity which may have a bearing on the UFO.

f. Consultation with navigators and astronomers in the area to determine whether any astronomical body or phenomenon would account for the sighting.

g. Contact with military and civilian tower operators, air operations units, and airlines to determine whether the sighting could have been an aircraft. Local units of the Civil Aeronautics Administration (CAA) are often of assistance in this regard.

h. Contact with persons who may know of experimental aircraft of unusual configuration,

rocket and guided missile firings, or aerial tests in the area.

i. Contact with photographic units or laboratories. Usually, these installations have several cameras available for specialized intelligence or investigative work. Photography is an invaluable tool and, where possible, should be used in investigating and analyzing UFO sightings. (See paragraph 19.)

6. Zone of Interior Collection. Both the Assistant Chief of Staff Intelligence, Headquarters USAF, and the Air Defense Command have a direct and immediate interest in the facts pertaining to UFO's reported within the zone of interior.

a. All Air Force activities will conduct UFO investigations to the extent necessary for their required reporting action (see paragraphs 15, 16, and 17); however, investigations should not be carried beyond this point, unless such action is directed by Assistant Chief of Staff, Intelligence, Headquarters USAF.

b. After initial reports are submitted, the ATIC may require additional data, such as narrative statements, sketches, marked maps and charts, and other required data, which can be supplied more quickly and economically by the Air Force activity that made the initial report. Therefore, ATIC is authorized to contact the appropriate Air Force activity.

c. Direct communication is authorized between ATIC and other Air Force activities in matters pertaining to UFO investigations. Specifically, the ATIC may call upon the 1006th Air Intelligence Service Squadron (AISS) to assist the base commander responsible for further field investigation if review of the initial report indicates such a requirement. (See paragraph 4b.)

SECTION B—PUBLIC RELATIONS, INFORMATION, CONTACTS, AND RELEASES

7. Maintaining Public Relations. The Office of Information Services is responsible for:

a. In coordination with the ATIC when necessary, maintaining contact with the public and the press on all aspects of the UFO program and its related activities.

b. Releasing information on UFO sightings and results of investigations.

c. Periodically releasing information on this subject to the general public.

d. Processing, answering, and taking action on correspondence received from the general

public, pertaining to the public relations, interest, and informational aspects of the subject. (See paragraph 9.) This office will forward correspondence and queries which are purely technical and scientific to ATIC for information on which to base a reply.

8. Releasing Information. All information or releases concerning UFO's, regardless of origin or nature, will be released to the public or unofficial persons or organizations by the Office of Information Services, Office of the Secretary of the Air Force. This includes replies to correspondence (except congressional inquiries) submitted direct to ATIC, and other Air Force activities by private individuals requesting comments or results or analysis and investigations of sightings.

9. Exceptions. In response to local inquiries resulting from any UFO reported in the vicinity of an Air Force base, information regarding a sighting may be released to the press or the general public by the commander of the Air Force base concerned only if it has been *positively identified as a familiar or known object*. Care should be exercised not to reveal any classified aspects of the sighting or names of persons making reports. (See paragraph 18.) If the sighting is unexplainable or difficult to identify, because of insufficient information or inconsistencies, the only statement to be released is the fact that the sighting is being investigated and information regarding it will be released at a later date. If investigative action has been completed, the fact that the results of the investigation will be submitted to the ATIC for review and analysis may be released. Further inquiries should be referred to the local Office of Information Services.

10. Release by Non-Air Force Sources. If newsmen, writers, publishers, or private individuals desire to release unofficial information concerning a UFO sighting, every effort will be made to assure that the statements, theories, opinions, and allegations of these individuals or groups will not be associated with or represented as being official information.

11. Contacts. Private individuals or organizations requesting Air Force interviews, briefings, lectures, or private discussions on UFO's will be referred to the Office of Information Services, Office of the Secretary of the Air Force. Air Force personnel, other than those of the Office of Information Services, will not contact private individuals on UFO cases nor will they discuss their operations and functions with unauthorized persons unless so directed, and then only on a "need-to-know" basis.

SECTION C—PREPARING AND SUBMITTING REPORTS

12. General Information:

a. Paragraphs 2 and 5 will be used as an aid and guidance to screenings, investigations, and reportings. The format will be as outlined in paragraph 15. Activities initially receiving reports of aerial objects and phenomena will screen the information to determine if the report concerns a valid UFO within the definition of paragraph 2c. Those reports not within that definition will not be considered for further action under the provisions of this regulation.

b. To assist activities and personnel responsible for handling, screening, and processing initial, incoming UFO information, the general sources and types of reports are given here:

(1) Generally, initial UFO reports are received from three sources:

(a) Civilian (airline, private and professional pilots, tower operators, technical personnel, casual observers, and the public in general), by correspondence, telephone, or personal interview;

(b) Military units and personnel (pilots, observers, radar operators, aircraft control and warning units, etc.), by telephone, electrical message, or personal interview;

(c) Quasi-military units (Ground Observer Corps (GOC) posts, observers, and filter centers), usually by telephone.

(2) Generally, UFO reports received from civilian sources are of two types:

(a) Those referring strictly to an observed UFO, containing either detailed or meager information;

(b) Those referring only in part to an observed UFO, but primarily requesting information on some aspect of the UFO program.

c. Reports considered to fall primarily in a public relations or information service category (see paragraphs 4d, 7, 8, 9 and b(2) above) should be referred to the Office of Information Services. UFO data sufficient for investigation and/or analysis may be extracted before referral to that office.

13. Methods for Transmitting Reports. Coupled with any necessary screenings and investigations that must be performed preparatory to reporting, all information on UFO's will be reported promptly. Reports under 3 days from

date of sighting will be electrically transmitted with a "Priority" precedence. Electrically transmitted reports over 3 days old should carry a "Routine" precedence.

Written reports of sightings over 3 days old may be submitted on AF Form 112, Air Intelligence Information Report (AIIR) and AF Form 112a, supplement to AF Form 112 (see paragraphs 14 and 15); however, their use should be kept at a minimum in reporting initial sightings. The delays often involved in processing and transmitting AF Forms 112 through channels may make followup investigations difficult, producing only limited usable information. This factor must be considered in cases where an immediate investigation or study of a reported sighting is considered necessary. Reporting by electrical means will eliminate delays. A follow-up and/or complete report of all sighting initially reported electrically will be submitted on AF Form 112.

14. Where to Submit Reports:

a. *Electrical Reports.* Submit multiple addressed electrical reports to:

- (1) Commander, Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado
- (2) Nearest Air Division (Defense). (For zone of interior only.)
- (3) Commander, Air Technical Intelligence Center
Wright-Patterson Air Force Base
Dayton, Ohio
- (4) Assistant Chief of Staff, Intelligence Headquarters USAF
Washington 25, D.C.
- (5) Office of Information Services
Headquarters USAF
Washington 25, D.C.

b. *Written Reports:*

- (1) Within the zone of interior, submit all reports direct to ATIC. ATIC will reproduce each report and distribute it to interested zone of interior intelligence activities and to Office of Information Services, if such action is deemed necessary.
- (2) Outside the zone of interior, submit reports as prescribed in "Intelligence Collection Instruction" (ICI) June 1954, direct to:
Assistant Chief of Staff, Intelligence
Headquarters USAF
Washington 25, D.C.

c. *Reports from Civilians.* Where possible, civilian sources contemplating reporting UFO's should be advised to submit the report, for proc-

essing and transmission, to the nearest Air Force base, other than ATIC.

15. Basic Reporting Data and Format. Show the abbreviation "UFO" at the beginning of the text of all electrical reports and in the subject of written reports. Include in all reports the data required, in the order shown below:

a. *Description of the Object(s):*

- (1) Shape.
- (2) Size compared to a known object (use one of the following terms: Head of a pin, pea, dime, nickel, quarter, half dollar, silver dollar, baseball, grapefruit, or basketball) held in the hand at about arm's length.
- (3) Color.
- (4) Number.
- (5) Formation, if more than one.
- (6) Any discernible features or details.
- (7) Tail, trail, or exhaust, including size of same compared to size of object(s).
- (8) Sound. - If heard, describe sound.
- (9) Other pertinent or unusual features

b. *Description of Course of Object(s):*

- (1) What first called the attention of observer(s) to the object(s)?
- (2) Angle or elevation and azimuth of the object(s) when first observed.
- (3) Angle or elevation and azimuth of object(s) upon disappearance.
- (4) Description of flight path and maneuvers of object(s).
- (5) How did the object(s) disappear? (Instantaneously to the North etc.)
- (6) How long was the object(s) visible. (Be specific, 5 minutes, 1 hour, etc.)

c. *Manner of Observation:*

- (1) Use one or any combination of the following items:
Ground-visual, ground-electronic, air electronic. (If electronic, specify type of radar.)
- (2) Statement as to optical aids (telescopes, binoculars, and so forth) used and description thereof.
- (3) If the sighting is made while airborne, give type of aircraft, identification number, altitude, heading, speed, and home station.

d. *Time and Date of Sighting:*

- (1) Zulu time-date group of sighting.
- (2) Light conditions. (Use one of the following terms: Night, day, dawn, dusk).

e. Location of Observer(s). Exact latitude and longitude of each observer, and/or geographical position. A position with reference to a known landmark also should be given in electrical reports, such as "2mi N of Deeville;" "3mi SW of Blue Lake." Typographical errors or "garbling" often result in electrically transmitted messages, making location plots difficult or impossible.

Example: 89 45N, 192 71W for 39 45N, 102 21W.

f. *Identifying Information on Observer(s)*:

- (1) Civilian—Name, age, mailing address, occupation.
- (2) Military—Name, grade, organization, duty, and estimate of reliability.

g. *Weather and Winds-Aloft Conditions at Time and Place of Sightings*:

- (1) Observer(s) account of weather conditions.
- (2) Report from nearest AWS or U.S. Weather Bureau Office of wind direction and velocity in degrees and knots at surface, 6,000', 10,000', 16,000', 20,000', 30,000', 50,000'; and 80,000' if available.
- (3) Ceiling.
- (4) Visibility.
- (5) Amount of cloud cover.
- (6) Thunderstorms in area and quadrant in which located.

h. Any other unusual activity or condition, meteorological, astronomical, or otherwise, which might account for the sighting.

i. Interception or identification action taken (such action may be taken whenever feasible, complying with existing air defense directives).

j. Location, approximate altitude, and general direction of flight of any air traffic in the area at time of sighting.

k. Position title and comments of the preparing officer, including his preliminary analysis of the possible cause of the sighting(s).

l. Existence of physical evidence, such as materials and photographs.

16. Negative or Inapplicable Data. Even though the source does not provide or has not been asked for specific information by an interviewer, do not use the words "negative" or "unknown" until all logical leads to obtain the information outlined under paragraph 15 have been exhausted. For example, information on weather conditions in the area, as requested in paragraph 15g, may be obtained from the local military or civilian weather facility. Use the

phrase "not applicable" (N/A) only when the question does not apply to the particular sighting being investigated.

17. Comments of Preparing Officer. The preparing officer will make a preliminary analysis, and a comment on the possible cause or identity of the object being reported, together with a statement supporting his comment and analysis. Every effort will be made to obtain pertinent items of information and to test all possible leads, clues, and hypotheses concerning the identity or explanation of the sighting. (See paragraph 5.) The preparing officer receiving the report initially is in a much better position to conduct an "on-the-spot" survey or followup than subsequent investigative personnel and analysts who may be far removed from the area, and who may arrive too late to obtain vital data or the missing information necessary for firm conclusions.

18. Classification. Do not classify reports unless data requested in paragraph 15 require classification. Classify reports primarily to protect:

- a. Names of sources reporting UFO's and other principals involved, if so requested by these persons or considered necessary;
- b. Intelligence, investigative, intercept, or analytical methods or procedures;
- c. Location of radar and other classified sites, units, and equipment;
- d. Information on certain types, characteristics, and capabilities of classified aircraft, missiles, or devices that may be involved in the sighting.

19. Reporting Physical Evidence. Report promptly the existence of physical evidence (photographic or material):

- a. *Photographic*:
 - (1) *Still Photographs.* Forward the negative and two prints. Title the prints and the negatives, or indicate the place, time, and date of the incident.
 - (2) *Motion Pictures.* Obtain the original film. Examine the film strip for apparent cuts, alterations, obliterations, or defects. Include in the report comment on any irregularities, particularly if received from other than official sources.
 - (3) *Supplemental Photographic Information.* Negatives and prints, in themselves, often are insufficient to provide certain valid data or to permit firm conclusions. (See AFM 200-9—a

classified document receiving limited distribution.) Information that will aid in plotting or in estimating distances, apparent size and nature of object, probable velocity, and movements includes:

- (a) Type and make of camera,
 - (b) Type, focal length, and make of lens,
 - (c) Brand and type of film,
 - (d) Shutter speed used,
 - (e) Lens opening used, that is, "f" stop,
 - (f) Filters used,
 - (g) Was tripod or solid stand used,
 - (h) Was "panning" used,
 - (i) Exact direction camera was pointing with relation to true north, and its angle with respect to the ground.
- (4) *Other Camera Data.* If supplemental information cannot be obtained, the minimum camera data required are the type of camera, and the smallest and largest "f" stop and shutter-speed readings of the camera.

- (5) *Radar.* Forward two copies of each still-camera photographic print. Title radarscope photographic prints in accordance with AFR 95-7. Classify radarscope photographs in accordance with section XII, AFR 205-1, 3 January 1956.

NOTE: If possible, develop photographic film before forwarding. If undeveloped film is forwarded, mark it conspicuously to indicate this fact. Undeveloped film often has been destroyed by exposure during examinations made while en route through mail channels to final addressees.

b. *Material.* Each Air Force echelon receiving suspected or actual UFO material will safeguard it in a manner to prevent any defacing or alterations which might reduce its value for intelligence examination and analysis.

c. *Photographs, Motion Pictures, and Negatives Submitted by Individuals.* Photographic and motion picture material is often submitted by individuals as part of their UFO reports. All original material submitted, will be returned to the individual upon completion of necessary studies, analyses, and duplication by the Air Force.

BY ORDER OF THE SECRETARY OF THE AIR FORCE:

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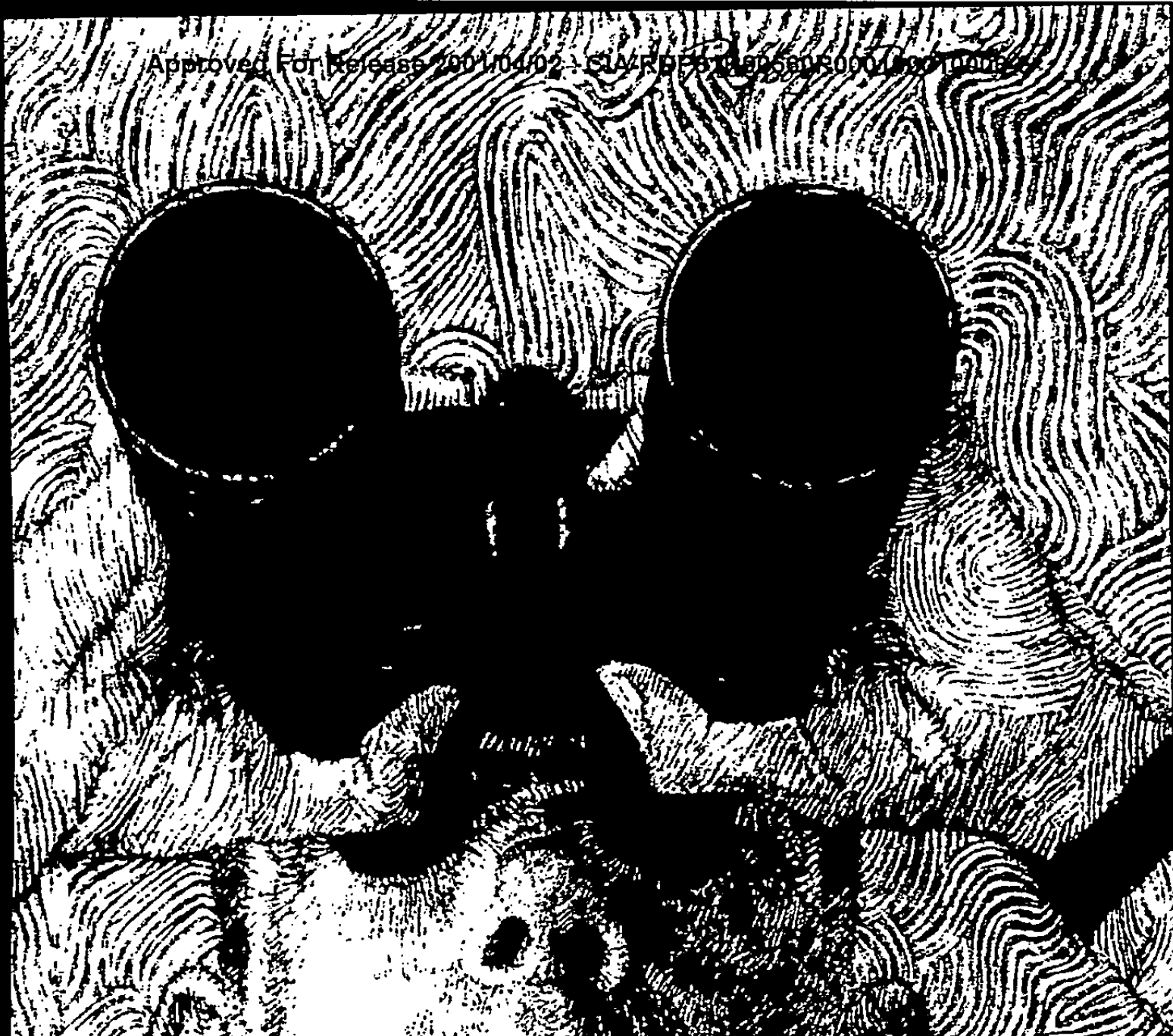
J. L. TARR
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Chief of Staff

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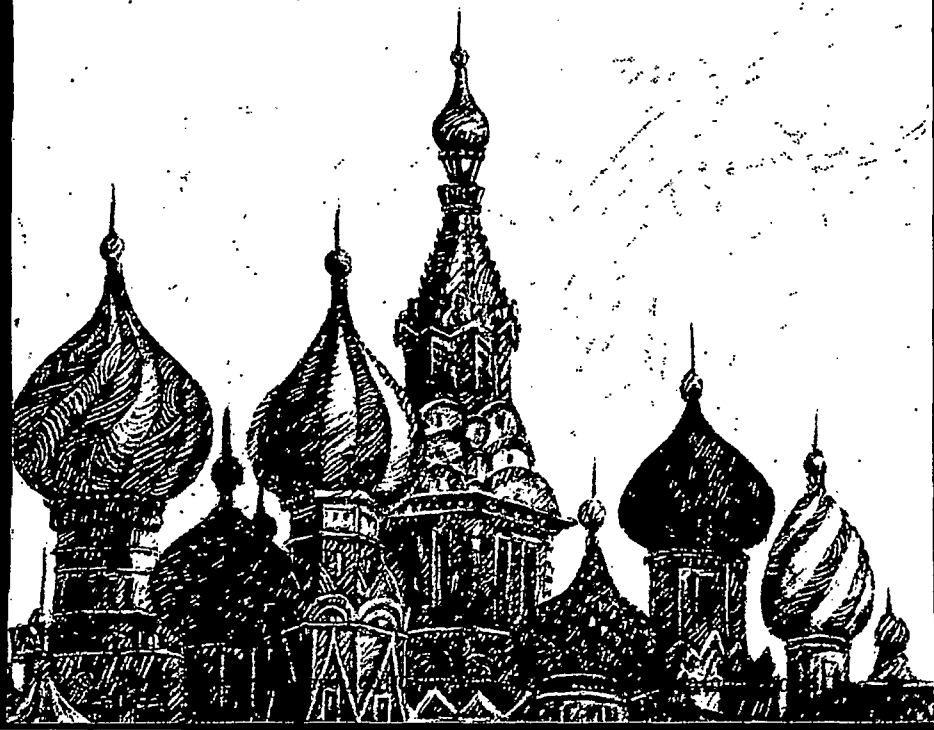
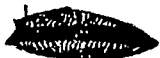
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Appr

THE UFO GAP



RECORDED

submit the puzzling phenomenon of the UFOs to a many-sided, careful scientific investigation."

We know enough now about the way the U. S. S. R. announces its scientific advances—the element of surprise the Russians have built into every step of their space program is one example—to guess that a Soviet writer would hardly call for "a many-sided, careful scientific investigation" of a phenomenon unless such an investigation were already going on.

Late last summer, the *Chicago Sun-Times* ended its story about the discovery —by a Massachusetts Institute of Technology physicist—of very puzzling narrow-band radio signals from space with the sentence, "Reportedly, Soviet scientists have also been active in such searches." Highly directional, single-frequency radio signals, of course, might be remarkable evidence of extraterrestrial life.

Zigel's discussion of UFOs in *Cmema* considers five theories about their nature. The fifth theory—that UFOs are "flying apparatus of other planets, investigating the earth"—is the only one of the five to which he offers no objections.

In sum, what little "hard" information I have—and my intuition—tells me that the U. S. S. R. may have been studying UFOs with dispassionate thoroughness for years. From my own official involvement, I know that the United States is only now beginning to consider treating the problem seriously.

In 1948, I was asked by the U. S. Air Force to serve as a scientific consultant on the increasing number of reports of strange lights in the sky. I was then director of the astronomical observatory of Ohio State University and am now the chairman of the astronomy department at Northwestern. I had scarcely heard of UFOs in 1948 and, like every other scientist I knew, assumed that they were nonsense. For the first few months of my association with what is now Project Blue Book—the name of the very small office at Wright-Patterson Air Force Base in Dayton, Ohio, concerned with UFOs—I had no reason to change this opinion. The reports of sightings that came to our attention then were either identifiable flying objects (IFOs), such as weather balloons, meteors or planes, or they came to us from patently unreliable witnesses. A few others were hoaxes.

But over the years, cases began to accumulate for which I could find no satisfactory physical explanation. In fairness to Project Blue Book, I can say that nearly all of the cases that I consider unsolved have remained so labeled in Air Force files, despite charges by critics that the Project always found an explanation for a report. On the other hand, the Project did acquire the habit of subtly modifying its disposition of particular cases over a period of time. A sighting that the evaluator had said was "possibly" traceable to conventional aircraft at the

time it occurred would appear in the Project's annual report as "probably" traceable to conventional aircraft. More important than such small distortions, however, is the fact that the Wright-Patterson group usually consisted only of a captain, who headed the team, one other officer, a sergeant and myself, as occasional consultant. The fact that the commanding officer was a captain indicates the extent of the Air Force's concern for this investigation.

My complaint here is not primarily against the Air Force—which, after all, is not a scientific investigative agency. But, under the aegis of the Air Force or not, there should have been a large, well-staffed UFO research group in this country since the first waves of reports.

In the past 20 years, I have analyzed more than 15,000 reports of UFO sightings. About 90 percent of these turned out, on quick inspection, not to have been UFOs at all, but readily identifiable objects. Of the remaining 10 percent, I made a further division in my mind between those that came to me from reasonably reliable observers—about 70 percent—and those that came from oddballs of one stripe or another. What this means is that there are at least 1000 UFO reports that remain completely unresolved in my own mind. As a scientist, 1000 perplexing cases strike me as significant enough to warrant professional and thorough investigation. I frankly do not know why the Government has been so slow in coming to the same conclusion.

The popular attitude among scientists in the late Forties was that UFOs were a product of what some called "post-War nerves." Of course, when reports of the sightings continued well into the Fifties—and began to arrive from many regions of the globe—this theory was out. Unfortunately, the attitude that accompanied the theory was retained. How many UFO reports there might have been if the popular and academic attitude toward UFOs were one of neutral inquiry instead of derision will never be known. Even an Air Force major general does not want to be laughed at by an Ivy League professor.

One reason the professors were so contemptuous of the reports was that UFOs, obviously, cannot be studied in the laboratory. Results that can be verified through repeatable, quantitative laboratory experiments are still considered the essence of science. What must be remembered is that much of our accurate, scientific knowledge about the universe was not gathered or verified in laboratories—and cannot be. We know much less about tornadoes than we would if we could whip one up whenever we wanted it; but we certainly accept the fact that they exist and, in fact, have some universally accepted theories about their formation, composition and behavior. That information is the result of unsheduled

observation. Similarly, many accepted findings in zoology—our ideas about social structure among wild lions, for example—could come only from patient observation in the field. With UFOs—as with tornadoes, sunspots, animals in their wild state and a host of other aspects of the world—the scientist must mount an attack to suit the phenomena. To select phenomena that meet the demands of laboratory research leads to error in many fields and is impossible with UFOs.

The existing evidence may indicate a possible connection with extraterrestrial life, the probable existence of which is generally accepted. If such life does exist and if there is any possibility of establishing communication with it, our scientific knowledge of that life might even be critical to our survival. Now let us be clear: The existence of extraterrestrial intelligence and the UFO phenomenon may be two entirely different things. But the latter, in itself, poses an interesting scientific problem. How can it be studied? Do we ignore it simply because the evidence we have does not follow the strict rules of scientific evidence?

The question now is not whether but how to design a truly scientific approach to the UFO problem. When the Air Force last year appointed a special commission to study the UFO problem—the so-called Condon committee, meeting at the University of Colorado and named for its chairman, Dr. Edward Condon—it tacitly recognized the seriousness of the problem. I trust I will not seem to be trespassing on the committee's territory if I outline here a scheme that I think would be a thorough and efficient way to obtain scientific knowledge of UFOs.

Let us suppose we have before us 5000 UFO reports. We appoint two scientific panels, one composed of physical scientists, the other of social scientists. We ask the first panel to examine the reports and assign to each a "strangeness index," Σ , on a scale of 1 to 5. By "strangeness" we shall mean the difficulty in ascribing a simple scientific explanation for the report, taken at face value. An attempt shall be made by the scientific panel to evaluate the strangeness of the report. Given the report as is, how difficult is it to find a natural, normal explanation for it?

Thus, $\Sigma 1$ and $\Sigma 2$ would refer to UFO reports that, even though taken at face value, nonetheless find a ready explanation. They can then be excluded from further consideration. They are IFOs rather than UFOs. Here are a few examples of IFOs: In May 1953, in a small town in Wisconsin, a group of solid citizens excitedly reported that for several nights running, just before sunrise, a bright object, "much too bright to be a star," appeared in the East and "remained there, getting slowly higher and higher

(continued on page 267)

THE UFO GAP (continued from page 146)

in the sky, even after all the stars had disappeared." The witnesses were so insistent and vocal that this couldn't be anything ordinary that I made a quick trip to the town. I set up a small telescope, followed the object into full daylight and, with the aid of the *Nautical Almanac*, proved even to their satisfaction that the mysterious object was none other than the planet Venus shortly after inferior conjunction with the sun and so at its greatest brilliancy. (The Air Force can always be assured of several X1 reports, either before sunrise or after sunset, whenever Venus is at greatest brilliancy.)

In New Hampshire, four lights in a diamond-shaped formation and later in a T formation were observed to hover and then to travel first in one direction and then in another. The sighting lasted for some minutes. Identification was positive that the object sighted was a KC-97 performing a refueling operation. A Labrador radar station picked up an object traveling at 72 knots at an altitude of 50,000 feet. Two F-102 aircraft were scrambled and picked up the object on their radar. The object was fully observed by several military personnel on their separate radars. Identification was positive that the object tracked was a

balloon released from an Air Force base in Maine.

In New Jersey, a flat-shaped object was reported. It had a dome in the middle and was somewhat bigger than a commercial aircraft, with bright yellow lights coming from square windows around the bottom and with green lights on the front. This turned out to be, quite positively, a commercial aircraft with a 39-foot advertising sign containing 245 flashing electric lights. Apparently, the advertiser was not getting his message across. And, for good measure, in 1962, one of our Navy's ships reported an object traveling southeast that remained visible for 15 minutes but which "air and surface radar could not pick up." It was observed by navigators taking a celestial fix, by the commanding officer and by about 1000 enlisted personnel. This was the satellite Echo I, which calculations showed had traced that identical path at that precise time.

But this is only one part of the story. There are high X reports, too. If there weren't, there would be no UFO problem. High X ratings, of X4 and X5, are reserved for reports that, at face value, do not find an explanation in conventional scientific terms. Let us look at some examples from my files.

It was 5:30 P.M. I remember the exact time because our car radio was on. A program change was made and the time was given. I was now driving with my headlights on, the electric windshield wipers were going, as we were in a heavy mist. The highway in this area [of Oklahoma] has many rolling hills and is heavily wooded with native post-oak trees. The visibility is limited to the highway by looking ahead or behind or up overhead. We were driving along, everything in normal condition and operation, when suddenly from above and ahead of us over the top of the hill and trees, at a fantastic speed, came a tremendous bright light. The color or glow was similar to that of a mercury light. I thought for a moment we were going to have a head-on crash with something.

I was looking for an escape route to avoid a collision. We were extremely frightened. My wife had dropped down in the seat and our son had jumped from the back seat and had positioned himself between me and my wife. At the speed of approach, I had little time for a reaction. The light around us was almost blinding as the object approached our car. As it came toward us, the car began to slow



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PLAYBOY



"Evidently you're not the little boy who wrote that he wasn't getting anything. . ."

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down (Note: I was not using the brakes) and the whole car came under control of the UFO. The car came to a complete stop. Lights, radio, heater, wipers, all electrically operated, instantly stopped.

Other than being frightened, we had no other sensation than that we were being observed. I rolled down my window and, putting my head out of the window, I looked up and approximately 200 feet directly overhead was a saucer-shaped space vehicle. By this time, my eyes had become adjusted to the light that was emitted from the space vehicle. I could observe the size and shape as well as see the observation windows around the upper deck. The UFO was at least 50 feet in diameter. At the same time, a high-pitched whine could be heard and a very light warm wind was being emitted from the bottom of the vehicle.

The vehicle had in the center a large extended dome. The time factor was not of long duration, no more than two or three minutes. There was no other visible traffic on the highway at this time. After this short period of time, the vehicle, with an increase in intensity of the whine, lifted straight up from its hovering position and, as this occurred, the car began to function and make normal movement on the highway. The lights, radio, wipers, heater and motor functioned as if they had never stopped.

I wish to state that this was not a type of any known aircraft. I have worked in and around aircraft since 1940, when I graduated from the Spartan School of Aeronautics, and I am also a discharged veteran from the U. S. Air Force.

Here is one from an air base in Alaska:

At the time of the sighting I was at work (in the base control tower) and I had an air carrier shortly beginning an approach. As is my custom, I had the lights in the cab turned down low. I got up from the console and looked out the window to make a visual check of the runway. As I looked to the north end of the runway, I saw a light coming down center of the runway. My first thought was, I had an aircraft on approach that I didn't know anything about. The light was moving at about the speed of a large aircraft making a low pass. The light continued down the center line of the runway at about a height of 50 feet. The airport is equipped with high-intensity runway lighting. The lights were on step 3; the lighting

control panel is located to the right and just behind me. As the light reached a spot just a little north of my position, I reached around and flicked the light to step 4, hoping to cause a reflection off the body of the object, as I was still unable to see anything other than a light, even though visibility was excellent. When the lights went brighter, the object made a right turn and started to climb, increasing speed extremely fast, clearing the nearby mountain in a second or two. At this time, I lost sight of the object as it seemed to level off and became lost behind the mountains. One other thing that I forgot to point out above. When the light turned and started to climb, it did so sharply, whereas when an airplane turns or climbs, it makes an arc.

And let's take just a short excerpt from another.

As I approached a bedroom window . . . the whole yard was bathed in a brilliant orange. Everything looked as something does when it is reflecting fire. I looked up at the sky and there was a big orange light. I woke my husband and told him to come look at the thing in the sky. He got up, came to the window, and as I kept saying, "What can it be?" he just kept repeating, "Oh, my God." It seems like we watched it for about a minute. It was stationary in the sky all that time and seemed to be quite near. The light was more powerful than anything we had ever seen, but still we could look right at it. As we watched, the light finally went out, not slowly, but still not as fast as you would turn off an electric bulb. All that was left was what looked exactly like a star and it began to move. We watched as it moved toward the lights of Los Angeles in the distance.

None of these three sightings (which are merely random samples from my considerable collection of sightings of high strangeness index) lends itself to simple explanation. Nor, by definition, do any of the high Σ reports. It will be noted that nothing has yet been said about *believing* these reports.

As the next step in our proposed program, let us ask a panel of social scientists—psychologists and sociologists—to rate the *credibility* of the witnesses involved in the high Σ cases, singly and collectively, for any given sighting, without any reference whatever to the report itself. The panel is given dossiers on each of the witnesses. (But it would be best not to let this panel read the UFO reports—it might prejudice them!) The dossiers include medical history, length of time and

general standing in the community, psychological and personality traits, a note on the willingness of the witnesses to take lie-detector tests (and the results of these, if administered), the technical backgrounds of the individual witnesses, the independence of the witnesses (were they strangers, blood relatives, friends?) and what has been garnered as to the motivation of making the report in the first place. Was there any overt attempt at publicity, or was the report made guardedly and out of a sense of duty? Was there any possibility of financial gain by having made the report? We shall call this rating the C, or credibility, rating.

The "credibility panel" must also be given a full account of the reaction of the witness under interrogation. A skilled investigator soon learns to watch for many clues as to the credibility of the witness. Psychotic or paranoid signals are many. The tendency to repeat certain phrases, the singsong retelling of an experience in a set, stereotyped manner, as though one is hearing a playback of a tape—all these are danger signals. And, of course, at the slightest hint from the UFO reporter of imaginary persecution, one may just as well drop the investigation. I have on occasion been told what seemed to be a straightforward story, when suddenly the witness lapsed into a highly confidential mood and told me that he was sure that his phone was being tapped or that he was being watched, sometimes on a regular schedule, either by "the Government" or by "occupants of the craft."

In my long experience with the UFO phenomenon, I have developed certain practices that quickly bring out these "credibility flaws." For instance, I will patiently listen to the account and then, as if to see that I have things straight, will repeat the highlights of the story, but making sure that in two or three spots I deliberately misstate some of the witness' descriptions (for example, directions, time estimates, etc.), to see whether the witness will quickly catch me up on the misstatement or let it pass. One quickly learns also to gauge the objectivity of the reporter. The most glaring fault on the part of the witness is to substitute interpretation of a fact for a fact. Thus, he may tell me, "The spaceship was patrolling the neighborhood and observing us," when the actual fact is that the witness observed a light meandering in the sky and read into that simple observation his interpretation that intelligent surveillance was being carried on.

One of the most frustrating experiences a UFO investigator can have is to be told, at the end of what seems to be a fairly straightforward story, that the witness has had similar experiences on many occasions in the past. We call these "repeaters." A person with so little

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P L A Y B O O

understanding of statistics and probability as to think that one person can have dozens of UFO sightings while a great many other people (indeed, the majority) have never in their lives seen anything resembling a UFO, can be identified at once as utterly unreliable. When we get the combination of the repeater with a persecution complex, we really have something. For many months at Project Blue Book, we received frequent letters from an inmate of a mental institution, who exhorted us to do something about the UFOs that visited him regularly and interfered with his sexual functions.

The work of the credibility panel would really be much more difficult than that of the scientific panel. The latter has only to determine whether the contents of the report, as given, are easy or hard to explain in the context of present-day science. The credibility panel, however, has to decide not only whether the witnesses, taken together, are trustworthy, honorable and responsible people who can be believed in everyday matters, but

also whether they could have been capable of gross errors and misinterpretations in the particular instance of their UFO sighting. Is it possible, for instance, for several people in concert to see a bright star and have it trigger in the brain the impression that what was really seen was a moving spaceship with portholes?

The idea that reports made by policemen and Air Force pilots *must* be correct is entirely unjustified. A highly technical, trained observer skilled in one area of operation or observation does not necessarily transfer his critical skills to a situation in which he is observing something that is surprising to him. Pilots have been known to swerve their planes violently when they suddenly encounter a very bright meteor they think is on a collision course, but which later proves to have been 50 to 100 miles away. And policemen can grossly misinterpret something with which they have no familiarity. Still, on the average, if several pilots and/or policemen concur on the main points of the story, particularly if the du-

ration of their experience was long enough (a matter of minutes rather than seconds) to have brought their judgment into play, it is difficult to brush aside their seemingly headheaded testimony. And when one gets high Σ reports from scientists, engineers and technicians whose credibility by all common standards is high and whose moral caliber seems to preclude a hoax, one can do no less than hear them out, in all seriousness.

Hoaxes are not as common as depicted in the newspapers. Pranks by college students and everyday practical jokers make good copy and are always good for a laugh, especially if the hoax has succeeded in at least temporarily fooling some respected citizenry. Hoaxes are frequently accompanied by photographs, on the mistaken idea that a photograph is worth ten thousand words. Actually, a photograph is worth nothing unless we know the full circumstances of how it was taken. I simply will not take a photograph seriously unless I can interrogate witnesses who saw the object in question being photographed and unless I can have access to the original negative and the technical data on the camera. So far, I have not been able myself to accept any photographs as representing incontrovertible scientific proof of the existence of truly strange objects.

Any sensible investigation of UFO reports will limit itself to reports that exhibit both a high Σ level and a high C level. It will ask whether there are any apparently meaningful patterns among such reports: patterns of kinematic behavior, of luminescence, of geometry, of geographical distribution or of seasonal distribution. With the aid of the electronic computer, cross-correlations will be sought between these and other factors.

It may come as a surprise that this sort of search for patterns has not been conducted by the Air Force all along. The closest the Government came to such an investigation was in 1953. A distinguished panel of scientists, under Caltech physicist Howard P. Robertson, was appointed to review the matter, but the panel was given only a limited number of cases to examine and was able to allot only four days to its study. Our Government's approach in all other instances has been to treat each reported sighting as though it were the only one in existence. The Air Force has tried to knock down each report as it showed its head, like a duck in a shooting gallery. This "divide and conquer" technique is powerless to detect significant patterns, the very mainstay of the scientific method.

The approach to the study of UFO reports proposed here is designed specifically to reveal patterns if they exist—to extract the scientific gold from the only ore we have (UFO reports), if such gold exists.

There is a more direct approach to the



"I see. Due to your corrupt mismanagement, the people of your country are starving and rebellious, and you urgently require American aid. Right.

How many machine guns?"

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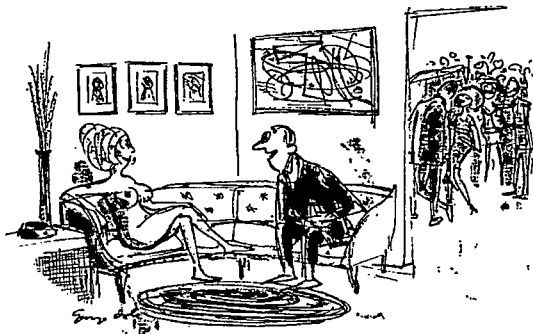
problem: an active rather than a passive attack. The scholarly study of UFO reports is capable of establishing the likelihood that the UFO phenomenon represents something heretofore not recognized in the present-day scientific framework. But no passive methods can prove this to be the case. They can provide only a measure of probability of its being so.

The passive method—painstakingly examining reports and then building a logical set of hypotheses—puts me in mind of the story told about the explorer who had come back from a dinosaur-egg-hunting expedition in the Gobi desert. In his lecture, the explorer presented many cogent reasons why the eggs they discovered were dinosaur eggs. He pointed out that they were about the size and weight to be expected of dinosaur eggs, allowing for desiccation and the ravages of time, and that they had about the right color, given the effects of weathering—all of this leading to the strong likelihood that the eggs were, indeed, dinosaur eggs. "And furthermore," the lecturer stated at the conclusion of his talk, "when we opened one of the eggs, it had a baby dinosaur in it." What is needed in the UFO problem is for us to find a baby UFO somewhere in the crates of UFO reports.

The next stage in the scientific approach to the UFO problem must clearly be an active one. Once the scientific fraternity is convinced that the UFO problem is worthy of serious attack (and this degree of conviction can come only after it is amply demonstrated that reports really do exist that find no conventional explanation, even after study by competent persons), we arrive at the interesting and challenging stage of the problem.

It is necessary to find out whether, when persons of high repute report a strange apparition, something of a physical nature, does, in fact, exist. In short, an all-out effort must be made to obtain photographs. If unimpeachable photographs can be obtained, it follows that the stimulus that gave rise to the report was accompanied by an actual image on the retinas of the witnesses. This may seem a trivial or obvious point; yet should this not be the case, it would throw the problem into a totally different dimension. In any event, the existence of unimpeachable photographs would represent incontrovertible scientific evidence that UFOs, as we have defined them, exist.

Of course, the whole problem could be solved, or at least put on an extremely firm foundation, if tangible physical evidence, "hardware," of unimpeachable character were available. Meteorites were finally admitted to scientific respectability only after there had been a spectacular fall in France in 1803, a fall that not even the most skeptical of scientists could doubt. That was certainly



"I read your book, Miss Crane, and found it delightfully uninhibited."

much easier than attacking the problem through a corresponding SC diagram for reports of meteorite falls. Similarly, the problem here could be solved should a fleet of UFOs land in the Rose Bowl during half time.

But how can we hunt the wily UFO without gun but with camera? Must we place automatic cameras along every roadside in the country? Well, hardly. A study of geographical distribution of the high SC cases, however, reveals (as a cursory inspection already shows) that certain areas of the country seem to remain "UFO hot" often for as long as days or even weeks. When the electronic computer indicates such a "hot" area, let a technical team be dispatched by jet helicopter (several of which we would keep in readiness in various parts of the country), and within hours of the receipt of the original report, cameras, tape recorders, movie cameras, spectrographs and Geiger counters would be there. The expense is trivial if study of the best reports indicates that there is, indeed, valuable scientific pay dirt hidden in the UFO phenomenon.

As a backup to the investigative readiness teams, and as an over-all means of garnering improved original data, a central UFO center in the United States should be established. A central telephone exchange (UFO-1000) could be manned 24 hours a day by competent interrogators capable of recognizing a true UFO report from a prankster's report, a simple misidentification by the untutored or the meanderings of an unsteady mind. Calls would be made collect to UFO-1000. Should the nuisance calls become a problem, these could be declared a misdemeanor or even a

criminal offense, comparable with tampering with the mailbox or the fire alarm on the corner.

Let us suppose lonely travelers, as in our first UFO case cited, encounter a UFO. As soon as they can get to a roadside telephone, they call UFO-1000. If the report passes preliminary and immediate screening, headquarters notifies the local police and they rush to the scene, already properly equipped with suitable cameras. If the case appears to warrant dispatching the UFO plane, this can be done very shortly thereafter.

Such a concerted effort would accomplish far, far more than the passive receipt and evaluation of reports possibly could. If UFOs as previously defined actually exist, we would have photographs, movies, spectrograms, plaster casts of indentations (if a landing occurs) and detailed measurements and quantitative estimates of brightnesses, speeds, and so on, within a year of the initiation of such a no-nonsense program. But if the UFO-1000 program is sincerely and intensively carried out for a full year and yields nothing, this, in itself, would be of great negative significance. Then we could go back to the "real, common-sense world" of pre-UFO days—struggling it all off with, "There must have been a virus going around," an outlet successfully used in other fields of human inquiry.

Admittedly, I will be surprised if an intensive, yearlong study yields nothing. To the contrary, I think that mankind may be in for the greatest adventure since dawning human intelligence turned outward to contemplate the universe.

MORE METEORITE EVIDENCE

Extraterrestrial amino acids

Last December's report by a group from the National Aeronautics and Space Administration's Ames Research Center of finding indigenous amino acids in the Murchison meteorite (SN: 12/5/70, p. 429) has sparked intense scientific interest. The finding was subsequently confirmed by groups from the University of Houston (SN: 3/20/71, p. 195) and Arizona State University (SN: 3/27/71, p. 210).

The Arizona State scientists, Drs. John R. Cronin and Carleton B. Moore, also reported detecting the same amino acids in an intact piece of a similar meteorite that fell near Murray, Ky., in 1950. Now the leader of the NASA group, Dr. Cyril Ponnamperuma, confirms an abundance of amino acids in the Murray meteorite. Dr. Ponnamperuma told a meeting of the New York Academy of Sciences last week that the group's use of gas chromatography combined with mass spectrometry detected all 18 of the amino acids in Murray that they earlier found in Murchison. They also found the same two pyrimidines—4-hydroxypyrimidine and 4-hydroxymethylpyrimidine—in each meteorite. The

pyrimidines differ slightly from those found in nucleic acids in living cells. The coincidence of the finds is further strong evidence that the amino acid and pyrimidines were created chemically in space. Although he can only speculate, Dr. Ponnamperuma suggests that the existence of identical complex patterns of amino acids and pyrimidines in two meteorites could mean that this is a basic phase in the chemical process leading to life. The findings increase the likelihood of life elsewhere in the universe.

In both meteorites, six of the amino acids are among those that are commonly linked together to form proteins in living cells; the other 12 are amino acids only occasionally found. They are thus not likely to result from terrestrial contamination. The amino acids are of an almost equal mixture of right- and left-handed molecular structures. Earth organisms produce only left-handed amino acids. The mixture of both types thus appears to rule out biological origin and is strong evidence for extraterrestrial chemical origin.

Members of the Ames team also included Drs. James Lawless, Keith Kvenvolden, Clair Folsome and Miss Etta Peterson. ASU's Dr. Moore also took part.

Cyclops: Eye on the universe

For a total of 150 hours from May through July of 1969 the 85-foot antenna at the National Radio Astronomy Observatory in Green Bank, W.Va., monitored radio emissions from the nearby stars Tau Ceti and Epsilon Eridani for any evidence of signals from intelligent extraterrestrial civilizations. The search, "Project Ozma," turned up nothing unusual. But it was the first time man had tried to detect signals from any unknown counterparts on other planetary systems.

Last week engineers and scientists gathered at the National Aeronautics and Space Administration's Ames Research Center in Mountain View, Calif., to explore the technological possibilities of a project that would be orders of magnitude more sophisticated than Ozma. The 11-week study, sponsored jointly by Ames and Stanford University, is called Project Cyclops. Its aim is to examine feasibility and to educate, not to recommend policy. There is no intention of inaugurating such a project at this time. Decades might pass before it is possible. But the study co-directors, Dr. Bernard M. Oliver, vice president for research of the Hewlett-Packard Co. and a

visiting professor at Stanford, and Dr. John Billingham, chief of the biotechnology division at Ames, believe it is not too early for a fuller study of the technology necessary to detect artifact signals.

Basically, Cyclops envisions an interconnected array of 1,000 to 10,000 radio telescope dishes spread over an area perhaps 10 miles across. Such an array should, according to one estimate, be able to detect beamed signals from any civilization within 1,000 light-years. Normal radio "leakage" from the regular transmissions of advanced technological civilizations might be detectable from perhaps 100 light-years. The costs of such an array would have to be justified by the signal search itself, but the array would also be an excellent tool for radio astronomy. One goal of the study is to explore ways in which the dishes could be produced cheaply enough to make the idea feasible. "We would like to pull down the cost of doing this," says Dr. Oliver.

As for the Cyclops array itself, "its mission would be to add a new dimension to cosmology," Dr. Oliver says. "It might establish the feasibility of biological cosmology."

BEHAVIOR

Whatever happened to UFO's?

On May 31 two New Hampshire farmers looked across a field and saw a spherical, flat-bottomed object hovering above the ground. As they watched, the object rose vertically, arced and headed into the wind on a horizontal path.

This is one of several incoming reports of unidentified flying objects received recently by the National Investigations Committee on Aerial Phenomena (NICAP) in Washington. NICAP secretary-treasurer Stuart Nixon says he believes the reports may be the start of a recurrence of saucer sightings or at least the reporting of saucer sightings. NICAP has been a long time waiting. Since 1968 the number of UFO sightings has dropped off, along with public interest in them. Last week a Wall Street Journal article reported that a probable reason for the decline is the negative social climate produced by publication in 1963 of the Condon report, the 810-page scientific study of UFO sightings commissioned by the U.S. Air Force and directed by Dr. Edward U. Condon of the University of Colorado. It concluded that "nothing has come from the study of UFO's in the last 21 years that has added to scientific knowledge." And "that further extensive study of UFO's probably cannot be justified in the expectation that science will be advanced thereby."

This scientific debunking of the UFO phenomena and the subsequent, though not necessarily connected, decline in sightings presents an interesting behavioral pattern. Dr. Ernest R. Hilgard, a Stanford University psychologist who served on the National Academy of Sciences panel that reviewed the Condon report, believes the report itself is not wholly responsible for the falling off of flying saucer interest. "I would like to feel that the report quieted the saucer interest," he says, "but I do not think so." People probably just lost interest, he suggests. "These fads go in cycles," he explains, and many persons who would have been interested in extraterrestrial phenomena have turned to other things: drugs, astrology, Oriental religions and various subjective and philosophic fields. As society becomes more affluent man has time to reflect on his position in the universe. As he does so he attempts to integrate himself into and make himself a more important part of that universe. Belief in other worldly things is one method of doing so, points out Dr. Hilgard. But national and international events of the past few years have tended to make people look inside rather than outside themselves for answers to universal questions. This had too will pass, says Dr. Hilgard, who predicts

that the UFO's will reappear when it does. At NICAP Nixon says UFO reports usually run in five-year cycles and 1972 should be the start of another cycle.

Dr. Donald I. Warren of the School of Social Work at the University of Michigan in Ann Arbor has another behavior theory on UFO's. In his view UFO's provide a form of escape. "One expression of this escape," he says, "is the possibility of other lives, other planets, other beings like or unlike oneself." UFO's "present the opportunity to escape the system without threatening one's gains in the immediate social environment." Dr. Warren, however, based his conclusions on a person's dissatisfaction with his socioeconomic status. A well-educated person earning a relatively small salary might not be content in his situation and would therefore, suggests Dr. Warren, be a likely person to attach importance to himself

by believing in and sighting flying saucers.

This theory may have some credibility, but an article by Dr. Warren in Science last November advancing these views received a critical response from scientists. The controversy, brought on by a lack of adequate psychological and behavioral information on the subject, points out, as does Dr. Warren, "that this phenomenon has been inadequately studied by the behavioral sciences."

In an attempt to coordinate existing information, NICAP has instituted Project ACCESS (Automated Clearinghouse for Collection and Exchange of Sighting Statistics). All available sighting data (people, places, times, etc.) will be stored in a computer and made available to interested parties. If, these inputs are scientific and objective, as NICAP's Nixon insists they will be, Project ACCESS will be a useful tool for behavioral scientists.

Nuclear power safety

The Atomic Energy Commission last week pronounced new, stricter criteria for nuclear power plant safety. Prime emphasis in the new standards is the need for back-up systems in case cooling water systems for reactors fail. Such an accident could conceivably result in overheating of reactor cores, melting of shielding and release of radioactivity. Most affected by the new criteria are five plants licensed before 1968. They will have to install the back-up systems within three years. □

California's AEC ties

The huge University of California system has been heavily involved in defense and weapons research since World War II. Partly in response to student-faculty criticisms (SN: 1/16/71, p. 50) the UC regents last week recommended changes in the contractual arrangement between UC and the Atomic Energy Commission under which the Lawrence Radiation Laboratory is operated. The laboratory consists of two units, the non-secret facility on the hill behind the Berkeley campus and the more closely guarded facility at Livermore. Under the recommendations, the administrative ties between the two units would be severed. And the director of the Berkeley laboratory would report directly to the president of the university rather than, as now, to the chancellor of UC at Berkeley. □

Doctorate oversupply

A new National Science Foundation study on the supply of and demand for doctoral scientists, projected to 1990, indicates an even greater imbalance of supply over demand than in a study done two years ago. Over-all projections show a supply of about 325,000 doctoral scientists in 1980—against an expected demand for about 285,000. The greatest imbalance is in engineering, with a projected 40 percent oversupply. Next greatest is in social sciences, with a 20 percent oversupply. The life sciences situation is somewhat better, with a 9 percent oversupply predicted. Mathematics will see an oversupply of around 10 percent. Only in the physical sciences will supply and demand be essentially in balance. □

Oldest mummy

Possibly the oldest (5,000 years) intact mummy ever found has been unearthed in a tomb in Sakkara, 15 miles southeast of Cairo. The ancient court musician Nofre died in the sixth year of the reign of King Nio Ossen-Ra. The discovery was called historically and scientifically more important than the findings of the Tutankhamen tomb in 1922. □

DRUG ACTION ON DNA

Now visible, in 3-D

For some years scientists have zeroed in on drug action at the most intricate cellular level. Although they understand the molecular basis of action for several drugs, it is only now that the three-dimensional structure of a drug has been correlated with its biological action.

Dr. Henry M. Sobell of the University of Rochester reported last week that by using the technique of X-ray crystallography, he has pinpointed exactly how the antibiotic actinomycin D interacts with DNA. In fact, since the Crick-Watson model for DNA was proposed 18 years ago, this is the first time scientists know visually how anything sticks to DNA.

Dr. Sobell, a physician-turned-crystallographer, says he crystallized actinomycin with deoxyguanosine, one of the four bases of DNA. The three-dimensional structure of the complex immediately suggested how actinomycin binds to DNA. Dr. Sobell believes that the flat portion of the drug molecule fits in between the nucleotide base sequence, CpC, while the protein subunits of the antibiotic make a hydrogen bond with guanine residues on either strand of DNA. Actinomycin has two-fold symmetry relating to the protein subunits. This enables the drug to bind to a base sequence in DNA with two-fold symmetry. This pattern of recognition was first conceived several years ago by Dr. Jacques Monod, who shared the 1965 Nobel Prize with Drs. Francois Jacob and Andre Lwoff for their work in biological regulation. Dr. Sobell's report of the first visual sighting of the drug-gene contact was made in San Francisco at the 62nd annual meeting



Univ. of Rochester
Sobell and drug-DNA molecule model.

of the American Society of Biological Chemists.

The medical implications of Dr. Sobell's work may be far-reaching. Actinomycin's repressor-action on DNA, as revealed in the crystal model, might explain why actinomycin works as an antitumor drug. However, the drug is too toxic for lavish clinical control of tumors, precisely because of its stringent action at the molecular level. But now that scientists understand how actinomycin binds to DNA, Dr. Sobell believes they can probably synthesize new antibiotics or drugs that would act on tumor cells or viruses, but not on cells, in the rest of the body. □

To gain a fresh and objective perspective on the UFO problem, the UFO Subcommittee of the AIAA, from its inception in 1967, decided to place specific, well-defined questions to UFO experts of high scientific qualifications but strongly divergent views. Surprisingly, the factual answers the Subcommittee obtained in a series of interesting interviews were strikingly similar. Differences occurred in certain quantitative estimates and in the degree of emphasis, but not in principle.

It was at the next step where the views began to diverge: subjective judgment as to the scientific significance of the problem and the need to pursue and explore it. Obviously, such opinion depends on the criteria applied by the individual, and much of the discord appears to be due to a lack of analysis of these criteria. It is at this stage where guesses and speculations creep into the discussion and lead to controversy.

In the opinion of the UFO Subcommittee, such speculations are entirely premature and no position is absolutely defensible at this point in time. This applies specifically to statements that the extraterrestrial hypothesis ("ETH") is "the least probable" or "the least unprobable" explanation (National Academy of Sciences, Review of the "Condon Report"; James E. McDonald's statements). There is no scientific basis for assessing such probabilities at this time.

The Subcommittee was greatly perturbed by the paucity of thorough scientific and technological analysis applied to practically all observations before the Condon study. The few, often courageous, efforts by individuals to come to grips with this problem should be viewed more from an aspect of focusing attention on the problem rather than of solving it, since there is little doubt that it takes more than a personal effort to investigate fully a problem of such complexity.

In the opinion of the committee, the Colorado University study, "Scientific Study of Unidentified Flying Objects," (the "Condon Report," Bantam Books, New York, 1969) at this time represents the most scientifically oriented investigation published on the UFO problem. Attacks directed against the study seem to overlook the almost insurmountable difficulties which a thorough investigation of this type faces. Building up the multi-

disciplinary, unbiased talent, accumulating practical experience, collecting hard information, sorting out the signal from the noise, applying the best analytical methods, and writing and editing a report in less than two years.

To understand the Condon report, which is difficult to read, due in part to its organization, one must study the bulk of the report. It is not enough to read summaries, such as those by Sullivan and by Condon, or summaries of summaries, on which the vast majority of readers and news media seem to rely. There are differences in the opinions and conclusions drawn by the authors of the various chapters, and there are differences between these and Condon's summary. Not all conclusions contained in the report itself are fully reflected in Condon's summary. For example the optical/radar chapter contains the following statement on the Lakenheath case (1956): The apparently rational, intelligent behavior of the UFO suggests a mechanical device of unknown origin as the most probable explanation of this sighting. However, in view of the inevitable fallibility of witnesses, more conventional explanations of this report cannot be entirely ruled out.

On Colorado Springs case (1967): In view of the meteorological situation, it would seem that AP (anomalous propagation) was rather unlikely. Besides, what is the probability that an AP return would appear only once and at that time appear to execute a perfect practice ILS approach. Condon's own conclusions have been widely misquoted. He says:

"... Scientists are no respecters of authority. Our conclusion that study of UFO reports is not likely to advance science will not be uncritically accepted by them. Nor should it be, nor do we wish it to be. For scientists, it is our hope that the detailed analytical presentation of what we were able to do, and of what we were unable to do, will assist them in deciding whether or not they agree with our conclusions. Our hope is that the details of this report will help other scientists in seeing what the problems are and the difficulties of coping with them.

"If they agree with our conclusions, they will turn their valuable attention and talents elsewhere. If they disagree, it will be because our report has helped them reach a clear picture of wherein existing studies are faulty or incomplete and thereby will have stimulated ideas for more accurate studies. If they do get such ideas and can formulate them clearly, we have no doubt that support will be forthcoming to carry on with such clearly defined, specific studies. We think that such ideas for work should be supported.

"... Therefore we think that all of the agencies of the federal government, and the private foundations as well, ought to be encouraged to support such studies along with the others submitted to them on

an open-minded, unprejudiced basis. While we do not think at present that anything worthwhile is likely to come of such research each individual case ought to be carefully considered on its own merits."

Condon's chapter, "Summary of the Study," contains more than its title indicates; it discloses many of his personal conclusions. Making value judgements was no doubt one reason why Condon was asked to handle the project. One is happy to obtain the judgement of so experienced and respected a man; but one need not agree with it. The UFO Subcommittee did not find a basis in the report for his prediction that nothing of scientific value will come of further studies.

In reviewing the material accumulated to date, the Subcommittee found an exceedingly low signal-to-noise ratio, as illustrated by the statistics of the Air Force's Project "Bluebook" quoted in the University of Colorado study, which showed 3.3% unidentified observations (253 out of 7741 available at that time)*. This figure is frequently disputed, but its order of magnitude (5%) appears to be correct, taking all available reports into account. The fact that the Condon study itself arrives at a much higher percentage of unexplained cases—namely, at about 30% (35 out of 117)—is primarily due to the preselection of specific cases for investigation. The precise figure is hard to assess, for the Condon report does not lend itself easily to this type of analysis, the same cases being treated often in different sections and under different identifications. (*The final figures, according to our information, appear to be 701 out of 12,618 or 5.5%.)

It has been variously estimated that the reported cases, approximately 20,000, represent only 5 to 15% of the total observations, since most observers either do not go to the trouble of an official report or fear ridicule. In turn, various polls suggest that 3 to 5% of the U.S. population claim to have seen UFOs. It follows, then, that the available reports which can be classified as "unidentified" represent a very small percentage of all UFO sightings on the one hand, but not a negligible number of observations on the other.

It is interesting that, contrary to public opinion, the estimated percentage of "hoaxes" is likewise small. It is interesting that, contrary to public opinion, the estimated percentage of "hoaxes" is likewise small. It is interesting that, contrary to public opinion, the estimated percentage of "hoaxes" is likewise small.

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75%) while 15 to 20% contain insufficient data. In other words, what may appear to the untrained observer as strange and unexplainable is in most cases known and explainable. Taking all evidence which has come to the Subcommittee's attention into account, we find it difficult to ignore the small residue of well-documented but unexplainable cases which form the hard core of the UFO controversy. They represent only a small fraction of the "unidentified" cases and are characterized by both a high degree of credibility and a high abnormality ("strangeness" in Hynek's terminology). Although none of them offers to our knowledge quantitative recordings by calibrated instruments for permanent inspection, they are often called "hard cases."

The Subcommittee has tried to explore the nature of this hard-core residue and found estimates to vary between 10 and several hundred cases, depending in part on a subjective judgment as to the criteria for a "hard case." High credibility is generally accepted for observations by multiple independent witnesses of known and reliable background or by multiple independent sensing systems (reported by multiple independent operators) or both; high abnormality or strangeness, when no known natural phenomena whatsoever seem to fit the observations. It is clear, then, that the hard-core residue represents less than 1% of the total available reports.

Those used to working under controlled laboratory conditions find it difficult to consider seriously any observation which is not available in recorded form for quantitative inspection. As a matter of fact, they make this a criterion for a "hard case." On the other hand, there are those, including some members of this Subcommittee, familiar with the intricacies of research in the complex and uncontrolled laboratory of the atmosphere, who find this less of a deterrent. They discover parallels between the UFO problem and certain atmospheric phenomena which fall in the class of rare events. A rare event always involves at first a question of the reality of a qualitative observation. Later, scientific investigation, usually combining statistics and physics, resolves this question one way or the other.

Although the University of Colorado report deals only with a very small fraction of the existing observational material (less than 1%), it offers itself enough substance of the described

interstellar origin of UFOs, since there is not sufficient scientific basis at this time to take a position one way or another. However, in view of the infancy of our scientific and technological knowledge (approximately one century), the Subcommittee would agree with this statement by Condon: "We must not assume that we are capable of imagining now the scope and extent of future technological development of our own or any other civilization, and so we must guard against assuming that we have any capacity to imagine what a more advanced society would regard as intelligent conduct." On the other hand, we find no convincing basis for his statement, "It is safe to assume that no ILE (intelligent life elsewhere) from outside of our solar system has any possibility of visiting Earth in the next 10,000 years." (When does one start counting?)

The issue seems to boil down to the question: Are we justified to extrapolate from 0.99 to 1.00, implying that if 99% of all observations can be explained, the remaining 1% could also be explained; or do we face a severe problem of signal-to-noise ratio (order of magnitude 10⁻⁷)?

In the opinion of the Subcommittee, this question must be asked critically and objectively in each individual case. In cases which do not fit the extrapolation alternative, the further question should be explored: "Do they evidence common attributes?" It appears to the Subcommittee that the University of Colorado group has made no serious attempt in this direction.

If it is already difficult to reach a consensus on what constitutes a hard case, it appears even more difficult to find agreement on the advisability and importance of continued research. As mentioned earlier, it is at this point where the controversy often becomes heated because criteria for such assessment are not well-defined.

Earlier, Condon's statement was quoted that "clearly defined, specific studies . . . should be considered and supported." In this connection he calls attention to "important areas of atmospheric optics, including radiowave propagation, and of atmospheric electricity in which present knowledge is quite incomplete. These topics came to our attention in connection with the interpretation of some UFO reports, but they are also of fundamental scientific interest, and they are relevant to practical problems related to the improvement of safety of military and civilian flying."

The Subcommittee finds this statement of the Condon report a better criterion for support of UFO-related studies than the claim by some ETH exponents that UFO research deserves maximum support as long as there is a ghost of a chance that UFOs are extraterrestrial vehicles, or the opposite claim that proof for the ETH must be provided before serious consideration of the UFO problem is justified. Both opinions strike the Subcommittee as unwarranted.

We have already expressed our disenchantment with arguments about

the question arises whether there is a need at all to speculate on a specific hypothesis, such as ETH, in order to decide on the significance of a scientific problem, or whether any known phenomenon in nature is worth investigating. We think it is, but we recognize at the same time that the UFO problem may require expensive tools of technology. Therefore, the question of cost, priority, and relative importance of this problem within the total spectrum of research cannot be overlooked.

The UFO Subcommittee feels that the ETH, tantalizing though it may be, should not be dragged into this consideration as it introduces an unassessable element of speculation; but the Subcommittee also strongly feels that, from a scientific and engineering standpoint, it is unacceptable to simply ignore substantial numbers of unexplained observations and to close the book about them on the basis of premature conclusions.

There is an interesting parallel between the history of the UFO problem and the history of weather modification ("rainmaking"). After almost 20 years of taboo by the scientific community, weather modification has now achieved scientific recognition due to the fact that some courageous, high-caliber scientists entered the arena. This has resulted in a revision of the viewpoint of the National Academy of Science.

The immediate question is how to attack the UFO problem without the pitfalls of past attempts. There is little doubt that the short-time, one-shot approach of an ad hoc team is neither promising nor economical. This is es-

BACKGROUND

At the suggestion of the AIAA management, the Technical Committee on Atmospheric Environment and the Technical Committee on Space and Atmospheric Physics jointly formed a UFO Subcommittee in 1967.

The Subcommittee was asked to arrive at an unbiased assessment of the present situation and to serve as a focal point in the AIAA for questions regarding the UFO problem. In appointing the Subcommittee, special care was taken to insure that none of its members was committed one way or another on this issue.

In its attempt to get to the heart of the matter, the Subcommittee naturally found the UFO problem complicated and often buried in what appeared to be a maze of preconceptions, emotions, bias, hasty conclusions, and excessive and misleading publicity.

The Subcommittee soon recognized that it is much too early to expect a meaningful interpretation of UFO phenomena. Rather than enter the arena of speculation, it directed its efforts toward finding out whether or not a scientific problem exists at all. The accompanying report describes the approach the Subcommittee took and the results it obtained. —J.P.K.

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pecially true if the study team decides—as the University of Colorado group did—to concentrate on current rather than past observations. As the UFO statistics show, this results in the devotion of precious time to investigating the noise, rather than the signal. It was mentioned earlier that the Colorado University study faced formidable odds because of the short duration of the study.

mentation of the O'Brien committee to negotiate multiple contracts for continuing investigations had been followed, this difficulty would perhaps have been avoided. There is also little hope to expect a solution of this extremely complex problem by the efforts of a single individual.

The Subcommittee sees the only promising approach as a continuing,

on improved data collection by objective means and on high-quality scientific analysis. This would eliminate the difficult problem of witness credibility. An economic and technically sound approach involving available remote-sensing capabilities and certain software changes will require some thinking on the side of the aerospace engineering community. Proposals along this line are already in the hands of the Subcommittee. The financial support should be kept at a moderately low level (It is estimated that a small fraction of the costs of the University of Colorado study would be required initially) until reevaluation of the situation allows another assessment. Without such an effort the controversy can be expected to suffer further polarization and confusion.

The Subcommittee feels that a strictly scientific-technological view of the UFO problem leads to this conclusion and that, for a technical committee, there is no need to stress the public and social aspects of the UFO controversy, which may have subsided only temporarily and will continue to clamor for a more conclusive and convincing answer. The Subcommittee is aware of several books on UFOs to be published in the near future. What is needed now is a *moratorium* in the UFO discussion—with an objective, wait-and-see attitude on the part of the scientific and engineering community, the government, and the public.

The approach recommended by this committee requires not only the attention of the scientist and engineer, but also a readiness of government agencies to consider sound proposals in this field without bias or fear of ridicule and repercussion—or, as Condon expresses it, “on an openminded, unprejudiced basis.” This perhaps is our most important conclusion.

Finally, the Subcommittee believes the decision by the Air Force to divorce itself from the UFO problem should be completed by allowing the files to be archived by a civilian agency, either government or university, after proper safeguards for the protection of witnesses and their names as well as full declassification procedures.

This Subcommittee intends to publish additional information on the UFO problem in the AIAA journals to give the members of AIAA an opportunity to form their own opinion. This information will include typical examples of the so-called “hard-core residue” and some potential engineering approaches to a solution of the

E. U. CONDON

UFOs I Have Loved and Lost

Professor Condon conducted a study of Unidentified Flying Objects, from late 1966 to the summer of 1968, at the request of the U.S. Air Force. The full report has been published under the title, “Scientific Study of Unidentified Flying Objects,” in paperback by Bantam Books, and in hardback by E. P. Dutton and Co. This article is based on a talk presented before the American Philosophical Society last April. The author is professor of physics at the University of Colorado.

Throughout human history men have been seeing strange and terrifying apparitions in the sky. The literature dealing with such experiences is enormous. The word “spectre” is used generically to describe phenomena of this type. This word’s earliest use, cited in the Oxford English Dictionary (OED), is in the title of a book by Z. Jones published in 1605, “A Treatise of Specters or strange Sights, Visions and Apparitions appearing sensibly unto men.” The word “spectrum” is cited first in 1611 in a passage which said, “Walsingham hath written of a fatal Spectrum or Apparition . . . where sundry monsters of divers colours . . . were seen.” Sixty years later, Isaac Newton used the word to describe his decomposition of sunlight with a glass prism in these words, “The Sunbeams . . . passing through a glass prism to the opposite Wall, exhibited there a Spectrum of divers colours.”

From these two uses of the word “spectrum” comes naturally the two meanings which the OED gives for the word “spectrology”: (1) The science or study of spectra, and (2) The scientific study of spectra. The OED cites as an example of the first meaning an 1820 quote from Washington Irving’s “Sketchbook”: “The gloom of religious abstraction, and the wildness of their situation . . . had filled their imaginations with the frightful chimeras of witchcraft and spectrology.” And of the second, an 1862 quote from the “American Journal of Sci-

ence”: “The attention of the French scientific world is wholly fixed on spectrology, for thus do they designate the experiment with the spectroscope of Bunsen and Kirchhoff.”

I am the second man in human history to have written a book on spectrology in both of these two distinct meanings. Donald Menzel was the first.

FLYING SAUCERS

Modern interest in UFOs stems mainly from the observations of Kenneth Arnold, a Boise, Idaho, businessman on June 24, 1947. While flying near Mt. Rainier in Washington he reported seeing some objects skimming along which he described in a manner that led newspapermen to call them “flying saucers.” Although not all objects later reported are saucer-shaped, this term is often used generically, but the term UFO is preferable. The Air Force studies anything seen flying in the sky which might present a defense hazard, and thus has been concerned with the thousands of reports of sightings of UFOs that have come to them in the nearly 22 years since this first modern report.

From such study they concluded long ago that no defense problem was involved in these reports from the public. The amount of attention which the Air Force gave to the problem after the first four or five years has been minimal.

In the early '50s the story of UFOs began to appear in sensational pseudoscience magazine articles and paperback books. These have had a large sale. The book by Frank Edwards, “Flying Saucers—Serious Business,” probably holds the record with more than 1,300,000 copies sold. Several other titles have sold more than 200,000 copies. The so-called Condon report was given an initial printing of 200,000 copies. In the last three years 40,000 school children have written the Air Force asking for UFO data.

The principal source of the widespread interest is the contention of some writers that at least some of the

things seen may represent flying craft from other civilizations, either elsewhere in the solar system, or even from a planetary system associated with some other star.

We must be extremely careful about our language. Some UFOs may be such visitors, it may be postulated, and some writers go so far as to say that they actually are. To discover clear, unambiguous evidence on this point would be a scientific discovery of the first magnitude, one which I would be quite happy to make. We found no such evidence, and so state in our report. But it is not true to say that we “proved that flying saucers do not come from outer space.” All that can be said is that, of the cases we looked into carefully, we found no evidence in support of the hypothesis of their extra-terrestrial origin.

STUDY ADVISABLE

We concluded that it is not worthwhile to carry on a continuing study of UFOs in the manner which has been done thus far: that of going out into the field to interview persons who say they have seen something peculiar. The difficulty about using objective means of study lies in the rarity of the apparitions, their short duration, and the tendency of observers not to report their experience until long after it has ended. When a known object is the source of many reports, as in the case of the Zond IV re-entry of March 3, 1968, there is extraordinary disagreement among the descriptions of what was seen by different observers of the same event. This result shows that no great certainty attaches to the specific details of any of the reports.

These difficulties led us to conclude that it is quite unproductive of results of scientific value to study UFOs in the traditional manner. But, contrary to popular belief, we do not rule out all future study. We say: “Although we conclude after nearly two years of intensive study, that we do not see any fruitful lines of advance from the study of UFO reports, we believe that any scientist with adequate training and

credentials who does come up with a clearly defined, specific proposal for study should be supported."

This conclusion has been bitterly denounced by the flying saucer buffs who have been making money from sensational writing and lecturing to gullible audiences, and collecting dues from the membership of their pseudo-science organizations. One prominent professor of atmospheric physics has been giving speeches in which he advocates that the federal government spend on UFO study amounts of money which would "dwarf" that spent on the space program.

Even though nearly a year has gone by since my work in this field ended, I continue to be astonished at the fervor with which many people hold views that are totally unsupported by objective evidence of any kind. Many people seem quite incapable of recognizing any distinction between what might be so and what actually is so. Some of these are charlatans, in my opinion, who profess belief in order to collect royalties from writing and fees from lecturing. But others are deeply sincere.

THE CULTISTS

We ran into many more interesting cases than we could include in the report, already criticized by many for being too thick. There was a young airman, second class, at an Air Force base in New Mexico whose 19-year-old wife died suddenly of a heart attack. They were members of a flying saucer cult which gathered around and decided that the woman's spirit had gone to Venus on a flying saucer, and that she would want her body back when she returned. So they wrapped it in a sheet and stored it in a barn rather than having it properly buried. The police learned of this by a mysterious postcard from a woman in Spokane, Washington. At first they thought the card was a hoax, but investigation proved that the young woman's body had been by this time stored in that barn for about three weeks. The young airman had seen lots of flying saucers but had not reported any of them, saying: "I didn't know the Air Force was interested!"

In the spring of 1967 I was visited several times by a well-mannered man who claimed to be acting as agent for the Third Universe (we are the First,



and the Second is inhabited by beings that resemble polar bears, he said). He said he was authorized to negotiate a contract with the U.S. government by which they would teach us to make inter-stellar flying saucers for \$3 billion. The first billion was to be paid after a demonstration to government officials at Dulles airport, the second after a major national laboratory had been built and our scientists and technologists had learned how to make flying saucers, and the third after they had trained our flight crews in inter-stellar navigation. He was specific down to the point of naming the bank in Arlington, Virginia, where the \$3 billion was to be deposited.

He wanted me, in the interim, to pay him \$3,000 as "earnest money" to be deposited in a particular bank in Western Colorado to the account of his organization, which was called the "Omnific Intelligence Continuum." Inquiry to that bank revealed that there really was such an account. Asked the size of the account the



banker cautiously said, "Small sums go in and out." Asked about membership of the organization the banker told me, "So far as I know Mr. X is the only member." Since part of Mr. X's story is thus verified, ought we now to believe everything he tells us?

REAL OR PSEUDO-SCIENCE

The most vivid lesson that I learned from such experiences is what a narrow, wobbly line there is between real science and pseudo-science. So far as the public is concerned most of the science which they know about they do not understand. Very few people can state clearly the grounds for belief that the Earth goes around the Sun, rather than vice versa, or for that matter, for our belief that the Earth is a ball rather than flat. Coming to more modern instances, who among the many investors in the profitable semiconductor industries have the slightest idea how a transistor works really?

In the given circumstances most of the scientific ideas that are accepted by the public are accepted entirely on faith. To most people, completely lacking any basic understanding of underlying principles, the proposition that the configuration of the planets and stars at the time of our birth determines the course of events in our lives, seems no more unlikely or preposterous than many of the well-established truths of science which they do accept without understanding them. There are some 10,000 astrologers in America who make their living practicing astrology and only about 2,000 astronomers who live by practicing astronomy. If celestial matters were decided democratically by the members of both professions lumped together, then the "real" astronomers would always end up as a depressed minority.

Flying saucers and astrology are not the only pseudo-sciences which have a considerable following among us. There used to be spiritualism, there continues to be extrasensory perception, psychokinesis, and a host of others. Hanson W. Baldwin in the "New York Times" has told how the Marines at Camp Pendleton are trained for Vietnam in the use of dowlers made of bent wire coathangers as a means of locating tunnels and other underground works of the Viet Cong.

Recently a visitor from a Navy research installation told me that some

MARGARET MEAD

Public Policy and Behavioral Science

admirals had purchased from an inventor, a wholly worthless invention which it was claimed could detect submerged submarines by a radar-like reflection of electromagnetic waves. This could not possibly work because of the conductivity of sea water, and it did not work when expensively tested. A test had to be made to satisfy the admirals and certain congressmen. A Russian spy in the same Navy laboratory got hold of the invention and our test results and sent them to Russia. The Russians did more work on the invention. Although they understood at once that it must be foolish, they thought they might be wrong because the Americans had spent so much time and money studying this crackpot invention. We know about this because an American spy in their laboratory sent us the story of their work.

These and many other examples that could be given show that we have failed rather miserably to give even to so-called educated people some feeling for the way in which science investigates a subject, and the way in which scientists subject their observational material to critical evaluation before reaching conclusions. The thing that most people are least able to do is to refrain from drawing conclusions when there is not enough evidence at hand to warrant drawing conclusions.

In ancient times, the future was foretold in many ways that have gone out of favor, such as by examining the entrails of sacrificed animals, or basing omens on the study of the flight of flocks of birds. (Cicero practiced this latter method.) Before you smile, bear in mind that these views have never really had as much scientific study as have the UFO reports. Perhaps we need a National Magic Agency to make a large and expensive study of all these matters, including the future scientific study of UFOs, if any.

Where corruption of children's minds is at stake, I do not believe in freedom of the press or freedom of speech. In my view, publishers who publish or teachers who teach any of the pseudo-sciences as established truth should, on being found guilty, be publicly horsewhipped, and forever banned from further activity in these usually honorable professions. Truth and children's minds are too precious for us to allow them to be abused by charlatans.

I am testifying out of long experience in the application of anthropology to contemporary national and international problems. During World War II, I worked within the context of the National Research Council on problems of nutrition, national morale, civilian defense, and cross national communication with Great Britain. I was one of the group that developed anthropological work on cultures at a distance—notably Germany and Japan—and after World War II, I participated in and directed a series of studies on behalf of the Office of Naval Research, Rand and MIT, including studies on the Soviet Union, China and France. These were interdisciplinary team activities (summarized in "The Anthropology of Human Conflict," Mead and Metraux in "The Nature of Human Conflict," edited by Elton B. McNeil, Prentice Hall, Inc. 1965). Since 1952 I have devoted myself to the study of technical assistance and political implications of culture change, education, cross national and international order and control of warfare, population control, environmental control, urbanization, cross ideological communication, and recently to the world wide implications of the generation gap.

I am here to discuss the possible contributions that the behavioral sciences together, and anthropology in particular, can contribute to national and international affairs.

During World War II we made a fine start in the utilization of this group of young sciences on a whole series of problems ranging from obtaining a better understanding of the national cultures of our opponents, our allies and ourselves, to the deter-

Physical scientists have been vocal and highly influential in Washington in the shaping of public policy on a number of fronts since the end of World War II. But what has become of the influence of behavioral scientists in Congress and on Capitol Hill? Margaret Mead discusses the question in this excerpt from her testimony before the U.S. Senate Foreign Relations Committee June 20, 1969 in a hearing on the psychological aspects of public policy. Dr. Mead is Curator of Ethnology at the American Museum of Natural History and Adjunct Professor of Anthropology at Columbia University.

mination of specific policies within the armed forces and within the nation, from the prediction of how Japan would respond to our treatment of the Emperor, to a clarification of relationships between the United States and our principal allies, to an illumination of the ambiguities in the responses of the various occupied countries to problems of civilian morale, to the maintenance of the health of the nation, to an unprecedented mobilization of our industrial resources, and to a deployment of resources in post war rehabilitation of a badly wounded world. These successes were accomplished under a set of conditions which can be clearly specified: a state of preparedness, mobilization and post war activity made possible by almost total commitment to a war which could be seen as a moral effort against almost overwhelming power and risk; a willingness of the community of behavioral scientists to give unstintingly of time and effort, within and without government,

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Since World War II, concern with UFO's from outer space, controlled by intelligent beings, bears much resemblance to concern with the so-called physical phenomena of psychic research after World War I. Spiritualistic mediums claimed they could produce movements of objects by supernormal forces, including the production of ectoplasmic emanations from their bodies. Today this nonsense is pretty much forgotten but these manifestations reverberated in the press during the 1920's and 1930's and were regarded by many as proof of communication with beings from another world in the form of spirits of deceased persons. Belief in this sort of thing involved many professional people including some distinguished scientists, clergymen, physicians, writers, and men of affairs, and the psychic research societies published numerous supporting papers of a pseudoscientific nature.

A famous case was that of a Boston medium in the 1920's, who had a wide following. She was the wife of an eminent surgeon and claimed communication with her dead brother. The old *Scientific American* magazine had offered a prize of \$5000 to anyone who could demonstrate supernormal physical phenomena to a committee of its choosing. At her request, she was investigated in 1924 by this committee, composed of several Harvard and M.I.T. professors along with Harry Houdini, the magician. The committee reported that evidence for her supernormal powers was inconclusive, although Houdini denounced her as fraudulent. Following wide press publicity, a group at Harvard, of which I was one, later investigated her in a series of seances in the psychological laboratories and found not only that the phenomena were due to trickery, but also how the tricks were done. Our findings, published in an article by me in the *Atlantic Monthly* of November 1925, resulted in violent recriminations and denunciations of us in published pamphlets and press statements by her followers. Our exposure enhanced her publicity, and she gained more adherents. She was skillful in modifying her mode of operation, depending upon the gullibility of her audience and other circumstances. On several subsequent occasions she was also exposed by other scientists, but at no time until her death did she lose a diminishing circle of devoted believers.

The basic difficulty inherent in any investigation of phenomena such as those of psychic research or of UFO's is that it is impossible for science ever to prove a universal negative. There will be cases which remain unexplained because of lack of data, lack of repeatability, false reporting, wishful thinking, deluded observers, rumors, lies, and fraud. A residue of unexplained cases is not a justification for continuing an investigation after overwhelming evidence has disposed of hypotheses of supernormality, such as beings from outer space or communications from the dead. Unexplained cases are simply unexplained. They can never constitute evidence for any hypothesis. Science deals with probabilities, and the Condon investigation adds massive additional weight to the already overwhelming improbability of visits by UFO's guided by intelligent beings. The Condon report rightly points out that further investigations of UFO's will be wasteful. In time we may expect that UFO visitors from outer space will be forgotten, just as ectoplasm as evidence for communication with the dead is now forgotten. We may also anticipate, however, that many present believers will continue to believe for their own psychological reasons, which have nothing to do with science and the rules of evidence.—HUDSON HOAGLAND, *President Emeritus, Worcester Foundation for Experimental Biology*, and *Member, AAAS Board of Directors*

STUDIES in INTELLIGENCE



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Argues that DoD pressure for figures on Soviet military outlays and their economic impact has brought a spurious response.

ECONOMIC INTELLIGENCE IN DEFENSE PLANNING*

Clyde C. Wooten

In the last few years new requirements for intelligence data on costs of present and future Soviet forces and for analysis of the Soviet economic potential with respect to supporting expensive weapon systems have been expressed:

... I believe that it is essential that all estimates of Soviet force levels be required to meet reasonable tests of economic feasibility. This means that NIEs should include cost estimates and overall budgetary implications of the estimated forces. It would be very useful to me to know how the Soviets are allocating their military expenditures. . . .

—Secretary McNamara to the DCI, 13 February 1963

We need estimates of costs . . . for several reasons. First, it is very useful for top level planners working on the problem of shaping the US defense program to know where the Soviets are putting their money. . . . Next, costs to the Soviets give us some indication of the likelihood of certain changes. For example, it is important to know what the Soviet defense budget is as a percentage of gross national product. And, it is also very useful to have some feeling for the marginal costs to them of various changes in their programs. . . .

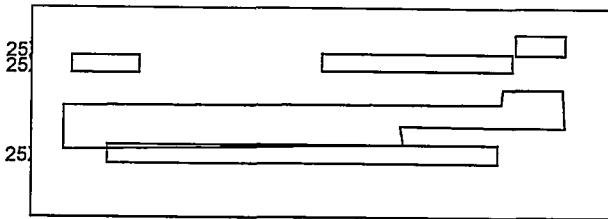
—Dr. Alata Enthoven, 25 July 1963

It is of course obvious that economic feasibility is an important constraint on the development of military capabilities. It is one thing, however, to recognize that there are limitations on Soviet economic capability to maintain modern armed forces and quite another to measure that capability for the purpose of testing the feasibility of particular force levels. Or put another way, can "strains" in the Soviet economy caused by advanced weapon programs be effectively measured and the measurement applied in a useful way to solution of U.S. defense planning problems? The purpose of this paper is to

*This is the editors' condensation of a more comprehensive study by the author which is available on request.

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THE 1965 STUDIES IN INTELLIGENCE AWARD



examine this question and a broader one implied by the new DoD requirements for economic intelligence: Given the kind of data available to the economic analyst, what kind of response is it feasible for him to make?

In order to comply with the DoD requests¹ it is necessary for intelligence to develop estimates of:

- 1. Current Soviet military expenditure allocations within the current GNP.
2. The cost of Soviet forces by mission, including with respect to advanced systems the current and future expenditures for both present and future systems (i.e., present operations and maintenance costs, current investment for present and future inventories, current R&D costs for future systems).
3. The Soviet GNP growth rate or some other measurement of economic capability to support defense expenditures, projected as far as the estimates to be tested are projected.

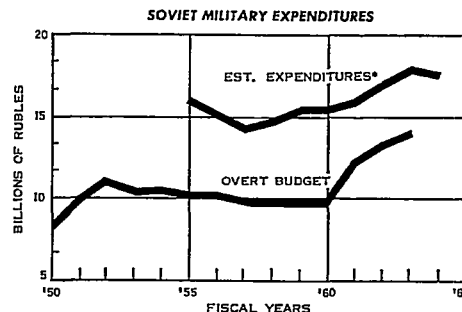
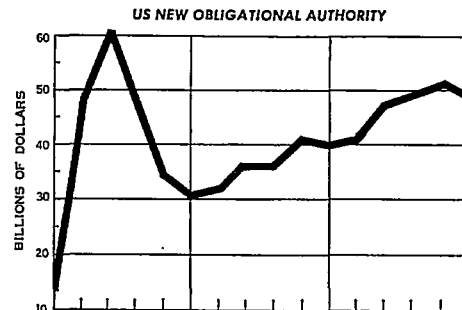
Allocation of Expenditures

The Soviet military budget is publicly a one-line item, a single figure for all military outlays each year. Its interpretation and breakdown, a job for economic intelligence, is not simplified by the Soviet practice of hiding increments to it elsewhere, much as we hide the CIA budget.

Figure 1 shows how this overtly budgeted amount has compared with actual expenditures as estimated by intelligence and with U.S. obligational authority for defense spending. There is considerable uncertainty associated with the estimated Soviet expenditures, not only present and future but also past, as we shall see. But accepting these figures, we see they give little warrant for extrapolating into the future on the basis of trend. This is as we might expect; military budgets are a product of compromise among contrary influences and subject to seemingly unpredictable fluctuations. We are therefore probably not justified in relying on trend analysis as a technique for estimating future military expenditures and the economic limitations on them.

A considerable amount of analytical ingenuity has been demonstrated in tracking down the hidden increments of the Soviet military budget. Data on industrial production have been analyzed to iden-

¹Cited and discussed in greater detail in W. E. Seldel's "Intelligence for Defense Planning," Studies VIII 2, p. 19ff.



*The estimated expenditures are taken from "Soviet Defense Expenditures," CIA/RR HP 65-1, 2 June 1965.

Figure 1

tify defense production, largely by a residual method, identifying components which are not defense programs in order to isolate what may be attributed to defense. There are a number of difficulties with the residuals approach, but the most important one is that the resulting figures give little insight into the mission breakdown of the military expenditures. Such a breakdown has been made an important objective for economic intelligence, which therefore requires resort to an extensive effort at synthesizing Soviet military costs, in particular costs of Soviet weapon systems.

Soviet Costs

Meaningful analysis of expenditures requires, first, data on prices and quantities, and second, relationships between these and other prices and quantities. Neither of these conditions is fulfilled by data directly available on Soviet military expenditures.

First let us speak of Soviet prices. While it is an oversimplification to say that prices in the Soviet Union are what someone says they are, they bear no regular rational internal relationship which could form a basis for extrapolation. Because the USSR is a controlled and rationed economy, prices are not a reflection of buyers' and sellers' independent choice in a free market. Ruble costs have no necessary relationship to real costs. The variations between the two have been indirectly and approximately expressed by intelligence (and elsewhere) in terms of divergent ruble-dollar relationships.³ It may be added that there is some divergence among estimates of these divergent relationships. We shall return to this matter; but for the moment it is necessary only to note that a ruble is not a ruble in the same sense that a dollar is a dollar.

This circumstance poses the first of two difficulties in the costing of Soviet military forces. Because Soviet costs derived from Soviet prices and quantities are not a true reflection of real costs, it is quite hard to make simple comparisons between the costs of different elements of the Soviet forces (either investment costs or, even more difficult, total cost of operations, maintenance, research and development, test and evaluation, etc.). Of course the difficulty is multiplied when one attempts to compare U.S. and Soviet military costs. But precisely this kind of comparison has to be made in order to estimate

³ See, for example, the discussion in Alan B. Smith's "Costing Nuclear Programs" on p. 34 of this issue, especially footnote 7.

the cost of Soviet elements in the first place. Here arises the second and more serious costing difficulty.

Inasmuch as very little Soviet military cost data is directly available, it is necessary to synthesize the Soviet costs by estimating the cost-generating characteristics of the Soviet forces, assigning prices to individual elements, and summing the costs of the required numbers. The long and short of this is that intelligence cannot develop the costs from economic data available from the Soviet Union. "All attempts to calculate the costs of Soviet forces" have depended "upon basic cost factors derived from U.S. data."³

The costing is thus done primarily by analogy: a weapon system is costed as if it were produced in the United States by U.S. technology and methods and with U.S. personnel. For the sake of comparability the U.S. systems closest to those of the Soviets are used and are modified to allow for known differences. Where possible, Soviet factors such as Soviet labor prices in rubles are used, though this introduces non-homogeneous units, rubles and dollars.

How good are these costs? Since the costing is by analogy with U.S. practice, it will be useful to inquire how good U.S. costing is.

U.S. Costs

The cost of advanced weapon systems has been increasing rapidly in the United States. Dr. Harold Brown has illustrated this point by comparing the fly-away cost of the World War II F6F, \$9 per pound, with that of the F4B, to be over \$74 per pound.⁴ The reasons usually advanced for the increase are a greatly increased sophistication in weapon system components and the increased cost of materials and highly skilled labor. It is well known that there are other factors; we shall mention three.

The first is inherent in the way the business is done in the United States, and more particularly in the defense industry. Suppose there is a design competition for a new weapon system. Two or more companies may carry out very extensive and expensive R&D efforts, often involving the same general technology. It is not unknown for such competitions to become quite protracted, with resubmissions

³ E. D. Brunner, *Soviet Air Armaments and Their Costs, 1948-1961* (Santa Monica, California: The Rand Corporation, RM-3508-PR (Secret RD), May 1963), p. 1.

⁴ Statement before a meeting of the Institute of Aeronautics and Astronautics in Washington, D.C., 22 September 1964.

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required. Each competitor must demonstrate competence, in terms of personnel and facilities, to proceed with the contract after it is awarded. Only one company ultimately wins the contract. The loser or losers may be reimbursed under terms of the development contract for part of their expenses, in which case this adds to current R&D costs. More usually, the company absorbs the loss, expecting to make it up through profits on other defense contracts, so that the apparent costs of succeeding systems are increased. There are advantages to this way of doing business, but saving money is not one of them.

A second factor is inefficiency in R&D. There is a dearth of data on this subject, for understandable reasons; companies are not likely to advertise their inefficiencies. But efficiency is likely to be of a different order when limitations on funds require heavy emphasis on economy and reliance on the ingenuity of project leadership and personal incentives, as against the conventional U.S. R&D practices, with cost-plus contracting, emphasis on massive documentation, detailed control of lower echelons, etc.

Recent research by Arnold C. Cooper⁵ on the cost of civilian product development disclosed no investigations into relative efficiency among companies of different size, but on the basis of an "introductory exploration" he hypothesized that "... large companies tend to spend substantially more to develop particular products than do small firms." In interviews with managers he found that most think a large company "spends from 3 to 10 times as much as a small one to develop a particular product." In a case study of a small and a large firm developing a protective coating for similar products, the small one carried out a 12-month part-time project estimated to cost \$1,400, while the larger's project lasted 38 months and ran \$11,000 in direct costs.

Cooper is careful to restrict his conclusions to R&D, avoiding any suggestion that small companies are more efficient in production activity. But it is the very large R&D costs in the U.S. missile and space field, rather more than production costs, that have created a view here that heavy expenditures are required for substantial progress, especially in the light of competition with the USSR. Such R&D activities are non-standard and difficult to control, thereby lending themselves to rat-hole expenditures and enterprises.

⁵ Arnold C. Cooper "R&D is More Efficient in Small Companies," *Harvard Business Review*, May-June 1964, pp. 75-83. This article was drawn to my attention by Tom Clonnan of the Rand Corporation.

A third factor which pyramids costs is competition for labor and materials. The missile and space industry in the United States has over the past few years been its own worst competitor for talent. When projects proliferate, new investment in facilities is required. In a competitive economy the pricing system is the mechanism for gaining priority in personnel recruitment, capital investment, and resource allocation. Therefore unit costs are higher on priority projects.

Implications for Analog Costing

The relative tightness of the Soviet economy suggests that Soviet R&D is not likely to share the rich man's results-count-more-than-the-money attitude. The Soviet design-team approach lends itself to internal communication and continuity in technology. It has been noted by intelligence that Soviet design goals are usually more modest, less prone to press the state-of-the-art, less likely to incorporate cost-multiplying modifications after series production has begun, than in U.S. practice. Priority seems to be arranged through direct allocation of resources—men, facilities, material—rather than by price adjustment. There are, of course, disadvantages to this way of operating, but it seems economical in terms of costs on high priority programs. All this would suggest that we have a tenuous basis for analog costing.

Before we turn to future weapon systems, a rather important implication of analog costing of current forces needs to be made explicit. Costs developed by the analog method depend not only on what is costed (unit costs) but on how much is costed (systems costs). "The reasonableness of the results depends, to a large extent, upon the validity of the order-of-battle estimates."⁶ But the objective in costing was to validate and set economic limits on the order of battle. If the validity of the cost estimates depends upon validity of the order of battle, how can the order of battle be validated by the cost estimates?⁷

Let us now consider estimating future costs. The question of future technology is immediately raised. There is of course great intrinsic uncertainty in projecting technology into the future, whether in foreign

⁶ E. D. Brunner, *op. cit.*, p. 1.

⁷ The objection that costs so derived may be measured against economic capabilities will be met below.

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or domestic, military or civilian application. Charles J. Hitch, DoD Comptroller 1961-1965, has observed:

... the most important thing to understand about R and D is the dominant role played by uncertainty. . . . Predictions by "experts" of the results or usefulness of particular R and D projects are highly unreliable. . . . Developments almost always take longer and cost more than predicted (by factors of 2 to 50). . . . most fall in whole or in part. . . . In addition to technological uncertainty, R and D shares with other kinds of time-consuming investment what is called environmental uncertainty—uncertainty about the kind of new product that will be saleable or useful in the unknown environment of the future years in which it will be available.⁸

The matter of military R&D and system cost prediction has received a considerable amount of study because of glaring mistakes in cost estimates associated with U.S. weapon system proposals. It has been found that estimates of total system costs made early in a development program may be less than the estimate made when the system is ready to be introduced into the active inventory by a ratio of 1.5, 2, 3 or even higher. Studies indicate that a primary and overriding cause for underestimating U.S. weapon system costs has been the tendency to change performance characteristics or the configuration of systems after the cost estimates have been completed.⁹

In the use of highly uncertain data for purposes of comparative analysis or evaluation, it is desirable that the uncertainties be of the same order or otherwise comparable. It may then be possible, in a very rough or crude way, to "factor out" such uncertainties on the basis of their comparability. Perhaps enough has been said to suggest that methods used in costing Soviet military forces may not yield the required comparability with U.S. costs. The estimated costs of Soviet forces so derived may thus not express the true cost relationships, either internally or with respect to those of U.S. forces, implied by the manner in which they are presented in intelligence estimates. This possibility may be enhanced by the problem of ruble-dollar conversion.

⁸ Charles Hitch, *The Character of Research and Development in a Competitive Economy* (Santa Monica, California: The Rand Corporation, P-1297, 13 May 1958), p. 4.

⁹ C. H. Fisher, *A Discussion of Uncertainty in Cost Analysis*, RM-3071-PR, The Rand Corporation, April 1962, p. 5 et passim. A study of 12 DoD weapon programs made in DoD some time ago revealed that they were underbid by a factor of 3.4.

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The Ruble-Dollar Problem

Let us suppose that after some difficulty in arriving at a reliable cost estimate for a Soviet weapon system (and knowing that it is reliable), we have in hand such an estimate expressed in dollars (or partly in dollars). The next problem is to convert the dollars into rubles. Although there are a number of bad ways to do this, there is no completely satisfactory way. There is no single conversion factor by any method of calculation (except of course the Moscow-pegged exchange rate), and all methods of calculation have difficulties.¹⁰ The way this has been done in costing Soviet forces, and indeed the most nearly satisfactory way, is to relate elements of the military costs to Soviet economic sectors for which ruble-dollar ratios have been established and to compute ruble costs by use of these ratios.

The same problem in reverse cannot of course be avoided in interpreting the economic meaning of the aggregated costs derived through conversion factors. If they are summed and related to costs calculated for previous Soviet defense budgets, we run into the problems we have discussed in costing methodology, costing uncertainty, determination of how and when costs are incurred,¹¹ real costs, etc. It is quite difficult to draw simple, accurate, and useful inferences from comparing such costs, say costs of Soviet general-purpose forces with those of strategic offensive forces or with data on other economic sectors, not to mention U.S. costs of similar forces.

Cost-Effectiveness Comparison

Finally, there is a perplexing problem as to how to compare U.S. and Soviet forces in terms of costs and effectiveness by any system of analysis when their relative composition, sophistication of equipment, relative austerity, and requirements for support are so different. Secretary McNamara has inquired "whether the Soviet military estab-

¹⁰ See Rush V. Greenlade, "Rubles vs. Dollars" *Studies VI*, p. 1-11, for a succinct explanation of the problem of ruble-dollar relationships in connection with the comparison of U.S. and USSR GNP.

¹¹ The fact that in 1965 it was discovered that Airframes Plant No. 30 at Moscow Central Airfield had been producing MIG 21/FISHBED aircraft since about 1960, together with the fact that not enough information is available to establish a production rate, is illustrative of the degree to which distribution of costs, including distribution in time, must be based on assumptions.

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lishment has certain expenditure patterns which, as compared to our own, provide more military capability for the same cost."¹²

Intelligence has long remarked that the Soviets tolerate crude workmanship where technical excellence is not required. In the first Soviet-produced jet engine the turbine blades were well made but other workmanship was inferior by U.S. standards. In Soviet systems the instrumentation and auxiliary equipment also tend to be simpler than in the U.S. equivalents. Their space vehicles, although larger, are believed to be simpler than ours. Because they are larger they also avoid the costs of miniaturization and associated problems of quality control and reliability.

It is well known that the Soviets have standards of austerity in military forces different from ours. Probably less well understood is that they also have different needs for supporting forces and facilities. As the most obvious illustration of this, Soviet general-purpose forces are for the most part deployed in Soviet border areas or in proximity to the homeland, whereas a substantial portion of U.S. general-purpose forces are deployed at great distances from the continental United States. This implies substantial differences in support requirements of all kinds. In short, the Soviet military problem is not symmetrical with the U.S. military problem, and this asymmetry has implications beyond the costs of differing mixes of combat arms.

These two differences—in standards of austerity and in requirements for support forces and facilities—are in some degree complementary, as suggested by Major General Deane, the senior U.S. military representative in Russia during much of World War II, in his description of a trip to the Soviet front after the Battle of Vilna:

On the following day we were first driven to the headquarters of the Fifth Army, which was about fifteen miles west of Vilna. Colonel General Krylov was in command and he received us with his entire staff. It was certainly a far cry from the American conception of an Army headquarters. The entire staff consisted of fifteen to twenty officers who lived and worked in a few small trailers scattered through the woods. There was one huge hospital tent, well camouflaged, which served both as a conference room and as a headquarters mess. Some officers had stenographers at work, but most of them did not. We could not help but think of the enormous installation and all the office space and facilities found at an American Army headquarters. It highlighted some very different concepts in our methods of operating. . . .

¹² Memorandum 12 January 1963 to the Joint Chiefs.

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Of course the Russian problem was considerably different from ours. In the matter of supply they had only one theater to consider as opposed to the many all over the world in which we were fighting. Their supply lines were confined to an east and west rail and road net, whereas ours extended back across the ocean. To them a supply deficiency meant a few days' delay, whereas we had to wait for the availability of convoys. In the matter of personnel all Russia's manpower was close at hand, and her willingness to accept losses allowed the Red army to rely on sheer force of numbers rather than careful planning in order to achieve objectives with the least loss of life. In the matter of training Russia had the advantage of an agrarian population already hardened and for whom the rigors of battle were little more severe than the rigors of peace. Post Exchanges, United Service Organizations, doughnut wagons and other morale agencies which call for overhead were unheard of.¹³

This, from the Russian point of view, was a successful army which had accomplished everything necessary to win a great victory. The Russians possibly still carry something of this image in their minds as they build new military capabilities in a new era. What this means in terms of combat capability has not been tested.

Let us review what we have covered. We know that the Soviets have important resource allocation problems. Military expenditures can be made only at the sacrifice of other desiderata competing for the same resources. But the problem of measuring constraints on such expenditures, we have found, runs into a number of conceptual and technical problems having to do with erratic trends in military budgets, inability to derive mission breakdown from Soviet budget figures, methodology of estimating costs, translation of costs into rubles, and forming judgments about them in the framework of the Soviet economy.

It takes a certain optimism to expect intelligence to be able to cost weapon systems which cannot be described in detailed cost-generating terms, to do it by methods which have proved to be quite uncertain, to arrive at dollar costs and translate these into ruble costs without a satisfactory methodology, and to extrapolate all this, by any method, into an uncertain future—perhaps five or seven or ten years—and arrive at system and force costs which have any useful precision. Or whose precision can be guessed.

After the costs have been derived, they must be related to something which serves as a gauge of the "strain" they engender in the economy or a measure of economic feasibility. They must be meas-

¹³ John Russell Deane, *The Strange Alliance* (New York: Viking Press, 1947), p. 210 f.

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ured against some such standard as GNP growth projected into the future, or in terms of the sacrifice they would require in some other Soviet objective, such as investment for GNP growth. The most impressive effort to date to assess the impact of future Soviet military expenditures has in fact adopted the latter standard. Let us now examine the attempt to make such assessments in practice.

The Intelligence Effort

The forces postulated in "Intelligence Assumptions for Planning" have been costed and found feasible and reasonable from an economic point of view. The forces listed in "Alternative Ten Year Projections of Soviet Military Forces," a group of documents produced by a CIA/DIA Joint Analysis Group,¹⁴ have been costed and described as feasible. The most impressive and comprehensive effort to date, however, is the report "Soviet Defense Expenditures and Their Economic Impact Through 1970."¹⁵

Inasmuch as this latter document is the first attempt to go beyond simply costing Soviet forces and declaring them feasible,¹⁶ it is important to scrutinize its methods¹⁷ and results. Its ultimate measurement of the cost of estimated future Soviet forces is in terms of sacrifice in economic growth. How good is our understanding of economic growth?

Intuitively, there can be no question that competing expenditure programs have an influence on economic growth, and growth on expenditure programs. How much is another matter. In 1964 the intelligence community, noting that "new extensions of Soviet economic assistance to 25 non-bloc countries . . . fell to a low of \$77 million in 1962 and did not exceed \$200 million in 1963," declared, "This marked decline cannot, of course, be attributed solely to a resource squeeze within the USSR but has almost certainly been reinforced by the domestic competition for increasingly scarce resources and by the overall slowdown in Soviet economic growth . . . Economic aid to

¹⁴The establishment of this group was discussed by W. E. Seidel in his article "Intelligence for Defense Planning," *loc. cit.*

¹⁵CIA/RR MR 64-1, dated December 1964.

¹⁶No forces otherwise estimated by the intelligence community as feasible have yet been declared infeasible on the basis of intelligence cost analysis.

¹⁷Parts of the methodology are informally discussed by George Ecklund in his "Guns or Butter Problems of the Cold War," *Studies* IX 4, p. 1 ff.

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nonbloc countries is unlikely to recover the momentum of earlier years."

But in 1965 it had to acknowledge that "the hiatus in Soviet extension of economic aid to less developed countries of the Free World was ended as new credits rose . . . [to] some \$800 million during 1964 . . . The rate of expenditure has been rising rapidly." And the dour outlook for the Soviet economy of 1964, with "chronic mismanagement," "programs too ambitious for available resources," and an economy "too large, too clumsily managed, and too complex to change gears overnight" became rapidly more cheerful.

Another example suggests the depth of our understanding of growth in the Soviet economy.¹⁸ On January 10, 1964, the *New York Times* reported that ". . . the once impressive 6 percent annual economic growth rate of the Soviet Union had slipped to 2.5 percent in the last two years . . ." This news became available through an unprecedented CIA statement to the press following a succession of massive grain purchases by the Soviet Union. It was greeted with satisfaction by the press but suffered a mixed reception among U.S. and British academic specialists on the Soviet economy.

To quite a number of the specialists, the statement said both too much and too little. A central problem was the role played by Soviet agriculture in the economic downturn. Part of the commentary involved more arithmetic than economics. The agricultural sector has been counted as 25 to 33 percent of Soviet GNP, depending on the omission or inclusion of a land rent adjustment.¹⁹ With massive crop failures resulting in a severe depression of so large a sector of the economy, one might expect the GNP to drop severely. Then it might rise even more dramatically with a good crop year. "What a very bad harvest can wreck," one observer remarked, "a quite moderate harvest can mend. If in 1964 agricultural production [in the Soviet Union] equals that of 1961, and other things grow as they did this year, except that trade and light industry expand slightly along with

¹⁸The quite large miscalculation of China's economic growth during the "Great Leap Forward" period is well known. See, for example, B. B. Rubbechi, "Post-Mortem: The Chinese Economy," in *Studies* VII 1, and Edward L. Allan, "Chinese Growth Estimates Revisited," *Studies* VII 2.

¹⁹Stanley Cohn, "The Agriculture Sector Weight in an Index of Soviet Gross National Product," *The ASTE Bulletin*, Winter 1964, p. 13. The same sector in the U.S. GNP is only about 4.2 percent.

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the increased agricultural supplies, the national income will rise by 7%."²⁰ It did rise, according to CIA, about six percent. The important point—that the Soviet Union is faced with a problem of resource allocation—was obscured rather than illuminated by the 2.5 percent growth figure.²¹

The general downward trend in the growth of the Soviet economy has been attributed largely to increased investment in military and space programs.²² Intelligence has taken note of the enormous costs of our own modern weapon system and space programs, which sharpen our appreciation of the economic constraints on the Soviets in similar endeavors. Thus the general intelligence judgment is that the Soviets are indeed faced with resource limitations and difficult resource allocation choices. How much farther can intelligence go? Let us see how much farther it has gone in "Soviet Defense Expenditures and Their Economic Impact Through 1970."

Quantification

Two forces, a high and a low, along with the programs they imply, are costed on the basis of "a quantitative, physical description" contained in "NIEs and related documents." "However, because many of the official estimates were not expressed in sufficient detail or did not conform to the desired probability criteria, it was necessary to make a variety of assumptions in order to provide descriptions adequate for costing purposes."²³

²⁰Peter Wiles, "CIA Bono—Reflections on the CIA's Statement of January 10, 1964, on the Soviet Economy," *The ASTE Bulletin*, Winter, 1964.

²¹Cf. Alec Nove, "2½ Per Cent and All That," *Soviet Studies*, July 1964, and Stanley H. Cohn, "Comment on '2½ Per Cent and All That,'" *Soviet Studies*, January 1965.

²²" . . . perhaps the single most important factor [contributing to the lag in Soviet productivity] is the demand of the defense program since 1958 for scarce resources and highly trained manpower." NIE 11-5-65. It is noteworthy that two USIB agencies (one non-military) have joined in a footnote to the subsequent *Note to Holders* of NIE 11-5-65 and NIE 11-6-65 stating that Soviet defense spending uncertainties are "too great to support a judgment as to the general trend of Soviet defense expenditures particularly in recent years."

²³p. 5. It must be emphasized that the high and low forces are not represented as limits or bounds in a mathematical sense. Yet the synthesized costs of these forces have been introduced into NIE 11-5-65 as the range of Soviet military expenditures, as we see below.

Neither the systems costed nor the variety of assumptions used in costing are described in the report. However, the basis for selection of systems is described as follows:

If the judgment was that there was a probability of 75 percent that an item would appear, it was included in both the high and the low "assumptions." If, however, the probability was only 50 percent that an item would appear, it was included in the high side only, and if the probability of its appearance was less than 50 percent, it was omitted from both sides. Then a second judgment was made concerning the number of items that would be deployed. This second judgment was ranged to reflect a probability of 75 percent.

The costs of the high forces and the low forces were arrived at "by simply summarizing the expenditures for all of the high force 'assumptions' on the one hand and all the low force 'assumptions' on the other."

Also, no attempt was made to take explicit account of uncertainties about the prices used in the costing exercise. This decision was governed by practical considerations, particularly by the desire not to obscure the effects resulting from uncertainty as to physical posture by introducing ranges that reflect uncertainty as to cost or price. This decision should not be interpreted to imply a judgment that the range of uncertainty as to Soviet costs or prices is sufficiently narrow that it can be ignored.

This, on one page, is all that is told the consumer about the forces costed, the methods used, the reliability of the data, or the problems arising out of expressing costs in U.S. dollars and Soviet rubles. The remainder of the report is taken up with summarizing "expenditure implications" of the high and low forces, discussing the "potential impact of the expenditure series on the Soviet economy," and comparing the "dollar equivalents of Soviet defense expenditures."

We shall not try to summarize the 41 pages of text, tables, and charts. The following extract and the charts in Figure 2 are enough for an understanding of the general conclusions.

A possible rate of growth of GNP consistent with the high assumption might average about 5 percent for the whole period; however, the rate for the period through 1967 might be confined to 4 percent per year. A rate of growth for GNP of 8 percent, however, would be consistent with the low assumption. The empirical basis for these projections is not extensively or rigorously developed as yet, and the Soviet economy may do either significantly better or worse than projected.²⁴

²⁴p. 17. These judgments were later introduced into NIE 11-5-65 without the qualification in the last sentence.

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MORE METEORITE EVIDENCE

Extraterrestrial amino acids

Last December's report by a group from the National Aeronautics and Space Administration's Ames Research Center of finding indigenous amino acids in the Murchison meteorite (SN: 12/5/70, p. 429) has sparked intense scientific interest. The finding was subsequently confirmed by groups from the University of Houston (SN: 3/20/71, p. 195) and Arizona State University (SN: 3/27/71, p. 210).

The Arizona State scientists, Drs. John R. Cronin and Carleton B. Moore, also reported detecting the same amino acids in an intact piece of a similar meteorite that fell near Murray, Ky., in 1950. Now the leader of the NASA group, Dr. Cyril Ponnampereuma, confirms an abundance of amino acids in the Murray meteorite. Dr. Ponnampereuma told a meeting of the New York Academy of Sciences last week that the group's use of gas chromatography combined with mass spectrometry detected all 18 of the amino acids in Murray that they earlier found in Murchison. They also found the same two pyrimidines—4-hydroxypyrimidine and 4-hydroxymethylpyrimidine—in each meteorite. The

pyrimidines differ slightly from those found in nucleic acids in living cells.

The coincidence of the finds is further strong evidence that the amino acid and pyrimidines were created chemically in space. Although he can only speculate, Dr. Ponnampereuma suggests that the existence of identical complex patterns of amino acids and pyrimidines in two meteorites could mean that this is a basic phase in the chemical process leading to life. The findings increase the likelihood of life elsewhere in the universe.

In both meteorites, six of the amino acids are among those that are commonly linked together to form proteins in living cells; the other 12 are amino acids only occasionally found. They are thus not likely to result from terrestrial contamination. The amino acids are of an almost equal mixture of right- and left-handed molecular structures. Earth organisms produce only left-handed amino acids. The mixture of both types thus appears to rule-out biological origin and is strong evidence for extraterrestrial chemical origin.

Members of the Ames team also included Drs. James Lawless, Keith Kvenvolden, Clair Folsome and Miss Etta Peterson. ASU's Dr. Moore also took part.

BEHAVIOR

Whatever happened to UFO's?

On May 31 two New Hampshire farmers looked across a field and saw a spherical, flat-bottomed object hovering above the ground. As they watched, the object rose vertically, arced and headed into the wind on a horizontal path.

This is one of several incoming reports of unidentified flying objects received recently by the National Investigations Committee on Aerial Phenomena (NICAP) in Washington. NICAP secretary-treasurer Stuart Nixon says he believes the reports may be the start of a recurrence of saucer sightings or at least the reporting of saucer sightings. NICAP has been a long time waiting. Since 1968 the number of UFO sightings has dropped off, along with public interest in them. Last week a Wall Street Journal article reported that a probable reason for the decline is the negative social climate produced by publication in 1968 of the Condon report, the 810-page scientific study of UFO sightings commissioned by the U.S. Air Force and directed by Dr. Edward U. Condon of the University of Colorado. It concluded that "nothing has come from the study of UFO's in the last 21 years that has added to scientific knowledge." And "that further extensive study of UFO's probably cannot be justified in the expectation that science will be advanced thereby."

This scientific debunking of the UFO phenomena and the subsequent, though not necessarily connected, decline in sightings presents an interesting behavioral pattern. Dr. Ernest R. Hilgard, a Stanford University psychologist who served on the National Academy of Sciences panel that reviewed the Condon report, believes the report itself is not wholly responsible for the falling off of flying saucer interest. "I would like to feel that the report quieted the saucer interest," he says, "but I do not think so." People probably just lost interest, he suggests. "These fads go in cycles," he explains, and many persons who would have been interested in extraterrestrial phenomena have turned to other things: drugs, astrology, Oriental religions and various subjective and philosophic fields. As society becomes more affluent man has time to reflect on his position in the universe. As he does so he attempts to integrate himself into and make himself a more important part of that universe. Belief in other worldly things is one method of doing so, points out Dr. Hilgard. But national and international events of the past few years have tended to make people look inside rather than outside themselves for answers to universal questions. This fad too will pass, says Dr. Hilgard, who predicts

Cyclops: Eye on the universe

For a total of 150 hours from May through July of 1960 the 85-foot antenna at the National Radio Astronomy Observatory in Green Bank, W.Va., monitored radio emissions from the nearby stars Tau Ceti and Epsilon Eridani for any evidence of signals from intelligent extraterrestrial civilizations. The search, Project Ozma, turned up nothing unusual. But it was the first time man had tried to detect signals from any unknown counterparts on other planetary systems.

Last week engineers and scientists gathered at the National Aeronautics and Space Administration's Ames Research Center in Mountain View, Calif., to explore the technological possibilities of a project that would be orders of magnitude more sophisticated than Ozma. The 11-week study, sponsored jointly by Ames and Stanford University, is called Project Cyclops. Its aim is to examine feasibilities and to educate, not to recommend policy. There is no intention of inaugurating such a project at this time. Decades might pass before it is possible. But the study co-directors, Dr. Bernard M. Oliver, vice president for research of the Hewlett-Packard Co. and a

visiting professor at Stanford, and Dr. John Billingham, chief of the biotechnology division at Ames, believe it is not too early for a fuller study of the technology necessary to detect artifact signals.

Basically, Cyclops envisions an interconnected array of 1,000 to 10,000 radio telescope dishes spread over an area perhaps 10 miles across. Such an array should, according to one estimate, be able to detect beamed signals from any civilization within 1,000 light-years. Normal radio "leakage" from the regular transmissions of advanced technological civilizations might be detectable from perhaps 100 light-years. The costs of such an array would have to be justified by the signal search itself, but the array would also be an excellent tool for radio astronomy. One goal of the study is to explore ways in which the dishes could be produced cheaply enough to make the idea feasible. "We would like to nail down the cost of doing this," says Dr. Oliver.

As for the Cyclops array itself, "its mission would be to add a new dimension to cosmology," Dr. Oliver says. "It might establish the science of biological cosmology."

that the UFO's will reappear when it does. At NICAP Nixon says UFO reports usually run in five-year cycles and 1972 should be the start of another cycle.

Dr. Donald I. Warren of the School of Social Work at the University of Michigan in Ann Arbor has another behavior theory on UFO's. In his view UFO's provide a form of escape. "One expression of this escape," he says, "is the possibility of other lives, other planets, other beings like or unlike oneself." UFO's "present the opportunity to escape the system without threatening one's gains in the immediate social environment." Dr. Warren, however, based his conclusions on a person's dissatisfaction with his socioeconomic status. A well-educated person earning a relatively small salary might not be content in his situation and would therefore, suggests Dr. Warren, be a likely person to attach importance to himself

by believing in and sighting flying saucers.

This theory may have some credibility, but an article by Dr. Warren in SCIENCE last November advancing these views received a critical response from scientists. The controversy, brought on by a lack of adequate psychological and behavioral information on the subject, points out, as does Dr. Warren, "that this phenomenon has been inadequately studied by the behavioral sciences."

In an attempt to coordinate existing information, NICAP has instituted Project ACCESS (Automated Clearinghouse for Collection and Exchange of Sighting Statistics). All available sighting data (people, places, times, etc.) will be stored in a computer and made available to interested parties. If, these inputs are scientific and objective, as NICAP's Nixon insists they will be, Project ACCESS will be a useful tool for behavioral scientists. □

Nuclear power safety

The Atomic Energy Commission last week announced new, stricter criteria for nuclear power plant safety. Prime emphasis in the new standards is the need for back-up systems in case cooling water systems for reactors fail. Such an accident could conceivably result in overheating of reactor cores, melting of shielding and release of radioactivity. Most affected by the new criteria are five plants licensed before 1968. They will have to install the back-up systems within three years. □

California's AEC ties

The huge University of California system has been heavily involved in defense and weapons research since World War II. Partly in response to student-faculty criticisms (SN: 1/16/71, p. 50) the UC regents last week recommended changes in the contractual arrangement between UC and the Atomic Energy Commission under which the Lawrence Radiation Laboratory is operated. The laboratory consists of two units, the non-secret facility on the hill behind the Berkeley campus and the more closely guarded facility at Livermore. Under the recommendations, the administrative ties between the two units would be severed. And the director of the Berkeley laboratory would report directly to the president of the university rather than, as now, to the chancellor of UC at Berkeley. □

DRUG ACTION ON DNA

Now visible, in 3-D

For some years scientists have zeroed in on drug action at the most intricate cellular level. Although they understand the molecular basis of action for several drugs, it is only now that the three-dimensional structure of a drug has been correlated with its biological action.

Dr. Henry M. Sobell of the University of Rochester reported last week that by using the technique of X-ray crystallography, he has pinpointed exactly how the antibiotic actinomycin D interacts with DNA. In fact, since the Crick-Watson model for DNA was proposed 18 years ago, this is the first time scientists know visually how anything sticks to DNA.

Dr. Sobell, a physician-turned-crystallographer, says he crystallized actinomycin with deoxyguanosine, one of the four bases of DNA. The three-dimensional structure of the complex immediately suggested how actinomycin binds to DNA. Dr. Sobell believes that the flat portion of the drug molecule fits in between the nucleotide base sequence, GpC, while the protein subunits of the antibiotic make a hydrogen bond with guanine residues on either strand of DNA. Actinomycin has two-fold symmetry relating to the protein subunits. This enables the drug to bind to a base sequence in DNA with two-fold symmetry. This pattern of recognition was first conceived several years ago by Dr. Jacques Monod, who shared the 1965 Nobel Prize with Drs. Francois Jacob and Andre Lwoff for their work in biological regulation. Dr. Sobell's report of the first visual sighting of the drug-gene contact was made in San Francisco at the 62nd annual meeting



Univ. of Rochester

Sobell and drug-DNA molecule model.

of the American Society of Biological Chemists.

The medical implications of Dr. Sobell's work may be far-reaching. Actinomycin's repressor-action on DNA, as revealed in the crystal model, might explain why actinomycin works as an antitumor drug. However, the drug is too toxic for lavish clinical control of tumors, precisely because of its stringent action at the molecular level. But now that scientists understand how actinomycin binds to DNA, Dr. Sobell believes they can probably synthesize new antibiotics or drugs that would act on tumor cells or viruses, but not on cells, in the rest of the body. □

Doctorate oversupply

A new National Science Foundation study on the supply of and demand for doctoral scientists, projected to 1980, indicates an even greater imbalance of supply over demand than in a study done two years ago. Over-all projections show a supply of about 325,000 doctoral scientists in 1980—against an expected demand for about 285,000. The greatest imbalance is in engineering, with a projected 40 percent oversupply. Next greatest is in social sciences, with a 20 percent oversupply. The life sciences situation is somewhat better, with a 9 percent oversupply predicted. Mathematics will see an oversupply of around 10 percent. Only in the physical sciences will supply and demand be essentially in balance. □

Oldest mummy

Possibly the oldest (5,000 years) intact mummy ever found has been unearthed in a tomb in Sakkara, 15 miles southeast of Cairo. The ancient court musician Nofre died in the sixth year of the reign of King Nie Ossen-Ra. The discovery was called historically and scientifically more important than the findings of the Tutankhamen tomb in 1922. □

To gain a fresh and objective perspective on the UFO problem, the UFO Subcommittee of the AIAA, from its inception in 1967, decided to place specific, well-defined questions to UFO experts of high scientific qualifications but strongly divergent views. Surprisingly, the factual answers the Subcommittee obtained in a series of interesting interviews were strikingly similar. Differences occurred in certain quantitative estimates and in the degree of emphasis, but not in principle.

It was at the next step where the views began to diverge: subjective judgment as to the scientific significance of the problem and the need to pursue and explore it. Obviously, such opinion depends on the criteria applied by the individual, and much of the discord appears to be due to a lack of analysis of these criteria. It is at this stage where guesses and speculations creep into the discussion and lead to controversy.

In the opinion of the UFO Subcommittee, such speculations are entirely premature and no position is absolutely defensible at this point in time. This applies specifically to statements that the extraterrestrial hypothesis ("ETH") is "the least probable" or "the least unprobable" explanation (National Academy of Sciences, Review of the "Condon Report"; James E. McDonald's statements). There is no scientific basis for assessing such probabilities at this time.

The Subcommittee was greatly perturbed by the paucity of thorough scientific and technological analysis applied to practically all observations before the Condon study. The few, often courageous, efforts by individuals to come to grips with this problem should be viewed more from an aspect of focusing attention on the problem rather than of solving it, since there is little doubt that it takes more than a personal effort to investigate fully a problem of such complexity.

In the opinion of the committee, the Colorado University study, "Scientific Study of Unidentified Flying Objects," (the "Condon Report," Bantam Books, New York, 1969) at this time represents the most scientifically oriented investigation published on the UFO problem. Attacks directed against the study seem to overlook the almost insurmountable difficulties which a short time ago, about projects of this type faces: building up the multi-

disciplinary, unbiased talent, accumulating practical experience, collecting hard information, sorting out the signal from the noise, applying the best analytical methods, and writing and editing a report in less than two years.

To understand the Condon report, which is difficult to read, due in part to its organization, one must study the bulk of the report. It is not enough to read summaries, such as those by Sullivan and by Condon, or summaries of summaries, on which the vast majority of readers and news media seem to rely. There are differences in the opinions and conclusions drawn by the authors of the various chapters, and there are differences between these and Condon's summary. Not all conclusions contained in the report itself are fully reflected in Condon's summary. For example the optical/radar chapter contains the following statement on the Lakenheath case (1956):

The apparently rational, intelligent behavior of the UFO suggests a mechanical device of unknown origin as the most probable explanation of this sighting. However, in view of the inevitable fallibility of witnesses, more conventional explanations of this report cannot be entirely ruled out.

On Colorado Springs case (1967):

In view of the meteorological situation, it would seem that AP (anomalous propagation) was rather unlikely. Besides, what is the probability that an AP return would appear only once and at that time appear to excute a perfect practice ILS approach.

Condon's own conclusions have been widely misquoted. He says:

"... Scientists are no respecters of authority. Our conclusion that study of UFO reports is not likely to advance science will not be uncritically accepted by them. Nor should it be, nor do we wish it to be. For scientists, it is our hope that the detailed analytical presentation of what we were able to do, and of what we were unable to do, will assist them in deciding whether or not they agree with our conclusions. Our hope is that the details of this report will help other scientists in seeing what the problems are and the difficulties of coping with them.

"If they agree with our conclusions, they will turn their valuable attention and talents elsewhere. If they disagree, it will be because our report has helped them reach a clear picture of wherein existing studies are faulty or incomplete and thereby will have stimulated ideas for more accurate studies. If they do get such ideas and can formulate them clearly, we have no doubt that support will be forthcoming to carry on with such clearly defined, specific studies. We think that such ideas for work should be supported.

"... Therefore we think that all of the agencies of the federal government, and the private foundations as well, ought to be encouraged to support such studies along with the others submitted to them on

an open-minded, unprejudiced basis. While we do not think at present that anything worthwhile is likely to come of such research each individual case ought to be carefully considered on its own merits."

Condon's chapter, "Summary of the Study," contains more than its title indicates; it discloses many of his personal conclusions. Making value judgements was no doubt one reason why Condon was asked to handle the project. One is happy to obtain the judgement of so experienced and respected a man; but one need not agree with it. The UFO Subcommittee did not find a basis in the report for his prediction that nothing of scientific value will come of further studies.

In reviewing the material accumulated to date, the Subcommittee found an exceedingly low signal-to-noise ratio, as illustrated by the statistics of the Air Force's Project "Bluebook" quoted in the University of Colorado study, which showed 3.3% unidentified observations (253 out of 7741 available at that time*). This figure is frequently disputed, but its order of magnitude (5%) appears to be correct, taking all available reports into account. The fact that the Condon study itself arrives at a much higher percentage of unexplained cases—namely, at about 30% (35 out of 117)—is primarily due to the preselection of specific cases for investigation. The precise figure is hard to assess, for the Condon report does not lend itself easily to this type of analysis, the same cases being treated often in different sections and under different identifications. (*The final figures, according to our information, appear to be 701 out of 12,618 or 5.5%.)

It has been variously estimated that the reported cases, approximately 20,000, represent only 5 to 15% of the total observations, since most observers either do not go to the trouble of an official report or fear ridicule. In turn, various polls suggest that 3 to 5% of the U.S. population claim to have seen UFOs. It follows, then, that the available reports which can be classified as "unidentified" represent a very small percentage of all UFO sightings on the one hand, but not a negligible number of observations on the other.

It is interesting that, contrary to public opinion, the estimated percentage of "hoaxes" is likewise small. It is also interesting that the majority of UFO sightings can be ex-

75%) while 15 to 20% contain insufficient data. In other words, what may appear to the untrained observer as strange and unexplainable is in most cases known and explainable.

Taking all evidence which has come to the Subcommittee's attention into account, we find it difficult to ignore the small residue of well-documented but unexplainable cases which form the hard core of the UFO controversy. They represent only a small fraction of the "unidentified" cases and are characterized by both a high degree of credibility and a high abnormality ("strangeness" in Hynek's terminology). Although none of them offers to our knowledge quantitative recordings by calibrated instruments for permanent inspection, they are often called "hard cases."

The Subcommittee has tried to explore the nature of this hard-core residue and found estimates to vary between 10 and several hundred cases, depending in part on a subjective judgment as to the criteria for a "hard case." High credibility is generally accepted for observations by multiple independent witnesses of known and reliable background or by multiple independent sensing systems (reported by multiple independent operators) or both; high abnormality or strangeness, when no known natural phenomena whatsoever seem to fit the observations. It is clear, then, that the hard-core residue represents less than 1% of the total available reports.

Those used to working under controlled laboratory conditions find it difficult to consider seriously any observation which is not available in recorded form for quantitative inspection. As a matter of fact, they make this a criterion for a "hard case." On the other hand, there are those, including some members of this Subcommittee, familiar with the intricacies of research in the complex and uncontrolled laboratory of the atmosphere, who find this less of a deterrent. They discover parallels between the UFO problem and certain atmospheric phenomena which fall in the class of rare events. A rare event always involves at first a question of the reality of a qualitative observation. Later, scientific investigation, usually combining statistics and physics, resolves this question one way or the other.

Although the University of Colorado report deals only with a very small fraction of the existing observational material (less than 1%), it offers itself enough substance of the described

tion extracted by McDonald is added to some of the cases. In fact, the Subcommittee finds that the opposite conclusion could have been drawn from its content, namely, that a phenomenon with such a high ratio of unexplained cases (about 30%) should arouse sufficient scientific curiosity to continue its study.

The issue seems to boil down to the question: Are we justified to extrapolate from 0.99 to 1.00, implying that if 99% of all observations can be explained, the remaining 1% could also be explained; or do we face a severe problem of signal-to-noise ratio (order of magnitude 10^{-2})?

In the opinion of the Subcommittee, this question must be asked critically and objectively in each individual case. In cases which do not fit the extrapolation alternative, the further question should be explored: "Do they evidence common attributes?" It appears to the Subcommittee that the University of Colorado group has made no serious attempt in this direction.

If it is already difficult to reach a consensus on what constitutes a hard case, it appears even more difficult to find agreement on the advisability and importance of continued research. As mentioned earlier, it is at this point where the controversy often becomes heated because criteria for such assessment are not well-defined.

Earlier, Condon's statement was quoted that "clearly defined, specific studies . . . should be considered and supported." In this connection he calls attention to "important areas of atmospheric optics, including radiowave propagation, and of atmospheric electricity in which present knowledge is quite incomplete. These topics came to our attention in connection with the interpretation of some UFO reports, but they are also of fundamental scientific interest, and they are relevant to practical problems related to the improvement of safety of military and civilian flying."

The Subcommittee finds this statement of the Condon report a better criterion for support of UFO-related studies than the claim by some ETH exponents that UFO research deserves maximum support as long as there is a ghost of a chance that UFOs are extraterrestrial vehicles, or the opposite claim that proof for the ETH must be provided before serious consideration of the UFO problem is justified. Both opinions strike the Subcommittee as unwarranted.

We have already expressed our disenchantment with arguments about

the probability of the extraterrestrial origin of UFOs, since there is not sufficient scientific basis at this time to take a position one way or another. However, in view of the infancy of our scientific and technological knowledge (approximately one century), the Subcommittee would agree with this statement by Condon: "We must not assume that we are capable of imagining now the scope and extent of future technological development of our own or any other civilization, and so we must guard against assuming that we have any capacity to imagine what a more advanced society would regard as intelligent conduct." On the other hand, we find no convincing basis for his statement, "It is safe to assume that no ILE (intelligent life elsewhere) from outside of our solar system has any possibility of visiting Earth in the next 10,000 years." (When does one start counting?)

The question arises whether there is a need at all to speculate on a specific hypothesis, such as ETH, in order to decide on the significance of a scientific problem, or whether any known phenomenon in nature is worth investigating. We think it is, but we recognize at the same time that the UFO problem may require expensive tools of technology. Therefore, the question of cost, priority, and relative importance of this problem within the total spectrum of research cannot be overlooked.

The UFO Subcommittee feels that the ETH, tantalizing though it may be, should not be dragged into this consideration as it introduces an unassessable element of speculation; but the Subcommittee also strongly feels that, from a scientific and engineering standpoint, it is unacceptable to simply ignore substantial numbers of unexplained observations and to close the book about them on the basis of premature conclusions.

There is an interesting parallel between the history of the UFO problem and the history of weather modification ("rainmaking"). After almost 20 years of taboo by the scientific community, weather modification has now achieved scientific recognition due to the fact that some courageous, high-caliber scientists entered the arena. This has resulted in a revision of the viewpoint of the National Academy of Science.

The immediate question is how to attack the UFO problem without the pitfalls of past attempts. There is little doubt that the short-time, one-shot approach of an *ad hoc* team is neither promising nor economical. This is es-

BACKGROUND

At the suggestion of the AIAA management, the Technical Committee on Atmospheric Environment and the Technical Committee on Space and Atmospheric Physics jointly formed a UFO Subcommittee in 1967.

The Subcommittee was asked to arrive at an unbiased assessment of the present situation and to serve as a focal point in the AIAA for questions regarding the UFO problem. In appointing the Subcommittee, special care was taken to insure that none of its members was committed one way or another on this issue.

In its attempt to get to the heart of the matter, the Subcommittee naturally found the UFO problem complicated and often buried in what appeared to be a maze of preconceptions, emotions, bias, hasty conclusions, and excessive and misleading publicity.

The Subcommittee soon recognized that it is much too early to expect a meaningful interpretation of UFO phenomena. Rather than enter the arena of speculation, it directed its efforts toward finding out whether or not a scientific problem exists at all. The accompanying report describes the approach the Subcommittee took and the results it obtained. —J.P.K.

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on improved data collection by objective means and on high-quality scientific analysis. This would eliminate the difficult problem of witness credibility. An economic and technically sound approach involving available remote-sensing capabilities and certain software changes will require some thinking on the side of the aerospace engineering community. Proposals along this line are already in the hands of the Subcommittee. The financial support should be kept at a moderately low level (It is estimated that a small fraction of the costs of the University of Colorado study would be required initially) until reevaluation of the situation allows another assessment. Without such an effort the controversy can be expected to suffer further polarization and confusion.

The Subcommittee feels that a strictly scientific-technological view of the UFO problem leads to this conclusion and that, for a technical committee, there is no need to stress the public and social aspects of the UFO controversy, which may have subsided only temporarily and will continue to clamor for a more conclusive and convincing answer. The Subcommittee is aware of several books on UFOs to be published in the near future. What is needed now is a *moratorium* in the UFO discussion—with an objective, wait-and-see attitude on the part of the scientific and engineering community, the government, and the public.

The approach recommended by this committee requires not only the attention of the scientist and engineer, but also a readiness of government agencies to consider sound proposals in this field without bias or fear of ridicule and repercussion—or, as Condon expresses it, “on an openminded, unprejudiced basis.” This perhaps is our most important conclusion.

Finally, the Subcommittee believes the decision by the Air Force to divorce itself from the UFO problem should be completed by allowing the files to be archived by a civilian agency, either government or university, after proper safeguards for the protection of witnesses and their names as well as full declassification procedures.

This Subcommittee intends to publish additional information on the UFO problem in the AIAA journals to give the members of AIAA an opportunity to form their own opinion. This information will include typical examples of the so-called “hard-core residue” and some potential engineering approaches to a solution of the

pecially true if the study team decides—as the University of Colorado group did—to concentrate on current rather than past observations. As the UFO statistics show, this results in the devotion of precious time to investigating the noise, rather than the signal. It was mentioned earlier that the Colorado University study faced formidable odds because of the short duration of its contract. If the recom-

mendation of the O'Brien committee to negotiate multiple contracts for continuing investigations had been followed, this difficulty would perhaps have been avoided. There is also little hope to expect a solution of this extremely complex problem by the efforts of a single individual.

The Subcommittee sees the only promising approach as a continuing, multi-year effort with multiple

E. U. CONDON

UFOs I Have Loved and Lost

Professor Condon conducted a study of Unidentified Flying Objects, from late 1966 to the summer of 1968, at the request of the U.S. Air Force. The full report has been published under the title, "Scientific Study of Unidentified Flying Objects," in paperback by Bantam Books, and in hardback by E. P. Dutton and Co. This article is based on a talk presented before the American Philosophical Society last April. The author is professor of physics at the University of Colorado.

Throughout human history men have been seeing strange and terrifying apparitions in the sky. The literature dealing with such experiences is enormous. The word "spectre" is used generically to describe phenomena of this type. This word's earliest use, cited in the Oxford English Dictionary (OED), is in the title of a book by Z. Jones published in 1605, "A Treatise of Specters or strange Sights, Visions and Apparitions appearing sensibly unto men." The word "spectrum" is cited first in 1611 in a passage which said, "Walsingham hath written of a fatal Spectrum or Apparition . . . where sundry monsters of diuers colours . . . were seen." Sixty years later, Isaac Newton used the word to describe his decomposition of sunlight with a glass prism in these words, "The Sunbeams . . . passing through a glass prism to the opposite Wall, exhibited there a Spectrum of diuers colours."

From these two uses of the word "spectrum" comes naturally the two meanings which the OED gives for the word "spectrology": (1) The science or study of spectres, and (2) The scientific study of spectra. The OED cites as an example of the first meaning an 1820 quote from Washington Irving's "Sketchbook": "The gloom of religious abstraction, and the wildness of their situation . . . had filled their imaginations with the frightful chimeras of witchcraft and spectrology." And of the second, an 1862 quote from the "American Journal of Sci-

ence": "The attention of the French scientific world is wholly fixed on spectrology, for thus do they designate the experiment with the spectroscopie of Bunsen and Kirchhoff."

I am the second man in human history to have written a book on spectrology in both of these two distinct meanings. Donald Menzel was the first.

FLYING SAUCERS

Modern interest in UFOs stems mainly from the observations of Kenneth Arnold, a Boise, Idaho, businessman on June 24, 1947. While flying near Mt. Rainier in Washington he reported seeing some objects skimming along which he described in a manner that led newspapermen to call them "flying saucers." Although not all objects later reported are saucer-shaped, this term is often used generically, but the term UFO is preferable. The Air Force studies anything seen flying in the sky which might present a defense hazard, and thus has been concerned with the thousands of reports of sightings of UFOs that have come to them in the nearly 22 years since this first modern report.

From such study they concluded long ago that no defense problem was involved in these reports from the public. The amount of attention which the Air Force gave to the problem after the first four or five years has been minimal.

In the early '50s the story of UFOs began to appear in sensational pseudo-science magazine articles and paperback books. These have had a large sale. The book by Frank Edwards, "Flying Saucers—Serious Business," probably holds the record with more than 1,300,000 copies sold. Several other titles have sold more than 200,000 copies. The so-called Condon report was given an initial printing of 200,000 copies. In the last three years 40,000 school children have written the Air Force asking for UFO data.

The principal source of the widespread interest is the contention of some writers that at least some of the

things seen may represent flying craft from other civilizations, either elsewhere in the solar system, or even from a planetary system associated with some other star.

We must be extremely careful about our language. Some UFOs may be such visitors, it may be postulated, and some writers go so far as to say that they actually are. To discover clear, unambiguous evidence on this point would be a scientific discovery of the first magnitude, one which I would be quite happy to make. We found no such evidence, and so state in our report. But it is not true to say that we "proved that flying saucers do not come from outer space." All that can be said is that, of the cases we looked into carefully, we found no evidence in support of the hypothesis of their extra-terrestrial origin.

STUDY ADVISABLE

We concluded that it is not worthwhile to carry on a continuing study of UFOs in the manner which has been done thus far: that of going out into the field to interview persons who say they have seen something peculiar. The difficulty about using objective means of study lies in the rarity of the apparitions, their short duration, and the tendency of observers not to report their experience until long after it has ended. When a known object is the source of many reports, as in the case of the Zond IV re-entry of March 3, 1968, there is extraordinary disagreement among the descriptions of what was seen by different observers of the same event. This result shows that no great certainty attaches to the specific details of any of the reports.

These difficulties led us to conclude that it is quite unproductive of results of scientific value to study UFOs in the traditional manner. But, contrary to popular belief, we do not rule out all future study. We say: "Although we conclude after nearly two years of intensive study, that we do not see any fruitful lines of advance from the study of UFO reports, we believe that any scientist with adequate training and

credentials who does come up with a clearly defined, specific proposal for study should be supported."

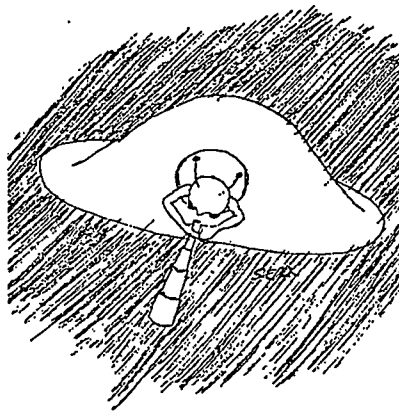
This conclusion has been bitterly denounced by the flying saucer buffs who have been making money from sensational writing and lecturing to gullible audiences, and collecting dues from the membership of their pseudo-science organizations. One prominent professor of atmospheric physics has been giving speeches in which he advocates that the federal government spend on UFO study amounts of money which would "dwarf" that spent on the space program.

Even though nearly a year has gone by since my work in this field ended, I continue to be astonished at the fervor with which many people hold views that are totally unsupported by objective evidence of any kind. Many people seem quite incapable of recognizing any distinction between what might be so and what actually is so. Some of these are charlatans, in my opinion, who profess belief in order to collect royalties from writing and fees from lecturing. But others are deeply sincere.

THE CULTISTS

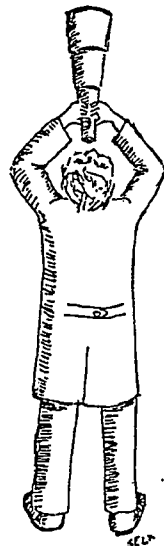
We ran into many more interesting cases than we could include in the report, already criticized by many for being too thick. There was a young airman, second class, at an Air Force base in New Mexico whose 19-year-old wife died suddenly of a heart attack. They were members of a flying saucer cult which gathered around and decided that the woman's spirit had gone to Venus on a flying saucer, and that she would want her body back when she returned. So they wrapped it in a sheet and stored it in a barn rather than having it properly buried. The police learned of this by a mysterious postcard from a woman in Spokane, Washington. At first they thought the card was a hoax, but investigation proved that the young woman's body had been by this time stored in that barn for about three weeks. The young airman had seen lots of flying saucers but had not reported any of them, saying: "I didn't know the Air Force was interested!"

In the spring of 1967 I was visited several times by a well-mannered man who claimed to be acting as agent for the Third Universe (we are the First,



and the Second is inhabited by beings that resemble polar bears, he said). He said he was authorized to negotiate a contract with the U.S. government by which they would teach us to make inter-stellar flying saucers for \$3 billion. The first billion was to be paid after a demonstration to government officials at Dulles airport, the second after a major national laboratory had been built and our scientists and technologists had learned how to make flying saucers, and the third after they had trained our flight crews in inter-stellar navigation. He was specific down to the point of naming the bank in Arlington, Virginia, where the \$3 billion was to be deposited.

He wanted me, in the interim, to pay him \$3,000 as "earnest money" to be deposited in a particular bank in Western Colorado to the account of his organization, which was called the "Omnific Intelligence Continuum." Inquiry to that bank revealed that there really was such an account. Asked the size of the account the



banker cautiously said, "Small sums go in and out." Asked about membership of the organization the banker told me, "So far as I know Mr. X is the only member." Since part of Mr. X's story is thus verified, ought we now to believe everything he tells us?

REAL OR PSEUDO-SCIENCE

The most vivid lesson that I learned from such experiences is what a narrow, wobbly line there is between real science and pseudo-science. So far as the public is concerned most of the science which they know about they do not understand. Very few people can state clearly the grounds for belief that the Earth goes around the Sun, rather than vice versa, or for that matter, for our belief that the Earth is a ball rather than flat. Coming to more modern instances, who among the many investors in the profitable semiconductor industries have the slightest idea how a transistor works really?

In the given circumstances most of the scientific ideas that are accepted by the public are accepted entirely on faith. To most people, completely lacking any basic understanding of underlying principles, the proposition that the configuration of the planets and stars at the time of our birth determines the course of events in our lives, seems no more unlikely or preposterous than many of the well-established truths of science which they do accept without understanding them. There are some 10,000 astrologers in America who make their living practicing astrology and only about 2,000 astronomers who live by practicing astronomy. If celestial matters were decided democratically by the members of both professions lumped together, then the "real" astronomers would always end up as a depressed minority.

Flying saucers and astrology are not the only pseudo-sciences which have a considerable following among us. There used to be spiritualism, there continues to be extrasensory perception, psychokinesis, and a host of others. Hanson W. Baldwin in the "New York Times" has told how the Marines at Camp Pendleton are trained for Vietnam in the use of dowsers made of bent wire coathangers as a means of locating tunnels and other underground works of the Viet Cong.

Recently a visitor from a Navy research installation told me that some

admirals had purchased from an inventor a wholly worthless invention which it was claimed could detect submerged submarines by a radar-like reflection of electromagnetic waves. This could not possibly work because of the conductivity of sea water, and it did not work when expensively tested. A test had to be made to satisfy the admirals and certain congressmen. A Russian spy in the same Navy laboratory got hold of the invention and our test results and sent them to Russia. The Russians did more work on the invention. Although they understood at once that it must be foolish, they thought they might be wrong because the Americans had spent so much time and money studying this crackpot invention. We know about this because an American spy in their laboratory sent to us the story of their work.

These and many other examples that could be given show that we have failed rather miserably to give even to so-called educated people some feeling for the way in which science investigates a subject, and the way in which scientists subject their observational material to critical evaluation before reaching conclusions. The thing that most people are least able to do is to refrain from drawing conclusions when there is not enough evidence at hand to warrant drawing conclusions.

In ancient times, the future was foretold in many ways that have gone out of favor, such as by examining the entrails of sacrificed animals, or basing omens on the study of the flight of flocks of birds. (Cicero practiced this latter method.) Before you smile, bear in mind that these views have never really had as much scientific study as have the UFO reports. Perhaps we need a National Magic Agency to make a large and expensive study of all these matters, including the future scientific study of UFOs, if any.

Where corruption of children's minds is at stake, I do not believe in freedom of the press or freedom of speech. In my view, publishers who publish or teachers who teach any of the pseudo-sciences as established truth should, on being found guilty, be publicly horsewhipped, and forever banned from further activity in these usually honorable professions. Truth and children's minds are too precious for us to allow them to be abused by charlatans.

MARGARET MEAD

Public Policy and Behavioral Science

I am testifying out of long experience in the application of anthropology to contemporary national and international problems. During World War II, I worked within the context of the National Research Council on problems of nutrition, national morale, civilian defense, and cross national communication with Great Britain. I was one of the group that developed anthropological work on cultures at a distance—notably Germany and Japan—and after World War II, I participated in and directed a series of studies on behalf of the Office of Naval Research, Rand and MIT, including studies on the Soviet Union, China and France. These were interdisciplinary team activities (summarized in "The Anthropology of Human Conflict," Mead and Metraux in "The Nature of Human Conflict," edited by Elton B. McNeil, Prentice Hall, Inc. 1965). Since 1952 I have devoted myself to the study of technical assistance and political implications of culture change, education, cross national and international order and control of warfare, population control, environmental control, urbanization, cross ideological communication, and recently to the world wide implications of the generation gap.

I am here to discuss the possible contributions that the behavioral sciences together, and anthropology in particular, can contribute to national and international affairs.

During World War II we made a fine start in the utilization of this group of young sciences on a whole series of problems ranging from obtaining a better understanding of the national cultures of our opponents, our allies and ourselves, to the deter-

Physical scientists have been vocal and highly influential in Washington in the shaping of public policy on a number of fronts since the end of World War II. But what has become of the influence of behavioral scientists in Congress and on Capitol Hill? Margaret Mead discusses the question in this excerpt from her testimony before the U.S. Senate Foreign Relations Committee June 20, 1969 in a hearing on the psychological aspects of public policy. Dr. Mead is Curator of Ethnology at the American Museum of Natural History and Adjunct Professor of Anthropology at Columbia University.

mination of specific policies within the armed forces and within the nation, from the prediction of how Japan would respond to our treatment of the Emperor, to a clarification of relationships between the United States and our principal allies, to an illumination of the ambiguities in the responses of the various occupied countries to problems of civilian morale, to the maintenance of the health of the nation, to an unprecedented mobilization of our industrial resources, and to a deployment of resources in post war rehabilitation of a badly wounded world. These successes were accomplished under a set of conditions which can be clearly specified: a state of preparedness, mobilization and post war activity made possible by almost total commitment to a war which could be seen as a moral effort against almost overwhelming power and risk; a willingness of the community of behavioral scientists to give unstintingly of time and effort, within and without government,

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EDITORIAL CORRESPONDENCE: 1515 Massachusetts Ave., NW, Washington, D.C. 20005. Phone: 202-387-7171. Cable: Advancesci, Washington. Copies of "Instructions for Contributors" can be obtained from the editorial office. See also page 1709, *Science*, 29 December 1967. **ADVERTISING CORRESPONDENCE:** Rm. 1740, 11 W. 42 St., New York, N.Y. 10036. Phone: 212-PE-6-1858.**Beings from Outer Space—Corporeal and Spiritual**

Since World War II, concern with UFO's from outer space, controlled by intelligent beings, bears much resemblance to concern with the so-called physical phenomena of psychic research after World War I. Spiritualistic mediums claimed they could produce movements of objects by supernatural forces, including the production of ectoplasmic emanations from their bodies. Today this nonsense is pretty much forgotten but these manifestations reverberated in the press during the 1920's and 1930's and were regarded by many as proof of communication with beings from another world in the form of spirits of deceased persons. Belief in this sort of thing involved many professional people including some distinguished scientists, clergymen, physicians, writers, and men of affairs, and the psychic research societies published numerous supporting papers of a pseudoscientific nature.

A famous case was that of a Boston medium in the 1920's, who had a wide following. She was the wife of an eminent surgeon and claimed communication with her dead brother. The old *Scientific American* magazine had offered a prize of \$5000 to anyone who could demonstrate supernatural physical phenomena to a committee of its choosing. At her request, she was investigated in 1924 by this committee, composed of several Harvard and M.I.T. professors along with Harry Houdini, the magician. The committee reported that evidence for her supernatural powers was inconclusive, although Houdini denounced her as fraudulent. Following wide press publicity, a group at Harvard, of which I was one, later investigated her in a series of seances in the psychological laboratories and found not only that the phenomena were due to trickery, but also how the tricks were done. Our findings, published in an article by me in the *Atlantic Monthly* of November 1925, resulted in violent recriminations and denunciations of us in published pamphlets and press statements by her followers. Our exposure enhanced her publicity, and she gained more adherents. She was skillful in modifying her mode of operation, depending upon the gullibility of her audience and other circumstances. On several subsequent occasions she was also exposed by other scientists, but at no time until her death did she lose a diminishing circle of devoted believers.

The basic difficulty inherent in any investigation of phenomena such as those of psychic research or of UFO's is that it is impossible for science ever to prove a universal negative. There will be cases which remain unexplained because of lack of data, lack of repeatability, false reporting, wishful thinking, deluded observers, rumors, lies, and fraud. A residue of unexplained cases is not a justification for continuing an investigation after overwhelming evidence has disposed of hypotheses of supernormality, such as beings from outer space or communications from the dead. Unexplained cases are simply unexplained. They can never constitute evidence for any hypothesis. Science deals with probabilities, and the Condon investigation adds massive additional weight to the already overwhelming improbability of visits by UFO's guided by intelligent beings. The Condon report rightly points out that further investigations of UFO's will be wasteful. In time we may expect that UFO visitors from outer space will be forgotten, just as ectoplasm as evidence for communication with the dead is now forgotten. We may also anticipate, however, that many present believers will continue to believe for their own psychological reasons, which have nothing to do with science and the rules of evidence.—HUDSON HOAGLAND, *President Emeritus, Worcester Foundation for Experimental Biology*, and *Member, AAAS Board of Directors*

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No 1582

*History and methodology of
"flying saucer" intelligence.*

THE INVESTIGATION OF UFO'S

Hector Quintanilla, Jr.

Unidentified flying objects are not a new phenomenon. In 593 B.C. Ezekiel recorded a whirlwind to the north which appeared as a fiery sphere. In 1254 at Saint Albans Abbey, when the moon was eight days old, there appeared in the sky a ship elegantly shaped, well equipped and of marvelous color. In 1520 in France there were sighted a round-shaped object with rotating lights and two fiery suns. In 1874 in Texas a farmer reported seeing a dark flying object in the shape of a disc cruising in the sky at a wonderful speed. These are a mere sampling of the many such events recorded by historians.

The modern era of UFOs, however, can be dated from 24 June 1947, when a flyer made some strange observations which national news coverage and authors with a poetic license so played up as to excite public entertainment of a notion that our planet had been visited by unknown vehicles from outer space.

Supersonic Saucers

On that 24 June, Kenneth Arnold was out flying in his private plane. He was looking for a Marine transport that was supposed to have crash-landed somewhere on the southwest side of Mt. Ranier. First he flew directly toward the mountain from the west at an altitude of approximately 9,500 feet, searching all of the various ridges for the downed plane. Then he made a sweep back to the west, found nothing, and headed again toward Mt. Ranier. The air was so smooth that it was a real pleasure flying; he trimmed out the aircraft and relaxed, admiring the crystal-clear sky and the terrain. There was a DC-4 to his left and rear at approximately 14,000 feet.

He hadn't flown more than two or three minutes on this course when a bright flash reflected on his airplane. He couldn't find where

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the reflection came from, but to the left, north of Mt. Ranier, he did observe a chain of nine peculiar-looking objects flying from north to south at approximately 9,500 feet. They were approaching Mt. Ranier very rapidly, and he at first assumed them to be jet aircraft. Every few seconds two or three of them would dip or change course slightly, so as to catch the sun at an angle and reflect brightly. They were too far away for him to determine their shape or formation.

As they approached Mt. Ranier, however, he observed their outline quite clearly—except that, oddly, he could not find their tails. He watched them pass the southern edge of Mt. Ranier flying directly south-southeast down the hog's-back of a range. Their elevation seemed to vary by as much as one thousand feet, but they remained very near the horizon, therefore around his own elevation. They flew rather like geese, in a diagonal chain as though they were linked together. They seemed to maintain their orientation while swerving in and out of the high mountain peaks.

Arnold estimated the distance from him to the objects at approximately 25 miles. Using a Zeus fastener and a cowling tool, he estimated their size to be about two-thirds that of the DC-4. Watching them pass a high snow-covered ridge between Mt. Ranier and Mt. Adams, he saw that as the first object was leaving its south crest the last one was entering its northern crest. Later the length of this ridge, and therefore that of the chain of objects, was determined to be about five miles. Arnold timed their flight from Mt. Ranier to Mt. Adams, 47 miles, at 1 min. 42 sec., a speed of 1,659 miles per hour.

In a subsequent interview with newsmen, Arnold described the objects as appearing like saucers skipping on water. This description, shortened to "flying saucers" by newsmen, gave rise to the popular term for UFOs. The sighting, like most, was not reproducible for purposes of investigation; it involved uncontrollable atmospheric conditions. The Air Force was left with one man's subjective interpretation of what he had experienced. Scientists who reviewed Arnold's sighting concluded that the objects were a mirage. The smooth, crystal-clear air that he noted indicated the very stable conditions which are associated with inversions and a high index of refraction of the atmosphere.

Although Arnold's experience could not be reproduced, another phenomenon in some respects similar and observed in the same area

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found a satisfactory explanation. Navy Commander W. J. Young reported in November 1948 that on several occasions he had seen over the Willamette valley and the plains of eastern Washington and Oregon what could easily have been mistaken for flying discs. One striking example occurred over the Willamette valley on a clear sunny day when the ever-present blue haze seemed somewhat thicker than usual. His aircraft was flying at altitudes between 1,000 and 5,000 feet when bright flying objects appeared, some on his beam and others on the bows or dead ahead. From time to time they would disappear and new ones appear.

Young finally determined that what looked to be aircraft at various altitudes were reflections of the sun from the aluminum roofs of farm buildings at great distance from his plane. The perspective of the land converging with the sky on the horizon, with limited ground visibility, made it appear as though the roof reflections were actually airborne at various altitudes in the haze. Thus one UFO sighting was solved by the observer himself. Although there is no uniform pattern among reported UFO phenomena, some characteristics of one may be found in others, as in Young's and Arnold's.

Sign and Grudge

Newspaper publicity for Arnold's flying saucers started an avalanche of other sightings. The Air Force began receiving reports from people in all walks of life. Before December 1947 no specific organization was responsible for investigating and evaluating these. Without any basis in measurable data or controlled experiment, the reported phenomena were variously assessed, even within the military structure, as due to a new aerodynamic configuration, to natural occurrences, to misinterpretation of conventional objects, or to space ships under intelligent control. The military interest touched the fields of air defense, R&D, and intelligence, responsibilities vested in many different organizations.

To end this confusion, the Chief of Staff directed on 30 December 1947 that a project be established to collect, collate, evaluate, and distribute within the government all information concerning sightings which could be construed as of concern to the national security. Responsibility for the project, assigned the code name "Sign," was given to the Air Technical Intelligence Center. In February 1949 Project

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Sign, having completed its evaluation of the 243 UFO cases submitted to it, issued a report:

No definite and conclusive evidence is yet available that would prove or disprove the existence of these unidentified objects as real aircraft of unknown and unconventional configuration. It is unlikely that positive proof of their existence will be obtained without examination of the remains of crashed objects. Proof of non-existence is equally impossible to obtain unless a reasonable and convincing explanation is determined for each incident. . . . Explanations of some of the incidents revealed the existence of simple and easily understandable causes, so that there is the possibility that enough incidents can be solved to eliminate or greatly reduce the mystery associated with these occurrences. . . . Under wartime conditions, rapid and convincing solutions of such occurrences are necessary to maintain morale of military and civilian personnel.

With the backlog of cases disposed of, the project was continued on a reduced scale and under a new code name, "Grudge." Project Grudge completed its evaluation of 244 reports in August 1949, relying heavily on the work of university scientists and other outside consultants, as well as the USAF Air Weather Service and the U.S. Weather Bureau. The Grudge Report concluded that the UFO sightings signified nothing that would constitute a threat to the national security of the United States, that they were chargeable to misinterpretations of conventional objects, a mild form of mass hysteria or war nerves, and fabrications for the sake of hoax or publicity.

Special Report No. 14

The soothing conclusions of Project Grudge caused very little comment, and the project was continued on a reduced scale. Nevertheless, the fringe of people that still believed in extraterrestrial visitation was growing with the popularity of science fiction articles and magazines. In December 1951 a contract was let to an industrial firm for a detailed study, unclassified, of the UFO cases on file. It took three years to complete this study.

Meanwhile, in March 1952, the project was given its present name, "Blue Book." During this period numerous books were written about the UFOs. Some representative titles are *The Coming of the Saucers*, *Space, Gravity, and the Flying Saucer*, *Is Another World Watching*, *The Flying Saucers Are Real*, *Flying Saucers from Outer Space*, and *Flying Saucers Come from a Distant World*. UFO hobby clubs were formed throughout the country. Most professed to be studying the phenomena scientifically, but few, if any, had physical or behavioral

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scientists on their so-called evaluation committees. During the early fifties it became fashionable to accuse the Air Force of censorship or of withholding UFO information from the public.

In January 1953, while the three-year contract study was still in process, a Scientific Advisory Panel was formed to make an authoritative quick evaluation. It was composed of civilian scientists outside the government with well-known and respected names—H. P. Robertson, Luis W. Alvarez, Lloyd V. Berkner, S. A. Goudsmit, Thornton Page. Following is an extract from their report:

The panel . . . has reviewed a selection of the best documented incidents. . . . We firmly believe that there is no residuum of cases which indicates phenomena which are attributable to foreign artifacts capable of hostile acts, and that there is no evidence that the phenomena indicate a need for the revision of current scientific concepts. The panel further concludes that the continued emphasis on the reporting of these phenomena does, in these perilous times, result in a threat to the orderly functioning of the protective organs of the body politic. We cite as examples the clogging of channels of communication by irrelevant reports, the danger of being led by continued false alarms to ignore real indications of hostile action, and the cultivation of a morbid national psychology in which skillful hostile propaganda could induce hysterical behavior and harmful distrust of duly constituted authority.

The panel recommended:

That the national security agencies take immediate steps to strip the unidentified flying objects of the special status they have been given and the aura of mystery they have unfortunately acquired.

One action taken on this recommendation was to establish, within the Office of Information at the Air Force Secretary's level, an office to answer public questions and release information regarding UFOs. Throughout the years, the responsibility for releasing UFO information to the public has remained with the Office of Information, Secretary of the Air Force.

When the unclassified contract study was ready at the end of 1954, it was immediately released to the news media. It was released under ATIC cover, because the competent company which produced it wished to remain anonymous in this field of research. It is commonly referred to as Special Report No. 14, the first 13 having been administrative progress reports.

Special Report No. 14 reduced and evaluated all the UFO data held in the Air Force files. It contains graphs showing the frequency distribution of sightings by time, date, location, shape, color, duration,

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azimuth, and elevation. It records an attempt to build a model of the typical UFO and an ultimate finding that UFOs come in all sizes, shapes, and colors. It concludes as follows:

It can never be absolutely proven that "Flying Saucers" do not exist. . . . Scientifically evaluated and arranged, the data as a whole did not show any marked patterns or trends. . . . A critical examination of the distributions of the important characteristics of sightings, plus an intensive study of the sightings evaluated as unknown, led to the conclusion that a combination of factors . . . resulted in the failure to identify as *Knowns* most of the objects classified as *Unknowns*. An intensive study aimed at finding a verified example of a "Flying Saucer" or at deriving a verified model or models of "Flying Saucers" led to the conclusion that neither goal could be attained using the present data.

It is emphasized that there was a complete lack of any valid evidence consisting of physical matter in any case of a reported unidentified aerial object. Thus, the probability that any of the unknowns considered in this study are "Flying Saucers" is concluded to be extremely small, since the most complete and reliable reports from the present data, when isolated and studied, conclusively failed to reveal even a rough model, and since the data as a whole failed to reveal any marked patterns or trends.

Therefore, on the basis of this evaluation of the information, it is considered to be highly improbable that any of the reports of unidentified aerial objects examined in this study represent observations of technological developments outside the range of present-day scientific knowledge.

Investigation Procedures

The objectives of the UFO program, outlined in 1953 by Air Force Regulation 200-2, remain unchanged:

- (1) To determine if UFO phenomena present a threat to the security of the United States.
- (2) To determine if UFO phenomena exhibit any technological advances which could be channeled into U.S. R&D.
- (3) To explain or identify the stimuli which caused the observer to report a UFO.

Our Project Blue Book office at Wright-Patterson has a complement of only one officer, two sergeants, and one civilian stenographer. The initial investigation of all UFO sightings is therefore undertaken by the commander of the nearest Air Force base. In its subsequent analysis of UFO cases, also, the project office is assisted by many organizations and professional individuals. Project Consultant for the past eighteen years has been Dr. J. Allen Hynek, astrophysicist

and Chairman of the Dearborn Observatory, Northwestern University. It is Dr. Hynek, obviously, who has maintained continuity on the project, in addition to evaluating all suspected astronomical cases. We have used the services of Dr. Charles P. Olivier, head of the American Meteor Society, in evaluating some suspected meteor cases.

For help on suspected aircraft sightings we have gone to Federal Aviation Agency offices, local airports, the Strategic Air Command, and the Air Defense Command. In suspected balloon sightings we have called upon local airports, local weather stations, the U.S. Weather Bureau, Holloman AFB Balloon Control Center, the National Center for Atmospheric Research, General Mills, Raven Industries, Sea Space Systems, and colleges and universities conducting balloon research. For suspected satellite sightings we use the printed Echo schedules, NASA satellite reports, the Smithsonian North and South Equatorial Crossings, and the professional services of the Space Detection and Tracking System. For suspected missile observations we go directly to Cape Kennedy, Vandenberg AFB, Point Magu, Wallops Island, Eglin AFB, Holloman AFB, and Green River.

For radar analysis we contact one of our internal organizations. For photo analysis we use an internal organization but also Kodak in Rochester, N.Y. On physical specimens we have used the services of the Air Force Materials Laboratory, Battelle Memorial, the Food and Drug Administration, Libby Owens, Corning Glass, Institute of Paper Chemistry, and the Northwestern Geology Department. Numerous other organizations and individuals have helped the project in the past. No individual, government agency, or industrial group has ever refused assistance.

As indicated above, UFO sightings are classified according to the suspected real event that gave rise to each report. The characteristics of these different categories are sketched below.

Propeller Aircraft

Regular scheduled airliners fly in air corridors, are usually controlled by FAA. Lighting will probably be typical red and green wing lights with rotating beacon. They use landing lights on takeoff as well as in landing pattern. Sighting report may include hovering or stationary period if the aircraft is in a turn or approaching the observer. Total duration should be consistent with flight maneuvers, not likely to exceed five minutes unless some series of maneuvers is being performed. Landing light, blotting out the red and green

flashing lights, is often reported as a single light at night. Experimental and unusual lighting effects can vary with the lighting configuration of each aircraft. Color most often reported as white, can be red. Objects reported in straight flight at certain altitude can be checked against local flight corridors; then FAA can be checked if there remains doubt that an object is an aircraft or if positive identification of a specific flight is required. There may or may not be sound associated with the visual effect reported. If near an airport, this type of object is not classed as a UFO; moving lights in and around airports which could be caused by aircraft are assumed to be aircraft.

Private or non-scheduled flights have the same characteristics in general. Speeds may be slower and duration longer. Altitude usually lower. No sound if the wind is blowing away from the observer. Duration should not exceed seven or eight minutes unless maneuvers can account for additional time. Normally flight is cleared from some local airport and not carried on radar plots through FAA; hardest type to make positive identification of. Evaluation made on reported flight characteristics consistent with aircraft.

Jet Aircraft

Airliner and high-altitude missions are similar to conventional flights in visual characteristics with the following exceptions: (1) The color is most often reported as red. (2) No sound is associated with the object. (3) Flight is usually straight or with one turn. Duration is about three to five minutes, depending upon the length of arc visible. FAA has designated airways for these flights.

Special low-level military missions are flown at 2,000 feet in known air corridors. Sighting is usually brief, one minute or less. May be reported hovering if flight is directly toward the observer. May include a sudden burst of speed. No sound if wind is away from observer. Usually reported as a single light, but may be more than one. Sightings are at night; during the day these aircraft can be seen too well to be misinterpreted.

Special test or training missions, varying from a single plane to multiple flights or major air operations, may give rise to reports. These flights can be determined by contact with local, regional, or major air commands.

A jet with afterburner in operation, viewed from the side, may give the appearance of a short flame. It is usually reported as blue and

tapering. When the afterburner is cut off, the object may be thought to have either just vanished or zoomed off into space. Duration is usually brief. The sighting is frequently during climb. As viewed from the rear, the jet may be reported red or orange with some yellow and of no distinct shape. Here again the disappearance may be sudden. If at high altitude, only a nondescript light may be reported.

Refueling Missions

Here lights on the tanker and the multiple aircraft engaged add new visual characteristics. Sightings are at night only; daylight operations would be recognized for what they are. They may be at low or high altitude. Multiple lights will be moving around, in formation, going on and off. The basic light formation will fly straight for a set distance, then may make a 180-degree turn. Duration in an area may run as high as 15 minutes, but any single pass should not last more than four or five. Lights may be seen going one way and then appear on their return path later. The 922 Air Refueling Squadron at Wright-Patterson furnishes information on the visual characteristics of night refueling operations, and SAC recently photographed a refueling mission for the benefit of UFO analysts.

Refueling operations are controlled and conducted in specific areas. A "Flight Planning Guide" issued by the Aeronautic Chart and Information Center gives the location of these areas and the agency controlling each. A phone call to the controller will determine whether an area was in use at a particular time and what squadron flew the mission. Then communication with the squadron will give the number and type of aircraft flown and their entry and exit times.

Photo Aircraft

Aircraft using flare drops for photo work are most often reported simply as flares. Similarly, aircraft using strobes to illuminate their target, which may work at either low or high altitudes, are reported as a series of evenly spaced flashes. Duration of these sightings is usually less than two minutes, more frequently 30 seconds.

Infra-red photo planes have turbine generators to drive their equipment. These make a whining noise which can be heard above the noise of the engines. Not many agencies do this work, which is often classified. The planes used are rather slow, less than 125 mph.

Much of the work is done early in the morning, with landing lights on because of the low altitudes flown.

Advertising Aircraft

Planes towing targets or banners during daylight hours are not usually misinterpreted unless they remain at such a distance that the observer cannot distinguish the tow vehicle and sign. Frequently in such cases the reports are accompanied by drawings picturing the towed banner as part of the UFO. Duration is longer than for other aircraft sightings, and the flight generally includes maneuvers. The frequently used loud speaker would presumably not be heard unless the flight were close enough for correct identification. Local investigators can check for these aircraft, since FAA regulations require a permit for such flights.

Aircraft with electrically lighted signs have the same essential characteristics except that they are normally sighted at night. On occasion the sign lights have been mistaken for windows of a much larger craft. Flights are relatively slow, characteristically maneuvering back and forth in one area. One usually operates over the same area for more than one day and can be viewed on successive nights, weather permitting.

Helicopters

Motion slow, may or may not hover. It needs to be far enough away from the observer to escape daylight identification. It may be reported as a black speck moving back and forth, up and down. During the night weird effects can be caused by the red rotating beacon flashing through the canopy. Motion will be erratic if the flight includes hovering. Positive identification is usually simple to obtain by checking the flight schedules of military and civilian helicopters in the area.

Balloons

Flight characteristics here are affected by meteorological factors. Wind data is obtained from the Weather Bureau. An Air Weather Service liaison officer assists in evaluating the meteorological data. Low-level weather balloons are described in sightings as round or oval, occasionally oblong. The flight may be reported as hovering, rising, zig-zag, or erratic, but the object must be moving with the

wind. It will be picked up by radar only if a radar reflector is attached. A frequent time for sightings is at dusk, before the balloon disappears into earth's shadow. It is rarely sighted at night: its small white lights are not visible to ground observers from above 10,000 feet without optical aids. The sighting from planes is usually very brief, and on occasion even experienced pilots have attributed unusual motion to balloons.

An upper-air balloon may be described as round or oval, usually silver during the day and orange at dusk. It will appear stationary or in slow motion. Actually, it moves with prevailing winds at the altitude—six months to the east and six to the west. It will probably be picked up on radar and remain in the area long enough to be identified by aircraft scrambled or diverted for this purpose. Sudden disappearance is to be expected at dusk, and may be reported as a zooming off into space. The sun's reflection through folded panels can give unusual flashing effects. Every effort is made to pin to a specific launch any reports attributable to upper-air balloons; this practice has assisted the scientific community in recovering some of them.

Upper air research balloons are launched by military and civilian agencies for cosmic ray and other studies. These are about 100 feet in diameter, usually of polyethylene. They can be programmed to fly at various altitudes between 80,000 and 125,000 feet or higher. Their appearance may vary with the equipment suspended below and other attachments, but what is visible from the ground without optical aids is generally the same for all. The speed will vary with the wind, from hovering in the same area for some days up to 200 mph in jet streams. At night the balloon will descend as the gas cools and the next day go back up to the programmed altitude. It usually carries a radio beacon which is followed by tracking stations, as well as running lights and radar reflectors. Occasionally, multiple balloons are used to carry heavy equipment. Pilots scrambled to check on this kind of balloon cannot reach its altitude but can get close enough to identify it. At dawn the balloon may appear suddenly, as it moves into sunlight, and similarly disappear at dusk.

Earth Satellites

In order for a report to be evaluated as deriving from an artificial satellite, the following criteria must be met: (1) Time of sighting must be at night and at such an hour that the vehicle can reflect the

sun's rays. (2) Object should resemble a star in visual characteristics. (3) Direction of flight can have a westerly component only in the case of retrograde satellites. (4) Duration (considering the degrees of arc through which the object is observed) must be consistent with satellite orbital velocities.

Satellites are normally reported as star-like moving lights, most frequently white but occasionally yellow, green, blue, orange, and even red. Motion may be steady, hesitating, or zig-zag; portions of the flight may be seen as hovering or stationary. The path may be reported straight or arching, and a turn may be ascribed to it at the beginning or end of the flight. The object may appear or disappear suddenly. The speed should be about 15° of arc per minute, the average duration three to six minutes.

When a known satellite has a flight path over the observer's area at the time of the report (only Echo and Pegasus schedules are screened), and the above considerations are fulfilled, the sighting is evaluated as of that specific vehicle. There are more than 30 satellites in orbit visible to the naked eye. When a reported object does not correspond with Echo or Pegasus passages but displays the required characteristics, it is then evaluated as a probable or possible satellite.

Astronomical Events

The most common UFO reports are of astronomical sightings—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, especially Venus, Jupiter, and Mars, have been reported as UFOs. Stellar mirages are also a source of astronomical reports.

Other Categories

There are three other classifications used for UFO reports. An *Insufficient Data* category takes care of those in which one or more elements of information essential for the evaluation are missing—for example the duration of the sighting, the date, time, location, or position in the sky, weather conditions, and the manner of appearance or disappearance. If there is any indication that such a sighting may be important from the viewpoint of security, scientific or technical value, or public interest, every attempt is made to obtain

the additional information necessary before placing the report in this category.

Another category is a catch-all labeled *Other*. It includes missiles, reflections, mirages, searchlights, birds, kites, spurious radar indications, hoaxes, fireworks, and flares.

And finally, a sighting is considered *unidentified* when a report apparently contains all the data necessary to suggest a valid hypothesis but its description cannot be correlated with any known object or phenomenon.

Through 1965, 10,147 UFO reports had been disposed of and classified in one or another of the seven categories. In 1964, a fairly average year, the figures were as follows:

Astronomical	123
Aircraft	71
Balloon	20
Insufficient Data	99
Other	88
Satellite	142
Unidentified	19
Total	<u>562</u>

Policeman's Report

One intriguing, classic case of the 19 listed above as unidentified will also illustrate how widely government agencies, industrial firms, and individuals cooperate in the UFO project.




On 24 April 1964 at approximately 1745 hours, a Socorro, New Mexico, police officer, Lonnie Zamora, was headed south chasing a speeding automobile when he suddenly heard a roar and saw a flame in the sky to the southwest. He decided to let the speeder go in favor of investigating the flame, because there was a dynamite shack in that area and it might have blown up. He turned right onto a gravel road that ran by the shack.

As he was driving slowly along the road, Zamora saw above a steep hill just ahead a funnel-shaped flame, bluish and sort of orange. The base of the flame was hidden behind the hill; there was no smoke connected with it. He had trouble getting the car to the top of the hill because of loose gravel; he had to try three times before he made it. As he reached the top of the hill he saw a shiny object to the south, this side of the dynamite shack, about 150-200 yards away. It was off the road to the left in an arroyo, and at first glance it

looked like a car turned over; but when he drove closer, it appeared to be aluminum color, not chrome, and oval-shaped like a football.

Zamora drove about 50 feet along the hill crest, radioing back to the sheriff's office, "10-44 [accident], I'll be 10-6 [busy out of the car] checking a wreck down in the arroyo." From this point, seated in the car, he could not see the object over the edge of the hill. As he stopped the car, he was still talking on the radio, and while he was getting out he dropped the mike. He picked it up and put it back and started down toward the object.

Just then he heard a very loud roar, not exactly like a blast but not steady like a jet engine. It was of low frequency at first and then became higher. At the same time he saw a light blue flame, sort of orange at the bottom. Zamora believes this flame came from the underside of the object; he could see no smoke but some dust in the vicinity. He panicked; he thought the object was going to blow up. In his own words (with slight rearrangements for the sake of clarity):

As soon as saw flame and heard roar, . . . ran away from object but did turn head towards object. Object was  in shape. It was smooth—no windows or doors. As roar started, it was still on or near ground. Noted red lettering of some type like . Insignia was about 2 1/4 inches high and about 2 inches wide, guess. Was in middle of object, like . Object still like aluminum white.

[Running], bumped leg on car—back fender area. Car facing southwest. . . . Fell by car and [sun] glasses fell off, kept running to north, with car between me and object. . . . I guess I had run about 25 feet when I glanced back and saw the object . . . rise to about level of car, about 20 to 25 feet, guess. Took, I guess, about six seconds when object started to rise and I glanced back. . . . It appeared about directly over the place where it rose from.

I was still running, . . . [then] about 50 feet from car I ducked down, just over edge of hill. . . . I stopped because I did not hear the roar. I was scared of the roar, and I had planned to continue running down the hill. I turned around toward the object and at the same time put my head toward ground, covering my face with my arms. . . . When the roar stopped, heard a sharp tone whine and the whine lasted maybe a second. Then there was complete silence about the object.

That's when I lifted up my head and saw the object going away from me . . . in a southwest direction . . . It did not come any closer to me. It appeared to go in straight line and at same height—possibly 10 to 15 feet from ground, and it cleared the dynamite shack by about three feet. Shack about eight feet high. Object was traveling very fast. It seemed to rise up, and take off immediately across country.

I ran back to my car and as I ran back, I kept an eye on the object. I picked up my . . . sun glasses, got into the car, and radioed to Nep Lopes, radio operator, to look out the window, to see if you could see an object. He asked, what is it?

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I answered, it looks like a balloon. I don't know if he saw it. If Nep looked out his window, which faces north, he couldn't have seen it. I did not tell him at the moment which window to look out of.

As I was calling Nep, I could still see object. The object seemed to lift up slowly, and to get small in the distance very fast. It seemed to just clear the Box Canyon or Mile Canyon Mountain. It disappeared as it went over the mountain. It had no flame whatsoever as it was traveling over the ground, and no smoke or noise.

Feeling in good health. Last drink—two or three beers—was over a month ago. Noted no odors. Noted no sounds other than described. Gave direction to Nep Lopes at radio and to Sergeant MS Chaves [of New Mexico state police at Socorro] to get there. Went down to where the object had been, and I noted the brush was burning in several places. . . . I got my pen and drew a picture of the insignia on the object. . . .

Then Sgt. Chaves came up, asked me what the trouble was because I was sweating and he told me that I was white, very pale. I asked the Sgt. to see what I saw and that was the burning brush. Then Sgt. Chaves and I went to the spot and Sgt. Chaves pointed out the tracks.

When I first saw the object (when I thought it might be a car) I saw what appeared to be two legs of some type from the object to the ground. At the time, I didn't pay much attention to . . . the two legs. The two legs were at the bottom of the object, slanted outwards to the ground. The object might have been about three and a half feet from the ground at that time. . . .

Diagnosis: Unsolved

There is no doubt that Lonnie Zamora saw an object which left quite an impression on him. There is also no question about Zamora's reliability. He is a serious police officer, a pillar of his church, and a man well versed in recognizing airborne vehicles in his area. He is puzzled by what he saw, and frankly, so are we. This is the best-documented case on record, and still we have been unable, in spite of thorough investigation, to find the vehicle or other stimulus that scared Zamora to the point of panic.

During the course of the investigation and immediately thereafter, everything that was humanly possible to verify was checked. Radiation in the landing area was checked with Geiger counters from Kirtland AFB. The Holloman AFB Balloon Control Center was checked for balloon activity. All local stations and Air Force bases were checked for release of weather balloons. Helicopter activity was checked throughout the state of New Mexico. Government and private aircraft were checked. The reconnaissance division in the Pentagon was checked. The White House Command Post was checked. The Commander at Holloman AFB was interviewed at length about special activities from his base. Down-range controllers

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at the White Sands Missile Range were interviewed. Letters were written to industrial companies engaged in lunar vehicle research activity. The companies were extremely cooperative, but to no avail. The Air Force Materials Laboratory analyzed soil samples from the landing area.

The findings were altogether negative. No other witnesses could be located. There were no unidentified helicopters or aircraft in the area. Radar installations at Holloman AFB and at Albuquerque observed no unusual blips; but the down-range Holloman MTI radar, closest to Socorro, had been closed down for the day at 1600 hours. There was no unusual meteorological activity, no thunderstorms; the weather was windy but clear. There were no markings of any sort in the area except the shallow "tracks" Chaves and Zamora found. The soil analysis disclosed no foreign material. Radiation was normal for the "tracks" and surrounding area. Laboratory analysis of the burned brush showed no chemicals that could have been propellant residue.

The object was traveling at approximately 120 miles per hour when it disappeared over the mountain, according to Zamora's best guess of the time it took. Not an interplanetary speed, at any rate; and the findings are also negative for any indication that the Socorro UFO was of extraterrestrial origin or that it presented a threat to the security of the United States.

INTELLIGENCE IN RECENT PUBLIC LITERATURE

SECRETS OF ELECTRONIC ESPIONAGE. By *John M. Carroll*. (New York: Dutton, 1966. 224 pp. \$3.95.)

This is a light and rather superficial review of the half century of electronic surveillance activities which began in World War I soon after the discovery of the vacuum tube. A short evening's reading, it will appeal more to devotees of *Popular Mechanics* than to *Scientific American* subscribers. Those knowledgeable of electronic espionage today will not find much of interest in it except perhaps a reminder that in World War I, as now, the thing was to apply the latest scientific techniques to espionage. Then it was the first vacuum tube amplifiers; now it is tunnel diodes and lasers.

The book could have been put together, whether it was or not, by going to standard reference works for what took place in the two world wars and then keeping a good file of clippings from newspapers and magazines to cover events in the last 15 years. The scissors-and-paste technique gives the reader a series of episodes rather than a coherent history of the subject.

There are a number of inaccuracies, growing more serious as the story approaches the present time—"Army Air Force" rather than Air Corps, "C-47" for C-54, glass "tubes" instead of rods in fiber optics, and then the retrieval of capsules ejected from satellites by nets *strung between planes* in flight. Illustrations in the section devoted to ferret activities and overflights are mostly photos of planes in their conventional configuration, not the aircraft modified for Elint or technical surveillance.

The account of the Soviet audio penetration of the American embassy discovered in 1964 is almost completely erroneous. It has only the 8th through the 10th floors bugged, neglecting the 6th and 7th, and counts only 40 microphones, a 25% error. In several pages describing the microphones buried deep in the walls, the author tells us they were attached to long wooden pegs extending almost to the surface of the plaster to pick up the walls' voice-induced vibrations, wooden pegs being used instead of the metal spikes of contact microphones in order to defeat search by metal detectors. In reality, these were wooden tubes leading to open holes in the plaster behind the hot water radiators and so providing an air path to each microphone's diaphragm. He says the microphones were connected to

Scientists Debate The Question Of UFO's-

Editor's note: With this article, the Star starts a two-part series on the fascinating subject of unidentified flying objects. At the American meeting of the American Society of Newspaper Editors last April, Dr. James E. McDonald of the University of Arizona, spoke at the invitation of the editors, taking as his subject UFO's. He was followed by Dr. Donald H. Menzel of Harvard University. The minutes of the ASNE meeting now being transcribed and available, the Star, because of the special public interest in the differences of opinion between Dr. McDonald and Dr. Menzel, presents the remarks of both. Dr. Menzel's side of the case will appear Wednesday. Dr. McDonald was introduced by John Quincy Mahaffey, editor of the *Texarkana, Tex., Gazette*.

Mr. Mahaffey: And now I should like to present our first scientist, Dr. James E. McDonald, who now holds the position of senior physicist, Institute of Atmospheric Physics, and professor, Department of Meteorology, University of Arizona.

Briefly, his educational background includes a B.A. in chemistry from the University of Omaha, an M.S. in meteorology from Boston Tech and a Ph.D. in physics from Iowa State University. He has been a research physicist at the University of Chicago and has taught physics at Iowa State University prior to his current position. He is a member of the American Meteorological Society, the American Geophysical Union, the Royal Meteorology Society and Sigma Xi.

I am honored to present our distinguished guest, Dr. McDonald.

Dr. McDonald: Ladies and gentlemen, I am pleased to have the chance to talk with you and discuss the results of what I have found in approximately a 12-month intensive study of this extremely interesting problem of unidentified flying objects.

About last April I began to take a close look at the problem, having been moderately interested in the problem for some years prior to that. I have been to Wright-Patterson at Project Blue Book three times and I have examined 150 or so cases in their files and talked to the scientific and military staff at Blue Book.

I have talked with people in the Air Force, both scientific and military, about other aspects of the problem. I have been around the country discussing it with independent groups, such as NICAP (National Investigations Committee on Aerial Phenomena) here in Washington. NICAP is one of the outstanding independent groups; it has done an excellent job over the years of digging into this fascinating problem.

I have, on my own hook, interviewed dozens of key witnesses in important cases around the country and have examined hundreds of cases in a good deal of detail. I have gone over Air Force evaluations, Dr. Menzel's analyses of problems and other evaluations.

It is against that background that I now tell you that the sighting Mr. Powell

discussed, and which I was quite interested to hear about, is by no means unrepresentative of the categories of sightings that demand immediate serious scientific attention in this country and all over the world. And that is part of what I am here to tell you today.

(Editor's note: William C. Powell of Radnor, Pa., and a friend, Miss Muriel McClave, had already reported to the editors on their May 21, 1966, sighting of what they said was a saucer-shaped object with a slightly raised dome on the top. They said the bottom was brilliant red, the top a brilliant white. They said they saw the object while flying near Willow Grove Naval Air Station in Pennsylvania.)

This is not a nonsense problem, as it has been made out. A lot of you have had fun, I suppose, writing feature stories about little green men and hoaxers and so on. Believe me, that is the wrong part of this problem to look at.

In the past week I have spent all of my time discussing my serious concern with scientific colleagues and with military people here in

Washington. This week I think I have given 10 talks and briefings. I am glad to say to you that scientific and official concern is beginning to change. I have been at the Naval Research Lab. I've been at the Pentagon twice this week briefing civilian, military, Air Force and other personnel. This week I have also talked to the National Academy people, the National Science Foundation and other persons whose influence on the problem I believe will quickly show up, but whose affiliation I am not free to discuss with you.

I have to say to you that, as a result of a pretty close look at this problem, I think we have all missed the boat. I think we have been misled. I think the problem has been most seriously mishandled officially for 20 years. The problem has been misrepresented by many interacting factors including yourselves and scientists such as myself.

I have tried to put all of this down in a rather long paper that is available to you at the back of the room. It is entitled "UFO's: Greatest Scientific Problem of Our Times?" In 20 minutes I can't possibly go over all of the details. But I will refer to the sections of this 28-page paper as I go along. Since I know you can't read it now and I doubt you'll be able to



DR. JAMES E. McDONALD

read it before you leave, I hope that all of you will take it, either to read on the airplane or to carry it home to read and then pass on to your scientific editors or aeronautical editors or what have you. The paper goes into considerable detail and explains my point of view.

I think the problem has been superficially and incompetently handled by the Air Force. I have said that in many open discussions. I have said it to Air Force generals this week. I said it to Air Force generals months ago. And I say it again.

The history of the problem, as Maj. Quintanilla (Maj. Hector Quintanilla Jr., chief of Project Blue Book and also a convention speaker) indicated, began in 1947. The pivot point in the history of the UFO's was the Robertson Panel of 1953 - five well-known scientists assembled by the Air Force and CIA to have a look at the problem. The security agency's concern that led to formation of the group grew out of the heavy wave of reports of 1952, not exceeded even by last year's 1,000 reports.

I was startled when I went into Maj. Quintanilla's office and saw five feet of shelving just devoted to the 1952 waves of sightings. There were so many cases that the

cerned with the clogging of intelligence channels.

Their fourth recommendation came after strong interaction with the CIA representatives at the final session. (I am in the peculiar position of being almost the only one outside official Air Force channels who has seen this document. Maj. Quintanilla gave it to me and I made extensive notes from it. When I asked for a copy on a subsequent visit, things happened, and it has been reclassified by the CIA. I made no comments about this for several months. It was fully clear to all the personnel at Blue Book and in the Foreign Technology Division that I had all these notes. I have no hesitation now to discuss it in full...)

The fourth recommendation asked for a systematic "debunking" of the flying saucers." The stated objective of the "debunking" was to "reduce public interest in flying saucers."

No Deception

I wish to make it very clear that I do not regard this as a dark and sinister action of a covert body trying to deceive the citizenry. They wanted to get the "noise" out of the "signals" that were clogging the intelligence channels. Hence, viewed narrowly from security viewpoints, it made good sense to get this "noise" suppressed. But it was a scientific tragedy that at that time this problem was not turned over, in the face of nonhostility, to scientific groups. It was not. If

stayed in the Air Force; and, gradually, as near as I can see, it has been downgraded CIA and placed in the hands of the project which, when I was there first, involved the major, a sergeant and a secretary.

Now Maj. Quintanilla has indicated that the Air Force draws on other sources of expertise. And when we read the press releases from the Pentagon desk, we do indeed get the impression that Air Force expertise, which is not zero by any means, has been used.

My examination of the problem strongly indicates that the Air Force expertise has had very little to do with Project Blue Book, and that this is the heart of the trouble. For instance, in the case of radar, I talked not very many days ago to the Air Force's best radar propagation man, Dr. David Atlas, who indicated to me he had never been brought into any discussions of propagation anomalies or anything like that in all his years at the Air Force Cambridge Research Lab. And I could go on to illustrate examples of that sort.

The question of what the UFO's are is crucial when you look at sightings such as Mr. Powell and Miss McClave talked about and when you realize, as I now do - but did not 12 months ago - that these are not unrepresentative sightings. The close-range sightings of disks and cigar-shaped objects frequently seen at tens of feet in populous areas are on the increase. There are credible observers, multiple witnesses. A case in Beverly, Mass., where five adults - two of them police officers - were within 20 feet of an object that was right over the middle of the street. In the back of my paper are 18 cases out of thousands. And this particular case of last spring is cited.

That sort of thing and Powell's observation are representative of the interesting sightings. They are not confined to the United States. One finds this going on all over the world. I can vouch only for the American reports that I have checked, and that are in my possession.

It has led to a lot of serious students of the problem to speculate that there might be some conspiracy. And I have

• Balderdash, Rot

The Book tells you and me, as we just know a moment ago, that there is nothing in the unidentified flying objects that defies present-day explanation in terms of science and technology, that's balderdash; it is utter rot, I assure you. How would you explain the kind of a dome-shaped object that Mr. Powell

saw? Well, if it was the only one you ever heard of, you would forget about it. But look at the unidentified cases: Exeter, N. H.; Damon, Tex.; Fort Huron, Mich. Look at the sightings only a couple of months ago in Davis, Calif. Look at the cases that simply fit no conventional, no scientific, no known explanation.

Something is going on here of the greatest scientific interest that has been shov

under a rug, ridiculed and laughed out of court. You and your feature writers have helped ridicule it. It's easier to write a funny story. And once the Air Force tells you there is nothing to it, what is more logical than to say, "People see things; there are a lot of nuts around the country?" And that has led to the net effect that very few of these are reported.

For example, Mr. Powell's report never got on the wires. He told me he called the Naval Air Station at Willow Grove after a day's deliberation, and they weren't very interested; and he didn't go any further with it.

The number of embittered citizens who have been hurt by Air Force callous rejection and discrediting, saying they saw twinkling stars and so on, is very large and I have had firsthand contact with many of them. As a citizen I am a little disgruntled at this kind of treatment. If there were some reason for it, if there were a national security reason - but it's just incompetence in operation.

It has led to a lot of serious students of the problem to speculate that there might be some conspiracy. And I have

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given that very careful thought for a number of reasons. The group at AARP here in Washington has had much more contact with this problem than either the Air Force or I, and they have again and again encountered cases where it looked to them as if there must be some really high-level conspiracy.

People have suggested that maybe Blue Book is only a front organization and doesn't know that it's only a front organization. Well, I can't begin to tell you the sources that I have checked on this. But I do, not think it is a grand coverup. It is a grand foupup, a foupup of incredible proportions; unprecedented in my experience.

There have been scientists who have looked at the problem — not very many. Dr. Menzel is one. I cannot agree with the optical-physical-astronomical principles — the arguments that Dr. Menzel uses.

• Plasma Phenomena

Another person who has recently looked at the problem is Phillip Klass, who has thought that these, perhaps, are plasma phenomena. That is a reasonable thing to have a look at, and I have had a look at it. I can't agree with Phillip Klass that any substantial portion of the cases can be accounted for in terms of plasma phenomena associated with corona discharges on power lines or balls of lightning. In the best labs in the country it is the biggest problem in fusion research to get plasma lifetimes of more than seconds. But how did Mr. Powell see this plasma coming along at him from ahead and watch it for tens of seconds? How did two California Highway Patrolmen at Red Bluff, Calif., stand about 150-200 feet from a 100-foot-long object that had great big bright blinking lights on it, that maneuvered up and down and led them a chase of about 70 minutes? How did the Portage County, Ohio, sheriff's deputies last spring follow for an hour and a half a plasma or a twinkling star or, as Maj. Quintanilla

has said, a combination of Echo and Venus — an exosurd? And it still stands as the official explanation. Congressman Stanton (Rep. John W. Stanton, R-Ohio) has been told that a reinvestigation confirms that. That too is utter rot.

I tell you that this sort of thing has to stop. And you editors are in an excellent position to help stop this by pressing for what I am afraid, at this juncture, may be the only way to escalate a serious scientific concern, and that is to ask for a full and fair congressional inquiry into the past 20 years of mishandling of this extremely important problem.

The scientist doesn't usually like to pursue these kinds of routes. I don't. You often get not only less than you hoped for but you also lose scientific progress. We must have a hearing that is not like the one last spring which was called by Congressman Ford (Rep. Gerald R. Ford R-Mich.) as a result of constituents' concern over Air Force handling of the Michigan cases that were explained in terms of swamp gas. No single explanation has brought the Air Force more ridicule. The swamp gas theory is nonsense. And it still stands as the explanation. This is the explanation that came directly from Dr. Hynek, and Maj. Quintanilla has assured me that it is Hynek, not him, with whom I must have any discussions. And I have, but the explanation has not been retracted.

(Editor's note: Dr. J. Allen Hynek of Northwestern University is the Air Force consultant on UFO's.)

When Ford got an investigation, who conducted it? The Armed Services Committee. Who testified? Three Air Force-related people, period. That we can't have. We must have what NICAP, for example, has been pleading for years.

• The Best Source

If you want to get the single best source of information about the whole UFO problem, I refer you to a

comes to mind at the moment because it contains a very best scientists are going to be bewildered when they examine, as I, for example, have examined, the astounding volume of evidence that exists on this problem that has been generally put under the rug.

This even shows up abroad. Jacques Valle, a French investigator of UFO's, who is now in this country, has written two fairly good books on the subject. I asked him: "Why doesn't the French government, for example, do something?" He replied: "When we go to the French government," they say the U.S. Air Force has been spending a lot of money for many years on this and has shown there is nothing to it. Why should we spend French money?" And so this image of expertise that has been spread abroad — which has behind it zero — is holding this problem in a limbo that it must be blasted out of.

Although I saw some progress this week — progress of an entirely different sort — I don't think we are really going to get the serious concern among many top-notch scientists. What we need are scientists who are much better equipped than myself to look at this problem. This has to go to the top-caliber scientists all over the world, because something is involved here that is of concern to all of us. It is not a simple problem. I mean, obviously, how am I going to explain a 30-, 40-, 50-foot disk that goes by an experienced pilot like Mr. Powell, who, I understand has logged 18,000 hours and he sees this object just as he might see a Cadillac a few

• Wire Services

The wire service editors know it's a lot of nonsense. If something happens out in Sank Center, maybe even the Sank Center Gazette doesn't report it. But if it does, the wire service editor is sure disinclined to report it. And so the discrepancy between what you as editors suspect is the nature of the problem and what you see in just looking at clipping service coverage — where you get all the Sank Center Gazette reports — is, well, it's almost incredible.

I couldn't believe it when last spring I saw the NICAP clipping service coverage. I thought I knew something about the problem, but the number of incidents in Shamokin, Penn. or Custer, Wash., or what-have-you — you never hear of them, and nobody else hears of them. If you read the New York Times and your own paper, you won't have heard of them, because we have collectively helped the Air Force forget about this somewhat uncomfortable problem. And you have helped. Yet, the evidence is simply astounding.

Well, I much prefer to talk about the purely scientific aspects of some of these explanations. I have no startling scientific illumination of the problem. It's baffling to me. Nothing in my scientific education prepares me to give you a pat explanation of what is going on here.

There are hoaxes; there are misinterpreted phenomena; there are all these things, of course. But there are not advanced test vehicles, believe me. No Air Force test vehicle is going to go for five miles behind a loaded gas truck in Oklahoma — this sort of thing — landing in the middle of cities. No

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American test vehicle is going to be tested in Brazil or New Zealand and no Russian test vehicle is going to be tested in the United States or England. There is every reason to believe that the phenomenon is global. They are not advanced test vehicles; they are not hallucinations. I have had three sessions with psychologists and I have asked them, "Is there anything in your clinical experience that would match this?" The answer is, "No, it certainly doesn't sound like anything psychological." After all, there are cases involving dozens of witnesses and

others involving radar sightings — although if the Air Force is involved, the sightings are disclaimed and blamed on weather, electronic malfunctions and so on; at least, that's how they have been so attributed since 1953. If you want to get all the Air Force radar sightings, you go back before the CIA request for a "debunking" policy and Air Force Regulation 7000-2.

• A Beginning

Well, what is to be done? The Colorado Program (an Air Force-sponsored study) is a beginning, but I am uneasy about the Colorado Program. There is not nearly enough scientific talent on that program. I have said that quite openly — without intending to carp — to many people in Washington. It should be beefed up immediately. What we need is much more attention to this problem, and that, unfortunately, requires money. But it also requires people and that is what is short out at Colorado. I'm afraid they have not taken the problem seriously enough to muster the scientific talent to do justice to that.

We need an immediate escalation of the problem. Congressional inquiry, if you can press for it, will perhaps do the trick; it might also send the problem awry. I don't have great confidence in a congressional inquiry being the greatest solution. I'll

continue to try, as one scientist, to pursue it in other ways — in a science-oriented agency, not the military. And by their own statement, with which I agree, there is no clear-cut evidence of hostility. But let's get it into a scientific agency.

Amusingly, all my efforts to interest NASA in this gives me the feeling that they think it's nonsense too. I think they have been joojooked and sort of unintentionally brainwashed for years and years. And all this is not as a result of any high-level conspiracy. It's just a foupup. But a foupup of really incredible proportions. We must launch a new level of investigation.

There are very specific things. Radar is already deployed. The trouble is it's compromised by present regulations. There are many radar sightings. This would be an immediate objective source of information that could be put into scientific terms and be very useful.

There are a number of electromagnetic effects known in the evidence — car-stopping cases, for instance. In Texas, in 1957, the fascinating case, nine different vehicles stopped. But this is going on all the time. NICAP must have 150 examples of this. It's going on in Australia, England and so on.

Associated with this are apparently interference effects, radio and TV, magnetometers, compasses, a lot of electromagnetic effects. Science knows a lot about electromagnetic sensing devices, and many things could be done quickly if only the problem were taken seriously.

• Airline Reports

There are many airline reports in the old evidence. But once the Air Force began to discredit pilots — and they have, in some cases, unmercifully discredited them — that source of information pretty much dried up.

That can be changed. Mobile teams need to be prepared to get out into the field in a hurry with a lot of gear. And this can be done. I discussed this in the Pentagon last week with the people about that sort of thing than I do.

The whole question of the pre-1947 sightings, which I must be looked at by historical scholars as well as students of the history of technology, to examine the interesting question of whether sightings that appear to constitute a continuum at low levels, running back to the turn of the century at least, are the same phenomena. NICAP is coming out with a volume in a few months, one that represents a good compilation of evidence. But historical sophistication is needed to assess the evidence. That is a very important thing to do, because the whole nature of the problem is quite different, if it is the case — and I lean in this direction — that aside from the marked increase beginning in 1947, there appears to be the same phenomenon of craft — like, machine-like objects operating in our environment for tens of years.

The heart of the problem is the "ridiculous lid," and you're sitting on it. You're sitting on it in a way that is very important. Get off that lid! That is, get your wire service people to take it seriously; look at the problem yourself; examine it for yourself and get off that lid, because that is a big part of the problem now.

You don't know whether changes in the frequency of sightings is a real change, or whether they occur just because you have given it serious credence in your area, which makes people come out with reports that they wouldn't otherwise have told a soul about.

You are on the lid. Get off it. Ask for congressional investigation.

My report lists 18 or 20 editorial comments. It shows that some of your colleagues have already pressed for this — too faintly — in the past. Have a look for yourself at the evidence. You will find an astounding picture of enormous interest that has been mishandled and misrepresented for far too long.

On the face of it, it sounds much like the reasoning of Sherlock Holmes, who said on several occasions, "It is an old maxim of mine that when you have excluded the impossible, whatever remains, however improbable, must be the truth." I am willing to go along with this formula, but only after we have followed Holmes and excluded every possibility but that of manned UFO's. And we must also show that no further possibilities exist.

I have examined the evidence and I have drawn slightly different conclusions from those presented by the previous speaker.

(The previous speaker was Dr. McDonald, who said that he had concluded, after a 12-month study of "the extremely interesting problem of unidentified flying objects" that a proper approach was not being taken toward them by the Air Force or others, and that a closer look should be taken. Dr. McDonald said, "Something is going on here of the greatest scientific interest that has been shoved under a rug, ridiculed, and laughed at." Dr. McDonald's view is that UFO's very well may be visitors from space.)

Similar sightings of flying saucers go far back in history, where they have assumed different forms for different people. Old records refer to them as fiery dragons, fiery chariots, will-o'-the-wisp, jack-o'-lanterns, fire-drakes, fox fire and even the devil himself.

And now we are having urged on us a new legend to explain a rash of mysterious sightings. Certain UFO buffs argue that the peculiar properties and maneuvers of these apparitions, as reported by reliable people of all different kinds, are so remarkable that only one explanation for them is possible: they must be vehicles from outer space, manned by beings far more intelligent than we, because the operators have clearly built vehicles capable of something far beyond anything we can conceive of. This is the argument that we are asked to accept.

On the face of it, it sounds much like the reasoning of Sherlock Holmes, who said on several occasions, "It is an old maxim of mine that when you have excluded the impossible, whatever remains, however improbable, must be the truth." I am willing to go along with this formula, but only after we have followed Holmes and excluded every possibility but that of manned UFO's. And we must also show that no further possibilities exist.

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Deceptive Reasoning

The believers, I feel, are much too eager to reach a decision. Their method is quite simple. They try to find someone whom they can establish as an authority, someone who will support their views. Then they quote authorities, or they misquote one another, until they believe what they are saying. Having no real logic on their side, they resort to innuendo and ridicule and try to discredit those who fail to support their view. The UFO magazines all refer to me as the archdemon of saucerdom!

To the buffs all sightings are true UFO's unless proved otherwise.

I concede that the concept of manned spacecrafts is not an absolute impossibility. Neither are the concepts of ghosts, spirits, wilches, fairies, elves, hobgoblins or the devil. The only trouble with this last list is the fact that they are somewhat out of date. We live in the age of space. Isn't it natural that beings from outer space should exhibit a similar interest in us? But when we consider that these beings — if indeed they are beings — have been bugging us for centuries, why should not one have landed on the White House lawn and shown himself to the President of the United States, to a member of the National Academy of Sciences or at least to some one of you editors?

Now, please don't misunderstand me. I think it is very possible that intelligent life, hopefully more intelligent than we — may exist somewhere in the vast reaches of outer space. But it is the very vastness of this space that complicates the problem. The distances are almost inconceivable. The time required to reach the earth — even at speeds comparable to that of light — range in hundreds, if not thousands, of years for some of our nearer neighbors. And it takes light some billions of years to reach us from the most distant galaxies, times comparable with that for the entire

life history of our solar system. The number of habitable planets in the universe is anybody's guess. Any figures you have heard, including mine, are just guesses. I have guessed that our own Milky Way may contain as many as a million such planets. That sounds like a lot, but the chances are that if this figure is right, the nearest inhabited planet would be so far away that if we sent out a message to it today, we should have to wait about 2,000 years to get a reply. Alas, the evidence is poor for intelligent life in our solar system, although I would rather expect to find some low forms of life on planet Mars.

Other Reasons

With respect to UFO's, my position is simply this: that other natural explanations exist — Dr. McDonald to the contrary — for the unexplained sightings. The Air Force has given me full access to their files. I concur with Dr. MacDonald that there is no vast conspiracy by either the Air Force or the CIA to conceal the facts from the public, as many groups have charged.

The Air Force has made its mistakes. They never have had enough scientists in the project. They have failed to follow up certain sightings of special importance. To me their questionnaire is amateurish, almost cleverly designed in certain cases to get the wrong answers and lose track of the facts. The Air Force is aware of my criticism. And at Major Quintanilla's invitation I have been making constructive criticisms and trying to help them in a revision of the questionnaire. It is not an easy job.

From 1947 until 1954 a bewildered group of Air Force personnel tried honestly and sincerely to resolve the UFO problem. Many highly reliable persons had reported seeing objects moving at fantastic speeds and apparently taking evasive action in a manner impossible for known terrestrial craft. By 1952 a sizable number of those in the Air Force group had concluded that extraterrestrial vehicles were the only explanation. Some of this group

plotted these ideas, and soon various UFO clubs came into being. In the summer of 1948, a committee of scientists headed by H.P. Robertson of Cal Tech met at CIA to consider a number of the Air Force's most convincing cases. These cases were supposedly the ones that had convinced the Air Force personnel who had worked on them as the 20 to 30 most outstanding cases, the ones that looked as if there was absolutely no other explanation except UFO's from outer space to account for the sightings. The Robertson Committee immediately solved the rest they could not solve only because of poor or insufficient data. The questionnaire again! They concluded that all cases had a natural solution. And the report states that there is no evidence to support the idea that UFO's are vehicles from another world.

Nevertheless, the UFO buffs believe, almost as an article of faith, that special observers, such as military or airline pilots, couldn't possibly mistake a meteor or a planet or a star, a sundog or a mirage for a UFO. This viewpoint is absolute nonsense, and the Air Force files bear witness to its falsity! They contain thousand of solved cases — sightings by the same kind of "reliable individuals," like the pilots. But such persons have often made huge errors in the identification.

Meteor Mistaken

A huge meteor flashes by in the sky! The copilot thinks it is going to strike the plane and takes evasive action. He may even imagine that his plane is hit by the backwash from this UFO. The pilot disagrees, the pilot is right. The UFO proves to be a bright fireball or meteor a hundred miles away! Such occurrences are frequent, not rare.

Distances, especially in space, are hard to estimate. If you're in the air, a thing you might think is 100 feet away from you actually may be a star that is clear back in the firmament.

Conversely, a pilot may think the bright object on the horizon, in reality a star or planet, that lies just beyond his wing tip is a UFO. Sometimes a layer of warm air, sandwiched between two layers of cold air, can act as a lens, projecting a pulsing, spinning, vividly colored saucer-like image of a planet. (I have seen this phenomenon myself, despite the fact that the previous speaker in his lengthy manuscript tries to discredit my sighting.) Pilots, thinking they were dealing with a nearby flying object, have often tried to intercept such images which evade, of course all attempts — to cut them off. The distance may seem to change rapidly as the star fades or increases in intensity. Because, as the pilot flies along, the star may even be completely cut off at times by a mountain or by a forest and it will seem to buzz in and out from the plane, attacking the plane. It's realistic and very frightening.

The observations of this type fortify the UFO legend that these objects "maneuver as if under intelligent control." But the pilots fail to realize that the "intelligent control" came from within themselves, and I think that the Air Force personnel of Project Blue Book still do not appreciate this important UFO phenomenon.

Mirages aren't the only apparitions that appear to maneuver. I think I was the first person to point out that a special kind of reflection of the sun (or moon) from ice crystals, sometimes called a sundog (or moonog), can also perform evasive action. Layers of ice crystals are necessary like those found in cirrus clouds. An aviator, flying through cirrus, sometimes sees a peculiar metallic appearing reflection. The reflection often has a reddish tinge on one side, a reflection of the sun or moon. He may expect to chase it. The apparition recedes if approached.

But there are still a few other phenomena that can be as far as I know, the Air Force still does not recognize and I think I am bringing them to the public's attention for the first time today. You will see occasional reference to some of these phenomena but only indirectly.

Material Causes

Let me quote from an article in the "Vision" in Volume 14 of the McGraw-Hill Encyclopedia of Science and Technology: "... any observant person can detect swirling clouds or spots of light" in total darkness or while looking at a homogeneous field such as a bright blue sky." So, if you want to see flying saucers, just look up. If you don't see them, you probably aren't "observant."

I can see them most clearly in a dark room or on a moonless night with the sky even darker with heavy clouds. I find the background of stars on a clear night somewhat distracting. Just lie on your back, open your eyes and see the saucers spin. You will almost surely see bright irregular patches of light forms. Some of them seem gray-green but I occasionally see silver or gold and occasionally red. I can even imagine windows in some of them. As you move your eyes, they will covort across the sky. To speed up the action, just rub your eyes like a person coming out of a sleep. Occasionally, the whole field will become large and luminous. Now, I ask you, how can you be sure that the UFO reported by an airline pilot is not just one of these spurious images? And even if an alerted copilot confirms it, he might also be responding to a similar effect in his own eyes, since we don't know that he is seeing exactly the same thing that the other man is reporting.

Reflections from power lines, insulators, television antennas, radars, radio telescopes, even apartment windows! These too have, in their turn, produced realistic UFO's and I could go on adding almost indefinitely to this list.

But the chief point that I want to make is that a simple phenomenon like any of the above have tricked intelligent people into reporting a UFO.

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Eye Errors

The chemistry and physiology of the human eye are certainly responsible for many UFO sightings. The eye responds in a different way to different kinds of stimuli. Taken a sudden burst of bright light like that coming from a flashlight. You newspaper editors, and especially UFO buffs, should be aware of this. The first row, would know

that when you look at a sudden flash you will have an after-image. The light from the flash produces immediate change in the so-called visual purple of the retina. In a sense the retinal spot where the light fell on the eye becomes fatigued and, for some minutes after the flash, you will be able to see a bright usually greenish floating spot which could be mistaken for a UFO by someone unfamiliar with the problem.

Let me take an actual case which is typical of a large number in the files of Project Blue Book. A child going to the bathroom turns on a bright light and accidentally awakens one of his parents who is blinded by the sudden illumination. The child turns off the light and the parent, for some reason, also gets up and just happens to glance out of the window. He is startled to see a peculiar spot of light floating over the trees and making irregular jerky motions. He watches the UFO for a minute or two until it finally disappears. He can't be blamed for failing to realize that the erratic and often rapid movements of the UFO are due to similar movements of his own eye. The UFO simply appears in the direction in which he happens to be looking, and that's all. And yet he may describe it graphically as a lumbous object "cavorting across the sky."

Many such stimuli are possible by day and night. A few weeks ago I was driving toward the setting sun. I came to a stoplight and looked out the side window of the car. I was startled to see a large black object shaped something like a dirigible surrounded by dozens of small black balloons. I suddenly realized that these were after-images of the sun. The big one was where I had been looking more fixedly. The spots were images where my eye had wandered. A UFO buff could have sworn that he was seeing a "mother ship" and a swarm of UFO's in rapid flight.

After-images possess still another complicated characteristic. Colored light tends to produce an after-image of complementary color. A green flash will cause a red after-image and vice versa. Color-blind persons and persons with defective vision will often experience effects different from those of normal vision.

I once had another similar experience. I suddenly glanced up and was surprised to see a whole flotilla of UFO's in formation across the sky. They looked like after-images, but I hadn't been conscious of the visual stimulus responsible. I quickly retraced my steps and found it: sunlight reflected from the shiny surface of the fender of a parked car.

I am sure that many UFO's, still unknown, belong in this class. Look fixedly at the full moon for at least 30 seconds and then turn away. A greenish balloon will swim over your head and perform maneuvers starting or impossible for any real object. I have been able to attain the same effect with the planet Venus when it is near maximum brilliance. Yet most observers will swear that such UFO's are true objects. And the Air Force questionnaire, failing to recognize even the existence of this kind of UFO, contains not a single question that would help them identify it. In fact, the words signifying UFO, unidentified flying object, showed the state of mind of the Air Force personnel who invented this abbreviation. What I am saying, is that the UFO's are not unidentifiable. They are often not flying and many are not even objects. It is this point of view, to regard the apparition as actual solid objects, that has retarded the solution so long.

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Continued

terent from those of people with normal eyesight.

Another optical illusion that can produce an illusion: you may forget that the eyeball jumps a little every time that you blink. Walking transmits vibrations to the eye at every step. Many individuals think they see stars, planets or satellites oscillating when the movement is actually that of the eye: it self.

Let me give you this quotation from a book:

On our return across Minnesola we had an experience which I have always remembered as illustrative of the fallacy of all human testimony about ghosts, rappings and other phenomena of that character. We spent two nights and a day at Fort Snelling. Some of the officers were greatly surprised by a celestial phenomenon of a very extraordinary character, which had been observed for several nights past. A star had been seen, night after night, rising in the East as usual, and starting on its course toward the South. But instead of continuing that course across the meridian, as stars invariably had done from the oldest antiquity, it took a turn for the North, sank toward the horizon and finally set near the north point of the horizon. Of course, an explanation was wanted.

My assurance that there must be some mistake in the observation could not be accepted, because this erratic course of the heavenly body had been seen by all of them so plainly that no doubt could exist on the subject. The men who saw it were not of the ordinary untrained kind, but graduates of West Point, who, if anyone, ought to be free from optical deceptions. I was confidently invited to look out that night and see for myself. We all watched with the greatest of interest.

In due time, the planet Mars was seen in the East making its way towards the South. "There it is!" was the exclamation.

"Yes, there it is," said I. "Now, that planet is going to keep right on its course toward the South."

"No, it is not," said they: "you will see it turn around and go down towards the north."

Hour after hour passed and as the planet continued its regular course, the other watchers began to get a little nervous. It showed no signs of deviating from its course. We went out from time to time to look at the sky.

"There it is," said one of the observers at length pointing to Capella, which was just rising a little to the East of North; "there is the star setting."

No, it isn't," said I. "There is the star we have been looking at, now quite inconspicuous near the meridian, and that star which you think is setting is really rising and will soon be higher up."

A very little additional watching showed that no deviation of the general laws of Nature had occurred, but that the observers of previous nights had jumped at the conclusion that two objects, widely apart in the heavens, were the same.

Those words came from a book called "Reminiscences of an Astronomer," published in 1903 by Simon Newcomb, who was in charge of the American Nautical Almanac office from 1877 until 1897. This event actually occurred in 1860. The similarity to modern UFO's is overpowering. A star cavoring across the sky! Military officers, as reliable and responsible witnesses!

Light Reflections

For you who wear eyeglasses, there is still another way of seeing a UFO. Look directly at some bright light. There are a lot of them around the room here. Keep your head turned slightly to the left or right and you will undoubtedly see a faint, roundish, out-of-focus spot. This is light reflected from the front surface of your eyeball, back to the lens and then back into the pupil of your eye. A bright source, to one side and slightly behind you, can also reach your eye through reflection from the internal surface of the spectacle lens.

To this moment I haven't mentioned still another method of detecting saucers — one of simultaneous visual and radar sightings. In view of the physical properties of the eye, the surprising fact is that so few cases have been reported.

The previous speaker in his document violently discredits my work and reveals his ignorance of the phenomenon of radio propagation of these radar waves. It so happens that during that three-year service in the Navy, which has already been referred to, and 22 years since then as consultant to the Central Radio Propagation Laboratory of the National Bureau of Standards, I have had a little experience with this particular phenomenon and the conditions all of the potential afflictions that any complicated electrical gadget can suffer. But let me mention only one: mirage.

Let me explain briefly what a radar does. It sends out a pulse of radio waves. We know the direction, northeast for example. We know the elevation above the horizon. An echo returns. From the interval between the transmission and the return of the signal we know how far away the object is that reflected the pulse. We think, therefore, we detect a plane — or a UFO in flight — because the radar directs its pulse upward.

But we haven't any way of following the pulse in its path toward the target. A layer of warm, dry air or even a layer containing a few bubbles of warm air will bend the radar beam back to earth. This is what we call partial trapping and this is, for example, what happened in Washington in the famous sighting in 1952.

The reflection of the beam after it has been directed backward comes back from a distant building, a train or a ship. No wonder that planes that were sent out to intercept the radar UFO found nothing. In one such case a well-known writer on flying saucers wrote: "The discovery of visible saucers had been serious enough. The discovery now of invisible flying saucers is a frighten anyone."

I know of no reliable cases of simultaneous visual and radar sightings. In view of the physical properties of the eye, the surprising fact is that so few cases have been reported.

Time won't permit me to elaborate on still another relevant phenomenon. The Air Force appears to have neglected completely the psychological angle of mass hallucination. Back in 1919, in Spain, a not unrelated phenomenon occurred. Thousands of people — reliable people — swore that they had seen images of saints rolling their eyes, moving their hands, dripping drops of blood, even stepping out of their panels. One person would call out, "Look, there it goes!" and everyone else would look and they would see this phenomenon. There were many similar events recorded through history.

Many Hoaxes

Then there are hundreds and thousands, perhaps, of hoaxes, like that at the University of Colorado when some enterprising pranksters made hot air balloons from candles and plastic bags and it gave the university officials who were investigating the UFO phenomenon an opportunity to see how poor the evidence can be, a fact well known to the legal profession. This is still another point that the Air Force has sometimes failed to realize. Moreover, their poor questionnaire has only further confused an already confused picture.

Several times during this talk I have used the phrase "UFO's cavoring across the sky." I did so deliberately because it seems to be a favorite phrase of my good friend, Dr. J. Allen Hynek of Northwestern University, and consultant to the Air Force Project Blue Book. He has sometimes expressed doubts about the UFO because stars don't "cavor" across the sky.

Continued

What I have tried to show today is that many kinds of optical stimuli can produce weird effects. With all these kinds of phenomena masquerading as UFO's, many of them, like those related to the psychology of the human eye still practically not investigated, I think I can reasonably claim, applying the criterion of Sherlock Holmes, that we have not excluded all of the impossibles. I have shown that the arguments advanced in favor of the interplanetary nature of UFO's are fallacious. Their alleged high speeds and ability to maneuver, their alleged short distances are completely underestimated and they have natural explanations.

I think it is time for the Air Force to wrap up Project Blue Book. It has produced little of scientific value. Keeping it going only fosters the belief of persons that the Air Force must have found something to substantiate belief in the UFO's. In making this recommendation: I am not criticizing the present or recent administration of the project. But it's time that we put an end to chasing ghosts, hobgoblins, visions and hallucinations.

As for the true believers, bless their little hearts, let them go on believing in UFO's, fairies or Santa Claus, if they want to. Nothing will change their minds. They will go on forever demanding more dollars for investigation and more congressional investigation of the UFO's and the Air Force.

Incidentally, I would like to mention that a complete discussion of many of these phenomena appears in the book, "The World of Flying Saucers" by Lyle G. Boyd and myself.

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UFO ENCOUNTER II

Sample Case Selected by the UFO Subcommittee of the AIAA

By G. D. THAYER
National Oceanic and Atmospheric Administration

The Lakenheath England, Radar-Visual UFO Case, August 13-14, 1956

Introduction

The following story—a second example of the type of observation which forms the core of the UFO issue—has been selected by the UFO Subcommittee of the AIAA for publication not only because of its puzzling content, but also because of the multiplicity of observations. The author, a former member of the "Condon Committee" (University of Colorado UFO study team), discusses the case, but does not offer an explanation. The same was true for the first case, published in the July 1971 A/A, where the principal observers were highly qualified professionals making sightings in their line of duty. Both case studies are intended to give the reader a flavor of the observational residue material which underlies the UFO controversy. We hope he will give it his independent assessment as engineer or scientist.

On a pleasant August evening in 1956, the night-watch supervisor at the Lakenheath, England, Radar Air Traffic Control Center (RATCC), a U.S. Air Force noncommissioned officer, was startled by a telephone call from the Bentwaters GCA (Ground Controlled Approach) radar installation (see map) asking, "Do you have any targets on your scopes traveling at 4000 mph?" Thus began one of the strangest and most disturbing radar-visual UFO episodes on record.

There is a very large, confusing report on the Lakenheath-Bentwaters incident in the U.S. Air Force Project

was the name of the U.S. Air Force UFO investigation). At least three separate times unidentified radar echoes (UREs) were tracked by the GCA unit at Bentwaters before the telephone contact with Lakenheath; and although these are highly interesting events in themselves, they did not involve confirmatory visual and airborne radar contacts. A detailed account of these first three radar contacts can be found in an earlier paper by James McDonald (FSR 16, "UFOs over Lakenheath in 1956," 1970, pages 9-17). "Scientific Study of Unidentified Flying Objects" (Bantam Books, 1969; hereafter referred to as the "Condon Report") contains no account of these because the pertinent Bluebook files were obtained too late for inclusion. The Condon Report does contain an independent account of the primary incident at Lakenheath, as reported by the night-watch supervisor, not found in the Bluebook file; this separate report forms the most coherent account of the events at Lakenheath.

Following a brief description of the events at Bentwaters based on the Bluebook file, the Lakenheath incident will be described here based mainly on the night-watch supervisor's account.

Account of Observations

The four events at Bentwaters GCA (see map for plots of these radar tracks) took this order:

1. At 2130Z a URE (No. 1 in map) was picked up on the Bentwaters AN/MPN-11A GCA radar about 25-30 mi. to the ESE. (Note that Z time—zero meridian time—or GMT, is also local time in the Lakenheath-Bentwaters area.) This URE moved steadily on a constant

contact was lost about 15-20 mi. to the WNW of Bentwaters. The radar operator estimated the apparent speed of the URE as 4000 mph; but the transit time of 30 sec yields an estimate of 4800-6000 mph, and the operator's estimate of 5-6 mi. covered by the URE between PPI sweeps (2 sec apart) gives an estimate of 9000-10,800 mph. "The size of the blip when picked up was that of a normal aircraft target. [It] diminished in size and intensity to the vanishing point before crossing the entire radar screen."

2. A "few minutes later," say roughly 2135Z, a group of 12-15 UREs was picked up on the PPI about 8 mi. SW of Bentwaters (No. 2 in map). These echoes "appeared as normal targets," and "normal checks made to determine possible malfunctions of the GCA radar failed to indicate anything was technically wrong." These UREs appeared to move as a group toward the NE at varying speeds reported as 80-125 mph. The group covered a "6-7-mi. area" on the scope. These echoes "faded considerably" at a point 14 mi. NE of Bentwaters, but were tracked to a point about 40 mi. NE of Bentwaters when they merged into a single strong echo "several times larger than a B-36 return under comparable conditions." This single echo remained stationary at the point 40 mi. NE of Bentwaters for 10-15 min., then moved to the NE for 5-6 mi., stopped again for 3-5 min., and finally moved out of the range (50 mi.) of the radar at 2155Z. The average apparent speed of the URE group for the time it was in motion can be readily calculated as between 290 and 700 mph (58 mi. in 5-12 min.—again differing from

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about 500 mph with no acceleration or deceleration apparent—the changes varying in indicated length from 8 to 20 mi., with stationary episodes of 3-6 min intervening.

There were visual sightings at Lakenheath during this time, but the reports of these are confusing and inconclusive. Perhaps of greater significance are the investigating officer's statements that "two radar sets [Lakenheath GCA and RATCC] and three ground observers report substantially the same," and "the fact that radar and ground visual observations were made on its rapid acceleration and abrupt stops certainly lend [evidence] to the report."

After "about 30-45 min.," or 2340 to 2355Z, the RAF "scrambled" a de Havilland "Venom" night fighter aircraft to investigate the Lakenheath UFO.

(At this point, the account of the Lakenheath night-watch supervisor and that of the Bluebook report diverge. First, the watch supervisor says the aircraft was from a field near London and was picked up on the RATCC radar inbound from the southwest at a range of 30-45 mi. from Lakenheath. According to the Bluebook file, the fighter took off from Waterbeach RAF station (see map), which is only 20 mi. SW of

Lakenheath and well within radar range—given as 50-60 mi. for targets at 5000 ft or above. Second, the watch supervisor relates that the Venom was vectored to the then stationary URE (No. 5) at a position about 16 mi. SW of Lakenheath, and that this was the aircraft's first and only contact with any UFO. According to the Bluebook account, "the a/c flew over Lakenheath and was vectored to a radar target 6 mi. east of the field (No. 6). Pilot advised he had a bright white light in sight and would investigate. At 13 mi. west [of Lakenheath] he reported loss of target and white light [N.B.—this implies that the pilot had the unknown on his airborne radar as well as having had visual contact]. Lakenheath RATCC vectored him to (presumably) another target 10 mi. east of Lakenheath and pilot advised target was on radar and he was "locking on." This target would be URE No. 5, identified by the watch supervisor as being about 16 mi. SW of Lakenheath. Except for this discrepancy, the account of the Lakenheath watch supervisor agrees with the Bluebook file from here on in virtually every detail.)

The Venom fighter was vectored by the RATCC radar to the sight of the URE, which (according to the night-watch supervisor) was station-

ary at the time at 15,000-20,000 ft about 16 mi. SW of Lakenheath. Shortly after Lakenheath told the pilot the URE was one-half mile dead ahead of the interceptor, the pilot radioed, "Roger, . . . I've got my guns locked on him." (The pilot refers to a radar fire-control system.) This pilot later told a U.S. Air Force investigator that the URE was "the clearest target I have ever seen on radar." There was a brief pause after the Venom pilot said he had gunlock on the URE and then he said, "Where did he go? Do you still have radar?" The Lakenheath RATCC informed him that the URE had made a swift circling movement and had gotten behind the Venom. The pilot then confirmed that the target was behind him and said that he would try to shake it. Since no tail radar is mentioned, the pilot presumably saw the UFO behind him.

The pilot of the Venom interceptor tried numerous evasive maneuvers, but he was unable to lose the URE, which the Lakenheath RATCC radar continuously tracked as a distinct echo behind the aircraft; this implies that the separation was greater than about 500 ft. According to the Bluebook report, "Pilot advised he was unable to 'shake' the target off his tail and requested assistance." After about 10 min., the first Venom pilot, who reportedly sounded "pretty scared," said that he was returning to base because he was running low on fuel. He asked Lakenheath RATCC to tell him if the URE followed him on the radar scopes. According to the Lakenheath watch supervisor, the URE appeared to follow the Venom only a "short distance" as the pilot headed SSW toward London [or Waterbeach], and then it resumed a stationary aspect.

A second Venom was vectored by Lakenheath RATCC toward the position of the URE; but before he got close enough to pick up anything, he radioed that he was experiencing engine malfunction and was returning to his base. The following conversation was monitored by the Lakenheath watch supervisor between the two Venom pilots:

Number 2: "Did you see anything?"

Number 1: "I saw something, but I'll be damned if I know what it was."

Number 2: "What happened?"

Number 1: "He—or it—got behind me and I did everything I could

BENTWATERS-LAKENHEATH URE/UFO CONTACTS August 13-14, 1956.

No.	Time	Radar contacts	Visual contacts	Remarks
1	2130 Z	Bentwaters GCA, AN/MPN-11A.	Not confirmed.	Not AP.
2	~2135—2155 Z	Bentwaters GCA.	Not confirmed.	Possible AP.
3	2200 Z	Bentwaters GCA.	Not confirmed.	Not AP; possibly same as No. 4.
4	2255 Z	1. Bentwaters GCA.	2. Bentwaters control tower. 3. C47 a/c at 4000 ft over Bentwaters. Apparently same time as radar contact.	Not AP; No. 5 could have been same "object."
5	0010—0330 Z	1. Lakenheath RATCC, CPS-5. 2. Lakenheath GCA, CPN-4. 3. Venom airborne, A-1. All coincidental at various times [airborne contact when a/c was on scene].	4. Ground observations not confirmed. 4. Pilot of Venom made visual contact coincidental with the three radar contacts.	Not AP or radar malfunction; may have been No. 4 from Bentwaters.

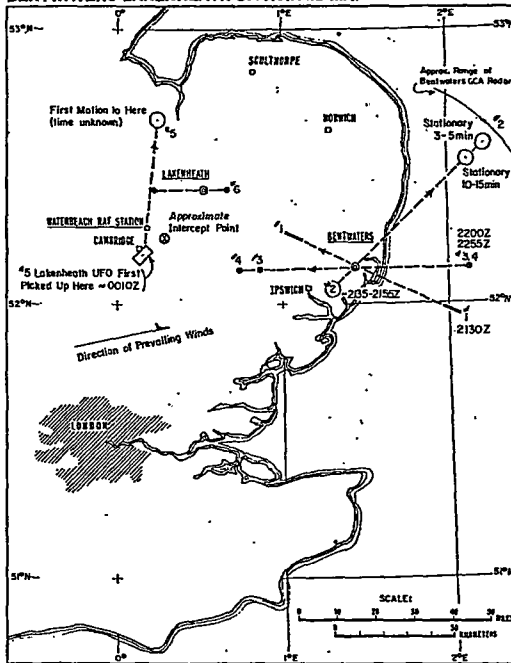
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3. At 2200Z another URE (No. 3 in map) was picked up about 30 mi. east of Bentwaters and tracked to a point about 25 mi. west of the station; the tracking period was about 16 sec. The radar operator estimated the apparent speed of this URE to be "in excess of 4000 mph" but the time and distance figures indicated a speed of roughly 12,000 mph. All the returns "appeared normal, except for the last, which was slightly weaker than the rest." The radar operator indicated that the "[re- turn] disappeared . . . by rapidly moving out of the GCA radiation pattern." No further UREs are mentioned in the Bluebook report on the Bentwaters incident; and considering the confusion prevailing in reported times in Bluebook reports and the similarity of the reported tracks and speeds, possibly this URE and No. 4, which instigated the phone call to Lakenheath, may in fact be the same.

4. According to the Bluebook report on the Lakenheath incident, the Bentwaters GCA radar, at 2255Z, picked up a URE 30 mi. east (of Bentwaters) moving to the west at an apparent speed of "2000 to 4000 mph." In the map shown at right, the track of the URE appears identical with No. 3 except for the vanishing point. This URE then "disappeared on scope 2 mi. east of station and immediately appeared on scope 3 mi. west of station . . . it disappeared 30 mi. west of station on scope." If the word "immediately" means that the URE was picked up on the same PPI sweep, after 180 deg. rotation from east to west, it would imply that the apparent motion covered 5 mi. in 1 sec, an inferred speed of some 18,000 mph. At this rate the URE would have covered the 60 mi. track in about 12 sec (6 PPI sweeps). As pointed out, this may have been URE No. 3 from the Bentwaters Bluebook report, which is estimated at 12,000 mph, although the reported times are different.

At this point, someone at the Bentwaters GCA station called the Lakenheath RATCC station asking the night-watch supervisor there if he had any "4000-mph targets" on his scopes and describing the track of URE No. 4. The caller stated that the control tower at Bentwaters had reported seeing "a bright light passing over the field from east to west at terrific speed at about 4000-ft altitude." Picked up here - 0010Z

BENTWATERS-LAKENHEATH SIGHTINGS MAP



pilot of a C-47 aircraft flying over the station at 4000-ft altitude reported a "bright light streaked under his aircraft traveling east to west at terrific speed." The Lakenheath watch supervisor, although admittedly skeptical of this report, "immediately had all controllers start scanning the radar scopes . . . using full MTI (moving target indicator), which eliminated entirely all ground returns."

Shortly after this search began, one of the controllers noticed a stationary echo on the scopes at an indicated position 20-25 mi. SW of Lakenheath (No. 5 in map). Note the position of this initial contact on the map; it is almost directly in line with the path of UREs 3 and 4 from the Bentwaters report. Although the MTI should have eliminated the

less than 40-50 knots, the radar personnel could detect "no movement at all" from this URE. The watch supervisor called the GCA unit at Lakenheath to see if they had the same echo on their scope and "they confirmed the target was on their scope in the same location." As the Lakenheath RATCC personnel watched this URE, it suddenly began moving in a NNE direction at a speed that they subsequently calculated to be 400-600 mph. In their words "there was no . . . build-up to this speed—it was constant from the second it started to move until it stopped."

The watch supervisor contacted local AFB command personnel and kept them informed of the happenings from this point on. The URE made several changes in direction

to get behind him and I couldn't see the damnedest thing I've ever seen."

The pilot of *Venom*, Number 1 also stated that he had radar gunlock for several seconds so "there was something there that was solid." Following this strange "chase," the URE did not immediately disappear from the Lakenheath RATCC radar. In the words of the night-watch supervisor, "The target made a couple more short moves, then left our radar coverage in a northerly direction—speed still about 600 mph. We lost target outbound to the north at about 50-60 mi., which is normal if aircraft or target is at an altitude below 5000 ft (because of the radiation lobe of that type radar [a CPS-5])." The time of loss of contact was not given by the watch supervisor; according to the Bluebook file the time was about 0330Z.

The night-watch supervisor also stated "all speeds in this report were calculated speeds based on time and distance covered on radar. This speed was calculated many times that evening. . . ."

Discussions

The interpretations and analyses that have been made of this intriguing UFO incident are almost as numerous as the investigators themselves. The investigating U.S. Air Force officer wrote: "My analysis of the sightings is that they were real and not figments of the imagination. The fact that three radar sets picked up the targets simultaneously is certainly conclusive that a target or object was in the air. The maneuvers of the object were extraordinary; however, the fact that radar and ground visual observations were made on its rapid acceleration and abrupt stops certainly lend [credence] to the report. It is not believed these sightings were of any meteorological or astronomical origin." We quote this statement, although these are hardly the words of a careful, scientific investigator.

J. Allen Hynek, the well-known UFO consultant to the Air Force, wrote in part: "It seems highly unlikely, for instance, that the Perseid meteors could have been the cause of the sightings, especially in view of the statement of observers that shooting stars were exceptionally numerous that evening, thus implying that they were able to distinguish the two phenomena. Further, if any credence can be given

sighted visually and by radar, the meteor hypothesis must be ruled out."

The Condon Report in its analysis of this incident states: "In conclusion, although conventional or natural explanations certainly cannot be ruled out, the probability of such seems low in this case and the probability that at least one genuine UFO was involved appears to be fairly high." The meaning of this last statement (by the present author) has puzzled some later investigators; in this context a "genuine UFO" was meant to imply precisely that; there was a material object, it was flying (in the sense of moving through the air), and it was (obviously) unidentified. Hence, the conclusion that there was a "genuine UFO" was not meant to imply, for example, that the UFO was necessarily of extraterrestrial origin.

In Chapter 5 of the Condon Report, "Optical and Radar Analyses of Field Cases," the analysis of this report concludes with: "In summary, this is the most puzzling and unusual case in the radar-visual files. The apparently rational, intelligent behavior of the UFO suggests a mechanical device of unknown origin as the most probable explanation of this sighting. However, in view of the inevitable fallibility of witnesses, more conventional explanations of this report cannot be entirely ruled out."

Philip Klass (private communication) believes that the Lakenheath RATCC radar was malfunctioning because of a faulty MTI unit; he feels that once the radar evidence has been explained, the rest can be accounted for by either confusion of witnesses or conventional causes.

The reader may draw his own conclusions as to which of the above "explanations" seems the most likely. However, a few things are worth pointing out in summary:

1. The possibility that meteors might have accounted for these events seems to be easily ruled out, and it was so discounted by early investigators.
2. Visual mirage is ruled out by the large angles (i.e., simultaneously seen over a control tower and under an aircraft) at which the UFOs were observed and by the manner and directions of movement.
3. Anomalous propagation of radar seems equally unlikely as an over-all explanation. All but No. 2

apparently moving either almost opposite to or across the prevailing winds, ruling out ground objects seen by partial reflections from moving elevated inversions (or other layered structures). Such reflections produce false targets that appear to be at twice the range and twice the height of the reflecting layer, and appear to move in the direction of the prevailing wind but at an apparent speed twice as great. Thus the group of echoes (No. 2) observed from 2135 to 2155Z moved generally from the SW (exact azimuth not given) at "80-125 mph," commensurate with winds of 40-63 mph from the same direction. The actual winds are given as 260 deg/45 mph at 10,000 ft and 260 deg/63 mph at 16,000 ft. Although the reported stationary episodes of the merged echoes at the two points shown on the map would, taken at face value, rule out the moving-layer reflection hypothesis, there remains a possibility that this may have been the cause of the No. 2 URE contact at Bentwaters. This hypothesis can be ruled out, however, for the other URE episodes at Bentwaters, and particularly for those at Lakenheath.

The "disappearance" of URE No. 4 as it overflew the Bentwaters GCA station was mentioned in the Condon Report as being "suggestive of AP" [anomalous propagation], and so it is. The elevated-layer partial reflection phenomenon that causes this type of AP involves a reflection coefficient that is typically proportional to the inverse sixth power of the elevation angle of the radar beam (cf. Wait, 1962; Thayer 1970). Thus caused by a moving layer, if such a false target appears to approach the radar site, the signal will drop below the noise level when the beam elevation exceeds some critical angle; the false target will often reappear on the other side of the radar when the beam angle once more drops below the critical value. With a fixed-elevation PPI display radar, this results in a "zone of invisibility" around the site with a radius on the order of 5-15 mi. in which the target disappears.

Two additional factors seem to point to AP as a possible cause for URE No. 4:

1. Radar operators who are familiar with their sets will not normally report the "disappearance" of a target unless they do not expect it.

Going abroad? ...think of us!

The AIAA now maintains two fully chartered student branches in Europe—one at the Von Karman Institute in Brussels, and the other at the Institute of Aerodynamics at the University of Naples. In addition, we are now forming additional branches in Europe, Asia and Africa. In order to provide more services to these student branches, we are establishing an International Speakers Bureau.

We are asking all AIAA members who are planning to be abroad during the next six months and who are willing to speak to a college audience about a technical or general aerospace topic to complete and return the following form.

AIAA
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Return to: AIAA Student Programs
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(SPOKEN) _____I WILL BE ABLE TO ADDRESS STUDENT
GROUPS IN:A. THE CITIES I AM NOW SCHEDULED TO
VISIT B. OTHER CITIES IN THE SAME GENERAL
AREA

SIGNATURE _____

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which would preclude targets that enter the radar's normal "blind zone" (if it has one).

2. The target was "lost" at 2 mi east but reacquired at 3 mi. west, an asymmetry that is possible with AP but not usual with radar "blind zones."

However, a strong factor argues against the AP hypothesis in this instance: the URE was moving almost opposite to the prevailing winds. In addition, because of the apparent speed of the URE, it should have reappeared about 3.5 mi. west of the radar on the second PPI sweep after "losing" it 2 mi. east (on the first sweep it should have been almost over the radar, and probably not visible to it), so that the "asymmetry" can be assigned to the "digital" sampling by the PPI sweep-scan display. It is therefore most unlikely that URE No. 4 was caused by AP, a conclusion also reached in the Condon Report.

The Lakenheath episode (URE No. 5) is even more unlikely to have been caused by AP. That the complicated, stop-and-go maneuvers described by the Lakenheath night-watch supervisor could have been caused by AP returns, and at that on two different radars operating on different frequencies and scan rates, is almost inconceivable. Ghost echoes have often been observed that will appear to "tail" an aircraft echo—sometimes the radar will even track a jet-exhaust plume—but such echoes never stop following the aircraft and become stationary, as did the Lakenheath URE.

In summary, although AP may possibly have been a factor in the No. 2 Bentwaters sighting, it is not possible to assign the rest of the events reported to propagation effects, even aside from the visual confirmations.

Possible malfunction of radar equipment, and especially possible malfunction of the MTI on the Lakenheath RATCC radar, has been suggested as a cause of these UREs. It is true that a malfunctioning MTI unit could conceivably produce false echo behavior similar to that observed at Lakenheath. However, the coincident observation of the URE by the Lakenheath GCA radar, a different type, and later by the Venom's airborne radar, seems to rule out this hypothesis. The detection of an apparently stationary target while the radar was on MTI is not as surprising as it seems. A vi-

brating or rapidly rotating target will show up on MTI radar even if it is not otherwise in motion.

Thus, none of the conceivable "simple" explanations for the events at Bentwaters and Lakenheath seems to hold up under investigation. Moreover, the credibility of the accounts is increased by the number of redundant radar and visual contacts made coincidentally. The table on page 62 summarizes these redundancies, which are seen to be present primarily for events No. 4 and 5 (Bentwaters URE-UFO No. 4 and the Lakenheath UFO).

One slightly disturbing aspect of these contacts is that the Lakenheath RATCC radar operators failed to "pick up" Bentwaters UREs 1 through 4, even though they should have been well within range. (A target at 5000 ft, for example, should have been visible anywhere west of the coastline in the vicinity of Bentwaters). Note that URE No. 1 was headed almost directly at Lakenheath at the time it was lost by Bentwaters GCA. Of course, it is possible that the radar did pick up these objects and that, for various possible reasons, the operators did not notice or report them.

Conclusions

In conclusion, with two highly redundant contacts—the first with ground radar, combined with both ground and airborne visual observers, and the second with airborne radar, an airborne visual observer, and two different ground radars—the Bentwaters-Lakenheath UFO incident represents one of the most significant radar-visual UFO cases. Taking into consideration the high credibility of information and the cohesiveness and continuity of accounts, combined with a high degree of "strangeness," it is also certainly one of the most disturbing UFO incidents known today.

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NEWS RELEASE

PLEASE NOTE DATE



DEPARTMENT OF DEFENSE
OFFICE OF PUBLIC AFFAIRS
Washington 25, D. C.

IMMEDIATE RELEASE

July 21, 1960

NO. 812-60
OXford 75131

FACT SHEET AIR FORCE UFO REPORT

A total of 173 sightings of unidentified flying objects or aerial phenomena were reported to the USAF during the period 1 January to 30 June 1960. Of these 173 cases 139 have been analyzed and 34 are pending.

Of the 139 cases analyzed 51 were categorized "Insufficient Evidence." Of these 51 cases 37 were so categorized because there were no additional witnesses. It is the Air Force policy to attempt to determine the probable cause of these sightings. However in keeping with good scientific practices they are categorized for statistical purposes as "insufficient evidence." To give full credit to these particular sightings would be comparable to accepting as fact the results of an experiment which was conducted only once.

During this same period for 1959 the number of sightings reported to the Air Force was 175. Due to the fact that several reports usually reach the Air Force after the end of a period, it is safe to assume that the 1 Jan - 30 June period of 1960 will slightly exceed that of 1959. However, the 173 cases for the first half of 1960 represents a slight decrease from the 189 cases reported to the Air Force for the period 1 July through 31 December 1959.

During the period of this report there were 41 cases reported from foreign countries. The majority of these sightings took place in the Pacific and Far East area.

It is apparent that the public is taking the reporting of unidentified aerial phenomena more seriously. During this reporting period there was only one instance of an actual hoax.

The months of April and June 1960 show a fairly large percentage of astro-

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UFO Report

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The total number of sightings reported to the United States Air Force since 1947 are as follows:

<u>YEAR</u>	<u>OBJECTS SIGHTED AND REPORTED</u>
1947	79
1948	143
1949	186
1950	169
1951	121
1952	1501
1953	425
1954	429
1955	404
1956	778
1957	1178
1958	573
1959	364
1960 (through 30 June)	173
	<u>6523</u>

Reporting, investigation, analysis and evaluation procedures have improved considerably since the first sighting of unidentified flying object was made on 27 June 1947. The study and analysis of reported sightings of UFO's is conducted by a selected scientific group under the supervision of the Air Force.

Dr. J. Allen Hynek, Head of the Department of Astronomy and Director of the Observatory at Northwestern University, is the Chief, Scientific Consultant to the Air Force on the subject of Unidentified Flying Objects.

The selected, qualified scientists, engineers, and other personnel involved in these analyses are completely objective and open minded on the subject of UFO's. They apply scientific methods of examination to all cases in reaching their conclusions. The attempted identification of the phenomenon observed generally must be derived from human impressions and interpretations because scientific devices or measurements are not available. The data in the sightings reported are almost invariably subjective in nature. However, no report is considered unsuitable for study and categorization.

General categories of identification are balloons, aircraft, astronomical, other, insufficient data, satellites and unidentified.

Approximately 4,000 balloons are released in the U. S. every day. There are two general types of balloons: weather balloons and upper air research balloons. Balloons will vary from types 4 feet in diameter to large types 200 feet in

having multi-jet pods or "saucers" in "V" formation; fiery red or orange streaks frequently reported as

The astronomical objects and other celestial bodies, clouds, the planets Venus, conventional, moving objects, hand-held binoculars used in UFO reports.

The "other" category includes blimps, clouds, sun-dogs, plays, flares, fireballs, Canadian geese flying off their bodies; search disc-like shapes.

The insufficient data is a pertinent item of information for a valid conclusion. The witness; description of altitude; exact time and location is not used as a conventional "unidentified objects." The data received is in that particular report information to reach a valid conclusion. An observer should send the Air Force activity. The office for analysis and

A sighting is considered to contain all the data for one valid hypothesis on the description of the object or phenomenon.

In its Project Blue Book, the Air Force showed that the number of sightings has been reduced to 3 percent of the total.

Unidentified sightings

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country; and finally, no physical or material evidence, not even a minute fragment of a so-called "flying saucer" or space ship has ever been found.

The Air Force emphasized the belief that if more immediate detailed objective observational data could have been obtained on the unidentified or unexplained sightings, these, too, would have been explained satisfactorily.

The Air Force, assigned the responsibility for the Air Defense of the United States, will continue to investigate all reports of unusual serial objects over the U. S. including objects that may become labeled Unidentified Flying Objects. The services of qualified scientists and technicians will continue to be utilized to investigate and analyze these reports, and periodic public statements on the subject will be made as warranted.

The Air Force Inspector General's Brief, dated 24 December 1959, contained a notice to all unit Commanders that UFO reports are serious business since they are vitally involved in the Air Force's air defense mission. This Brief stressed that Commanders are responsible for seeing that UFO sightings are investigated and evaluated quickly, thoroughly and accurately. The Brief referred to Air Force Regulation 200-2 concerning unidentified flying objects which outlines the Air Force's obligation to keep the public adequately informed on this subject and also stresses the fact that UFO sighting reports are not to be classified. If an UFO report is classified it is classified for other reasons than the UFO sighting itself.

The Air Force is charged by many private UFO groups with possession of classified information which concludes or proves that space ships from other planets exist and are visiting our atmosphere. Nothing could be further from the truth. The Air Force possesses no information, classified or unclassified, which proves this contention. Many individuals associated with these private UFO organizations are self-appointed authorities on UFOs and consider themselves entitled to be unofficial advisors to the United States Air Force Intelligence Community. Since they are not charged under law with these responsibilities it would be entirely inappropriate and even dangerous at times to exercise the Intelligence system in order to give them, or their organizations, any notoriety or publicity. It is an interesting fact that most of these individuals fail to recognize the fact that there is such a thing as legitimate classified security information. For the past thirteen years these groups have repeatedly stated that their organizations possess documented evidence proving the existence of space ships from other planets. However, when asked as patriotic citizens to deliver this evidence to the United States Air Force or other government agencies they have refused to do so. The obvious conclusion is that they do not possess this information or evidence proving the existence of space ships.

From time to time the Air Force has been asked the cost of conducting the UFO program. It is impossible to estimate the exact amount of funds expended by the Air Force in investigating reported sightings of unidentified flying objects because in addition to the entire facilities of the Aerospace Technical Intelligence Center, the entire facilities of the nation's scientific and technical community are at the disposal of the evaluators, and the degree of use varies with each case. Also, investigation in the field can involve individual Air Force base personnel and special investigative units and again, in these instances the amount of time expended and the number of personnel assigned to a specific sighting will vary with each case.

END

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~~CONFIDENTIAL~~

2 June 1955

MEMORANDUM FOR: Plans and Policy Staff, O/DCI

ATTENTION : [redacted]

25X1

SUBJECT : Study "BRAINWASHING"

The report you requested on "BRAINWASHING" is attached.

FOR THE DIRECTOR OF TRAINING:

[redacted] Chief
Assessment and Evaluation Staff

25X1

Mr. Baird:

[redacted] of Mr. Bissell's Staff called and requested a copy of the study "BRAINWASHING". As a matter of courtesy I cleared with [redacted] acting Chief of PP, prior to sending it. He indicated that any Agency person having a legitimate interest might receive a copy of this report. I sent this report directly, since [redacted] stated he needed it immediately and would send for it by special courier, otherwise I would have transmitted it through your office.

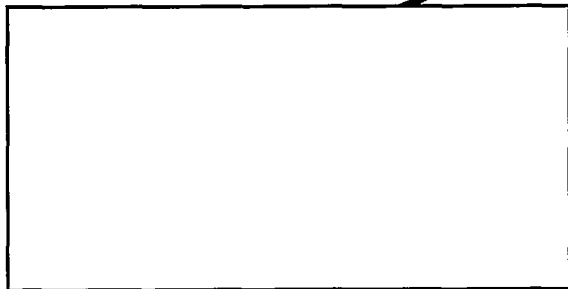
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EO-6004

~~CONFIDENTIAL~~

JUL 14 1955

MEMORANDUM FOR: Maj. Gen. Richard C. Lindsay, USAF
Director of Plans
Deputy Chief of Staff, Operations
Headquarters, U. S. Air Force

SUBJECT: Brainwashing

1. Attached are copies numbered 18 and 19 of a study of Brainwashing. Copy 18 is for the reference and retention of you and your staff. Copy 19 is enclosed on the assumption you may wish to send it to Mr. Albert D. Biderman, Project Officer, Intelligence Research Branch, Maxwell Air Force Base, Alabama, who, I understand, is working on a similar project for the Air Force.

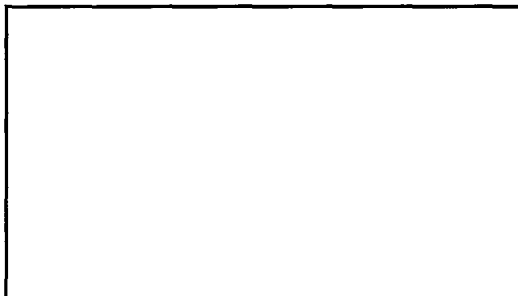
2. Appreciation is expressed for the cooperation of Lt. Col. James L. Monroe of your staff in making accessible much data, which helped greatly in the preparation of this report.

FOR THE DEPUTY DIRECTOR, PLANS:



25X1

Attachments
As mentioned above



25X1

cc: OTR-2

~~CONFIDENTIAL~~

~~SECRET~~

William 3+1

CONFIDENTIAL

19 November 1955

MEMORANDUM FOR: [redacted]
Executive Assistant to DCI

SUBJECT: Assessment and Evaluation Staff, OTR,
Study on "Brainwashing"

1. Subject study was prepared by the Assessment and Evaluation Staff at the specific request of [redacted] PP-DD/P.

2. It is my understanding that [redacted] reproduced the study and, though I have not read the reproduction, I believe it is essentially the same as that prepared by the A & E Staff. I do not know what distribution [redacted] staff has made of the PP edition of Brainwashing, but I am sending [redacted] a copy of this memorandum and assume that he will advise you what distribution has been made.

3. With the permission of Chief, PP, the Office of Training has made distribution of the original study to the following individuals:

[redacted]

Mr. Robert Amory
Assistant Director for Scientific Intelligence
Assistant Director for Current Intelligence
Chief, FI
Chief, FE
Chief, SE
Chief, NEA
Chief, EE
Chief, SR
DD/P

[redacted]

Chief, Medical Staff

[redacted] USAF

~~SECRET~~ **CONFIDENTIAL**

~~SECRET~~

~~CONFIDENTIAL~~

SUBJECT: Brainwashing

4. You remarked that the Director read the study on Brainwashing, but you did not add whether he thought the study had merit or further usefulness. Sometime at your convenience, I would be glad to hear what the Director thought of the study.

SIGNED

MATTHEW BAIRD
Director of Training

cc: C/PP

MB:lbc

Orig. & 1 -
1 - C/PP (for Eyes Only)
1 - DTR (yellow) ✓

→ Hand-carried by DTR
courier 21 NOV 1956

25X1

- 2 -

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~~CONFIDENTIAL~~

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Executive Registry

7-1499

~~CONFIDENTIAL~~
22 June 1955

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Brainwashing

1. Attached is Copy No. 1 of a study entitled "Brainwashing." This study was undertaken by the Assessment and Evaluation Staff in my office at the request of Chief, PP. It is transmitted to you as a matter of information.

2. The principal author of this study is [redacted] Princeton '48, a relatively new member of the Assessment and Evaluation Staff. Although [redacted] did the lion's share of the work, the product can be taken as representing the coordinated opinions of the Assessment and Evaluation Staff. This staff is currently headed by [redacted]

3. While the opinions expressed in the study may not be consistent with some which are widely held, the study does represent the real effort at a psychological analysis of this complex problem. It also tries to present the problem in proper perspective. This is of particular importance since brainwashing is an emotionally toned topic about which there is wide public misconception. While I am in no position to evaluate the professional aspects of the work, I am impressed with the way in which the material is integrated and presented, and with the complete honesty of the effort.

SIGNED

MATTHEW BAIRD
Director of Training

Attachment

cc: DDCI (w/Study Copy No. 2)

~~CONFIDENTIAL~~

~~SECRET~~

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From: The CIA and Overhead Reconnaissance,
The U-2 and OXCART Programs, 54-74.

25X1 by [redacted]

Secret [redacted] 25X1

Chapter 2

72

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As the deliveries of U-2 airframes to the testing site increased, a major logistic problem arose: how to transfer Lockheed employees from Burbank [redacted] without arousing a great deal of curiosity. The project staff decided that the simplest approach would be to fly the essential personnel [redacted] on Monday morning and return them to Burbank on Friday evening. Frequent flights were also necessary to bring in supplies and visitors from contractors and headquarters. Therefore, a regularly scheduled [redacted] flight [redacted] aircraft began on 3 October 1955. James Cunningham promptly dubbed this activity "Bissell's Narrow-Gauge Airline." Less than seven weeks after it started, a [redacted] aircraft [redacted] crashed on 17 November, killing all 14 persons aboard the plane, including the Project Security Officer, [redacted] four members of his staff, and personnel from Lockheed and [redacted]. This crash represented the greatest single loss of life in the entire U-2 program.⁴⁸

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U-2s, UFOs, AND OPERATION BLUE BOOK

High-altitude testing of the U-2 soon led to an unexpected side effect—a tremendous increase in reports of unidentified flying objects (UFOs). In the mid-1950s, most commercial airliners flew at altitudes between 10,000 and 20,000 feet and military aircraft like the B-47s and B-57s operated at altitudes below 40,000 feet. Consequently, once U-2s started flying at altitudes above 60,000 feet, air-traffic controllers began receiving increasing numbers of UFO reports.

Such reports were most prevalent in the early evening hours from pilots of airliners flying from east to west. When the sun dropped below the horizon of an airliner flying at 20,000 feet, the plane was in darkness. But, if a U-2 was airborne in the vicinity of the airliner at the same time, its horizon from an altitude of 60,000 feet was considerably more distant, and, being so high in the sky, its silver wings would catch and reflect the rays of the sun and appear to the airliner pilot, 40,000 feet below, to be fiery objects. Even during daylight hours, the silver bodies of the high-flying U-2s could catch the sun and cause reflections or glints that could be seen at lower altitudes and even on the ground. At this time, no one believed manned flight was possible above 60,000 feet, so no one expected to see an object so high in the sky.

**USAF review(s)
completed.**

⁴⁸ OSA History, chap. 7, pp. 17-19 (TS [redacted]). 25X1

25X1 Secret []

Chapter 2

73

Not only did the airline pilots report their sightings to air-traffic controllers, but they and ground-based observers also wrote letters to the Air Force unit at Wright Air Development Command in Dayton charged with investigating such phenomena. This, in turn, led to the Air Force's Operation BLUE BOOK. Based at Wright-Patterson, the operation collected all reports of UFO sightings. Air Force investigators then attempted to explain such sightings by linking them to natural phenomena. BLUE BOOK investigators regularly called on the Agency's Project Staff in Washington to check reported UFO sightings against U-2 flight logs. This enabled the investigators to eliminate the majority of the UFO reports, although they could not reveal to the letter writers the true cause of the UFO sightings. U-2 and later OXCART flights accounted for more than one-half of all UFO reports during the late 1950s and most of the 1960s.⁴⁹

HIRING U-2 PILOTS

In authorizing the U-2 project, President Eisenhower told DCI Dulles that he wanted the pilots of these planes to be non-US citizens. It was his belief that, should a U-2 come down in hostile territory, it would be much easier for the United States to deny any responsibility for the activity if the pilot was not an American.

25X1 The initial effort to find U-2 pilots was assigned to the Directorate of Plans Air/Maritime Division (AMD). The DDP had excellent contacts with [] which had a number of pilots trained by the US Air Force. AMD 25X1 operatives, therefore, contacted [] and asked that discreet inquiries be made to see if any US-trained fliers were interested in a high-paying covert project. Seven [] pilots were selected and brought to the United States for training. Meanwhile, AMD hired an expatriate Polish flier residing in England, and he also came to the United States for training.

25X1 In theory the use of foreign pilots seemed quite logical; in practice it did not work out. The Pole could barely speak English and could only fly light aircraft. Language was also a barrier for the [] although several were good fliers. Because Lieutenant Colonel Geary had taken a class of [] cadets through flying school at Randolph AFB in 1950, he got the job of training the []

25X1

" Information supplied by James Cunningham to [] (U).

~~TOP SECRET~~

TOP SECRET
D/DCI

Director's Meeting

Wednesday, 18 April 1951

The Director inquired as to why an NSCID on economic intelligence was being prepared. He questioned the advisability of such directive and advocated getting agreement among the agencies without writing a directive, *IF AN EXTENDED CONTROVERSY WOULD ENSUE.*

Mr. Dulles reported on the status of NSC 26/5 and said that his office was preparing a memorandum on the subject of oil denial in the Middle East.

The Director asked why certain items in [] daily were not in the CIA Daily, particularly Trygve Lie's interview with Tito, the Austrian item, and the Yugoslav item. He said that he would check [] daily which should be forwarded to O/CI to indicate the items which he believed should be in the CIA Daily.

25X1

25X1

Mr. Dulles raised the question as to whether the CIA Daily should comment on the general situation if there was no specific report. The Director stated that there should be no comment on a press report unless there was some urgent reason.

25X1

Mr. Dulles reported that he and Mr. [] had met with Matthews and Joyce of State and discussed the [] projects. The Director suggested that operational reports such as the progress of [] should be put into the CIA Daily.

25X1

25X1

The Director inquired as to the status of the directive establishing a new Projects Review Committee. Mr. Dulles said that he would present it to him on 19 April. He also said that he was worried about the cross dissemination of information in the agency.

Mr. Dulles said that he had received proposals from O/SO and O/PC to establish unified bases for USSR operations. It was agreed that this should be adopted.

Mr. Dulles presented a request for promotion of Lt. Col. []. The Director stated that such requests for promotion should be presented after the individual had served some considerable period of time in the agency.

25X1

~~TOP SECRET~~

DCI's, 18 April (cont.)



25X1

Mr. Jackson asked whether he should continue on his survey of O/PC. The Director said "yes", but that Mr. Dulles' survey of O/SO should suffice.

There was discussion of the [] project for training censors to detect secret ink. The Director stated that we should write to [] and tell them we didn't have the money to do it.

25X1
25X1

There was discussion of the status of the request on Defense to train 150 officers a year. The Director said that he would call General Bradley on this once again.

There was discussion of the status of liaison with State on Administrative matters. The Director said he would call Mr. Humelsine on this.

There was discussion of the agency draft policy. The Director stated that the policy should be to allow all persons to be drafted except the individuals who had peculiar qualifications and on whom we could make a good case. He pointed out that the individuals drafted or called to active duty as reserve officers could be reassigned to the agency.

LBK

TOP SECRET

Document Registry
4241

Central Intelligence Agency

30 JUL 1950

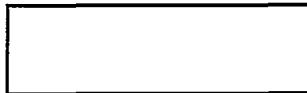
Office of the Director

Secretary of the Air Force
Information Service
Washington 25, D.C.

ATTN: Major L.J. Tacker

A check of our files does not reflect any contact by CIA employees with the persons named on page 2 of Mr. Maney's letter.

STAT



Assistant to the Director

Enclosures:

DOCUMENT NO. 54
NO CHANGE IN CLASS.
 DECLASSIFIED
CLASS. CHANGED TO: TS S C
NEXT REVIEW DATE: _____
AUTH: HR 70-2
DATE: 240281 REVIEWER:

Copey

STAT

Executive Registry
11-6424-a

8 0 JUL. 1959

Handwritten initials

Mr. James Hamey

[Redacted]

STAT

Dear Mr. Hamey:

Since the United States Air Force is the department of the Federal Government which deals with reports of unidentified flying objects, your letter of 21 July has been referred to that department for appropriate action.

Sincerely,

SIGNED

[Redacted Signature]

Executive Officer

STAT

STAT

O/DCI, [Redacted] rad 30 July 59

Distribution:

- Orig - Addressee
- 1 - JSE
- 1 - Maj. Tacker, USAF, w/basic
- 1 - FMC
- 1 - ER w/cpy basic

(EXECUTIVE REGISTRY FILE)

Handwritten mark

Executive Registry

6434 STAT

21 July 1959

Dear Mr. Dulles:

I am Deputy Director of the Interplanetary Intelligence of Unidentified Flying Objects, an organization interested in a scientific and objective study of unidentified flying objects (UFO), commonly known as "flying saucers", with an ultimate goal of determining their origin and nature.

Of late, many civilian UFO researchers have been alleging that the Central Intelligence Agency has become involved in the subject of "flying saucers". I shall now list several such allegations.

In the book Flying Saucers from Outer Space by Donald E. Keyhoe, I quote from page 242:

"It's another argument for slamming the lid down on saucer stuff.

"You mean they've done that?"

"No, but the Central Intelligence Agency recommended it," said Bronward. "At least that's what I heard."

"How did the CIA get into this?" I asked.

"The Air Force gave some of their top men a secret briefing. The CIA people advised them to put out a new report, debunking the saucers the way they did in '49 -- tell the public the project was ended, and then carry it on underground. It'd probably be top secret."

"They'd never get away with it -- not with all they've let out now."

"I don't think they'll even try. Some of the Intelligence boys were as mad as the devil at CIA for even suggesting it. Well, that's the picture. I thought you'd probably like to know -- it's turned into a knockdown fight."

From the Saucerian Bulletin, published by Gray Barker, Box 2228, Clarksburg, West Virginia, Volume 3, Number 4, Issue #19. I quote from Page 22, a letter from Richard Carl Ogden, 1233 9th Ave, West, Seattle 99, Washington, to Mr. Barker:

"Anyhow, the FBI knows I have traced this whole plot to hush up saucers to the Central Intelligence Agency. Consequently, it looks as if I will be getting a call this week from government agents who will probably try to silence me."

From Flying Saucers, published by Ray Palmer, Amherst, Wisconsin, Issue #31, FS-#8. I quote from Pages 13-14, an article by Corai Lorenzen:

"Some of the individuals who were supposedly lost to the UFO problem while affiliated with

Allen W. Dulles
21 July 1959
Page Two

the Air Force (Edward Ruppelt and Albert Chop, for instance) are now on the outside and talking their heads off. But none of these men have furnished the full answer. Why? Because -- it seems that the Air Force has been playing 'patsy' for eleven years to the Central Intelligence Agency. The men who work for that department are the cream of the intelligence crop. They don't transfer out of the service, and they are released only by death. They don't talk...they can't talk...they've been trained not to talk."

Mr. Dulles, I would like request that you answer the following questions...you must understand that your answers will be published, in the official publication of IIOUFO.

1- Is the CIA responsible for the official secrecy on UFOs?

2- Was the CIA responsible for the cancellation of the planned public showing of the authentic motion pictures of unidentified flying objects taken by Warrant Officer D; C. Newhouse, USN on 2 July 1952?

3- Since 1953, many civilian UFO investigators have been visited by three men, ordering them to cease investigating UFO. Among these people are:

[redacted]

[redacted] I have pretty good circumstantial evidence that [redacted] at least was visited by the United States Government. If CIA files disclose that any CIA personnel held any communication with the above-named persons.

4- According to Waverly Girvin, author of Flying Saucers on Common Sense, Mr. George Adamski was visited by two CIA agents on 17 December 1953, warning him not to mention the government a sin. Is this true?

Sincerely,

JAMES MANEY
Deputy Director
IIOUFO

Mr. Allen W. Dulles, Director
Central Intelligence Agency
Washington 25, D. C.

STAT
STAT

STAT

SENDER WILL CHECK CLASSIFICATION TOP AND BOTTOM

UNCLASSIFIED CONFIDENTIAL SECRET

CENTRAL INTELLIGENCE AGENCY
OFFICIAL ROUTING SLIP

TO	NAME AND ADDRESS	INITIALS	DATE
1	[Redacted]		
2	1717 H St.		
3	[Redacted]		
4	<i>Asst. to the DCI</i>		
5	<i>Room 229 ADMIN BLDG</i>		
6			

ACTION	DIRECT REPLY	PREPARE REPLY
APPROVAL	DISPATCH	RECOMMENDATION
COMMENT	FILE	RETURN
CONCURRENCE	INFORMATION	SIGNATURE

Remarks:

Before I refer this on to the Air Force which is our normal procedure, will you please check and see if any of your people have ever had contact with any of the individuals named in the last few paragraphs of this letter?

Frank, no record of contact here.

[Redacted]

Suspense date - 3 Aug 59

FOLD HERE TO RETURN TO SENDER

FROM: NAME, ADDRESS AND PHONE NO.	DATE
<i>Asst to the DCI</i>	<i>7/27/59</i>

Aircraft and Components (Continued)

- 657.140 Trainers
 - 657.141 Reciprocating
 - 657.142 Turboprop
 - Including shaft turbine and free turbine.
 - 657.143 Turbojet
 - Including turbofan.
 - 657.144 Ramjet and Pulsejet
 - 657.145 Rocket
 - 657.146 Nuclear
 - 657.149 Other
- 657.150 Reconnaissance
 - 657.151 Reciprocating
 - 657.152 Turboprop
 - Including shaft turbine and free turbine.
 - 657.153 Turbojet
 - Including turbofan.
 - 657.154 Ramjet and Pulsejet
 - 657.155 Rocket
 - 657.156 Nuclear
 - 657.159 Other
- 675.160 Tankers
 - 657.161 Reciprocating
 - 657.162 Turboprop
 - Including shaft turbine and free turbine.
 - 657.163 Turbojet
 - Including turbofan.
 - 657.164 Ramjet and Pulsejet
 - 657.165 Rocket
 - 657.166 Nuclear
 - 657.169 Other
- 657.170 Helicopters
 - 657.171 Reciprocating
 - 657.172 Turboprop
 - Including shaft turbine and free turbine.
 - 657.173 Turbojet
 - Including turbofan.
 - 657.174 Ramjet and Pulsejet
 - 657.175 Rocket
 - 657.176 Nuclear
 - 657.179 Other
- 657.180 Vertical Take-Off Aircraft and Converti-Planes
 - 657.181 Reciprocating
 - 657.182 Turboprop
 - Including shaft turbine and free turbine.
 - 657.183 Turbojet
 - Including turbofan.
 - 657.184 Ramjet and Pulsejet
 - 657.185 Rocket
 - 657.186 Nuclear
 - 657.189 Other
- 657.190 Unidentified Aircraft (May 62)
 - For unidentified flying objects, see 657.260.*
 - 657.191 Reciprocating (May 62)
 - 657.192 Turboprop (May 62)
 - Including shaft turbine and free turbine.
 - 657.193 Turbojet (May 62)
 - Including turbofan.
 - 657.194 Ramjet and Pulsejet (May 62)
 - 657.195 Rocket (May 62)
 - 657.196 Nuclear (May 62)
 - 657.197 Other (May 62)
- 657.200 MISCELLANEOUS AIRCRAFT
 - 657.210 Utility Aircraft
 - Including artillery spotting, crop dusting, liaison, sport, private transport, etc.
 - 657.220 Flying Boats, Amphibians, Seaplanes
 - 657.230 Drones
 - Including target planes.
 - 657.240 Gliders
 - 657.250 Lighter Than Air
 - Including balloons, dirigibles, etc.
 - 657.260 Unidentified Flying Objects (UFO)
 - 657.290 Other
 - Including unusual and unconventional aircraft, e.g., parasite planes.

Circumterrestrial Station (Continued)

- 662.300 COMMUNICATION SATELLITES (May 62)
Including passive reflector-type satellites.
For radio networks utilizing communications satellites, see 589.154; television networks utilizing communications satellites, 591.540; general networks utilizing communications satellites, 585.640; fixed radio networks utilizing communications satellites, 589.247; radio telephone networks utilizing communications satellites, 589.755.

663.000 Galactic Vehicles (Feb. 61)

- 663.100 SPACE AND PLANETARY PROBES
 - 663.110 Launching and Propulsion Power Plants
 - 663.120 Navigation and Control Systems Equipment
 - 663.130 Ground Based Equipment
 - 663.140 Probe and Probe Vehicle Carried Equipment
 - 663.150 Ground Support Equipment (May 62)
 - 663.160 Probe Structures (May 62)
 - 663.161 Re-Entry Structures (May 62)
 - 663.162 Shielding (May 62)
 - 663.163 Deceleration Equipment (May 62)
 - 663.164 Landing Equipment (May 62)
 - 663.180 Probe Auxiliary Equipment (May 62)
 - 663.181 Reconnaissance (May 62)
Including photographic and electronic.
 - 663.182 Weapons Launching (May 62)
 - 663.183 Communications (May 62)
For telemetering equipment, see 677.200.
 - 663.184 Space Vehicle Launching (May 62)
 - 663.185 Data Gathering Equipment (May 62)
 - 663.189 Other (May 62)
- 663.200 MANNED SPACE SHIPS
 - 663.210 Power Plants
 - 663.220 Launching Vehicle Power Plants
 - 663.230 Propulsion Power Plants
 - 663.240 Navigation and Control Systems Equipment
 - 663.250 Ground Based Equipment
 - 663.260 Space Ship Carried Equipment
 - 663.261 Manual Control Systems (May 62)

- 663.270 Ground Support Equipment (May 62)
- 663.275 Space Ship Structures (May 62)
 - 663.276 Re-Entry Structures (May 62)
 - 663.277 Shielding (May 62)
 - 663.278 Deceleration Equipment (May 62)
 - 663.279 Landing Structures (May 62)
- 663.280 Space Ship Auxiliary Equipment (May 62)
 - 663.281 Reconnaissance (May 62)
Including photographic and electronic.
 - 663.282 Weapons Launching (May 62)
 - 663.283 Communications (May 62)
For telemetering equipment, see 677.200.
 - 663.284 Space Vehicle Launching (May 62)
 - 663.285 Data Gathering Equipment (May 62)
 - 663.289 Other (May 62)

664.000 Astronautic Vehicle Countermeasures Equipment

For countermeasure systems, see 385.800; specific anti-astronautic vehicle weapons, see also 690.000.

- 664.100 EARTH LAUNCHED (Feb. 64)
- 664.200 SPACE VEHICLE LAUNCHED (Feb. 64)

J. COMMUNICATION AND NAVIGATION EQUIPMENT AND ELECTRONIC DEVICES

665.000 General (May 62)

For communication systems, see 585.000 et seq.; electrical quantity measuring instruments, 651.150; electron microscopes, 649.400; electronic physics instruments, 649.300; international communications organizations and conferences, 183.165; non-electric signaling equipment, 691.500; radio engineering, electronic, 371.300; electronic, telecommunication manufacturing machinery, 633.490; reconnaissance and communication equipment carried by astronautic vehicles, 662.000 and 663.000; communications wire or cable, 624.270.

- 665.050 SPARE PARTS NOT OTHERWISE IDENTIFIED (Feb. 64)

666.000 Telephone

- 666.100 STATION EQUIPMENT
Including handsets, booths, special military telephone instruments, etc.



COPY
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1233 Ninth Avenue West
Seattle 99, Washington
February 22, 1959

Mr. Allen W. Dulles, director
CENTRAL INTELLIGENCE AGENCY
2430 E Street N.W.
Washington, D. C.

Dear Mr. Dulles:

George Adamski, Star Route, Palomar Terraces, Valley Center, California has named the CIA in an exclusive interview I had with him here in Seattle as being guilty of a conspiracy to silence him on December 17, 1953. Acting in behalf in the presense of Mr. Adamski, Mr. Honey, Adamski's business agent filled out a questionnaire answering the following questions with the approval of Mr. Adamski.

1. With respect to the interview by Mr. Bill Ballance on radio station KNX in Los Angeles on December 7, 1953, three agents of the U.S. Government came to your home on December 17, 1953.
 - a. You told me that one of these agents was from the FBI, can you tell me where the other two agents came from? Mr. Honey's reply: "C.I.A."
 - b. What are the names of these agents and which one made threats against you? Mr. Honey's reply: "Can't reveal."

Upon further questioning of Mr. Adamski, I managed to get him to admit that it was the CIA agent that made threats against him but he said he didn't know his name but that he did know the name of the FBI. However, he said this man had nothing to do with it but was under orders of the CIA, and so because the FBI agent was a personal friend, he didn't want to name him, since he wasn't responsible for the plot to silence him.

- c. Did the government agent mention any particular law that he said justified the Attorney-General signing a warrant for your arrest or just what did he say you did wrong? Mr. Honey's reply: "No."
- d. Was the real purpose of this visit a conspiracy to intimidate you into silence so as to discourage you from telling the American people the truth about flying saucers and the people who ride in them? Mr. Honey's reply: "Yes."

Bear in mind the fact that Mr. Adamski also said, "Yes," to this question verbally. Mr. K. Honey acted as his agent in signing written answers to those questions.

In a book called FLYING SAUCERS AND COMMON SENSE by Mr. Waveney Girvan, the English publisher of Adamski's FLYING SAUCERS HAVE LANDED, the story was first given of how government agents had warned Mr. Adamski to keep quiet and not mention the government or its services. He was further warned that a warrant had been signed for his arrest and that the next time a thing like this happened he would be arrested. In error, Mr. Girvan said that the agents were all from the FBI. Mr. Adamski later corrected this error. It seems Mr. Girvan got his information from a letter Mr. Adamski had sent him, and apparently he had said government agents and this got to mean G-men, and finally it got into the book as FBI.

Anyhow, FBI records show that I have had them under investigation since 1956 regarding the part they played in this hoax on Mr. Adamski. I suggest you check my correspondence with J. Edgar Hoover of June 26, 1956 and July 1, 1956. In response

to my first inquiry to Mr. Hoover, his secretary, Helen W. Gandy, tried to dodge my inquiry by giving me false and misleading information. She told me to write the Better Business Bureau of Los Angeles for answers to my questions on the matter. A letter from them revealed they had no information and I was referred back to the Department of Justice. The Better Business Bureau was never named by Mr. Giryan in his book and Mr. Adamski was not in business in Los Angeles. Therefore, when Hoover's secretary asked me to write them, I knew before I even wrote the Better Business Bureau that this was foul play. So I sent another letter to Mr. Hoover about this and he sent FBI agents to my home on August 23, 1956 to give me so more false and misleading information. Mr. Zander told me that Mr. Adamski had claimed on a radio broadcast on December 7, 1953 at Los Angeles that his book had been cleared by the FBI and that this was false. He said this was in violation of a law, Title 18, U.S. Code, Section 709, "False Advertising or Misuse of Names to Indicate Federal Agency," and this accounted for the visit. However, he refused repeatedly to put his claims in writing. And for this reason, I didn't believe a word he told me because if he was telling the truth, he wouldn't have been afraid to sign written statements. I was told by the other FBI agent that I could investigate saucers all I wanted to but to leave the FBI out. He told me to forget this story.

I went to the law books to check up on Mr. Zander and the law he said Mr. Adamski violated. I discovered that amendment passed August 27, 1954 by Congress amended section to bring in the use of the name or initials of the FBI. But the radio interview in question took place in 1953. Mr. Zander then got a phone call from me on September 11, 1957 and I confronted him with this information. He answered by saying: "What are you—a lawyer?" I, of course, said, "No." However, neither am I a fool, because his story wasn't checking out with the facts. He then denied having accused Mr. Adamski of violating any law. I came back by saying that he had the law written down on a small piece of paper and that this was the sort of thing I feared when insisting at the time they put their story in writing so there won't be any backtracking or misunderstanding. To this he had nothing to say.

Then on August 22, 1958 Mr. Adamski came up here to Seattle on lecture and I had him bring with him the tape recording of the broadcast of December 7, 1953 to find out if Mr. Adamski had claimed that his book had been cleared by the FBI. Mr. Zander was still holding to this portion of his story—a story, mind you, that I was told came from Mr. Hoover himself in response to my letter. Upon listening to the tape, I discovered that he never made any such claim and that the whole story given me by the two FBI agents was a vicious hoax. I am enclosing a transcript to bear out this fact.

On August 26, 1958 I received an unsuspected phone call from an FBI agent, Mr. Edward G. Gough, who claimed he wanted to interview me concerning my letters to the Department of State regarding the "Straith Case." I told him I wanted a taped interview plus an witness, Mr. Gribble, of Aerial Phenomena Research Group. This was not agreeable with him. The reason I wanted this was because I told him how these agents had come to my home to run down the character of an innocent man and give me a false story and now Zander begin to change his testimony about what was said. He knows I can't prove what was said, but this is not my fault. They cleverly refused to put their story in writing. **Mr. Hoover could have written me a letter and given me the story but he sent FBI agents to give me a story verbably and if I proved it a hoax, they could always change their testimony.** Anyhow, Mr. Gough said he would investigate this and call back. He never called back and refused my phone call to him on February 18, 1959. However, I did get in touch with Mr. Zander only to have him tell me the matter was none of my business or his own and that he didn't want anything to do with it. He said the FBI was too busy to bother with my problems. He wasn't interested in hearing what the tape said nor did he want a copy of it to prove the story given me **Approved For Release 2003/05/05 : CIA-RDP80R01731R000300040016-2**

Let me say right here. There is no law saying I can't investigate the FBI, your agency, or any other agency of Government, and I do consider the matter my business and I will not honor requests to forget it. I am doing this investigating because my information is going into my book AIR FORCE EVIDENCE CONFIRMS ADAMSKI STORY under the title: "Expose" of the Silence Group."

Furthermore, I do not blame Mr. Hoover, Mr. Zander, or Mr. Willis, or Mr. Gough for this plot to silence Adamski or to give me the false information I received. After all, your group represents the top intelligence agency in the country and Mr. Hoover must take orders from you. I personally feel upon careful consideration of this whole matter that Mr. Hoover is honest and would not have deceived me if he hadn't received orders from the CIA to cover up for its operations. So my complaint is not against the FBI but against you and your group. Mr. Adamski doesn't blame the FBI either for its part in this affair because the one FBI agent was under orders of the CIA. The facts show that it was your group that was responsible for what I believe was one of the dirtiest hoaxes I have ever seen. I am even told by Mr. Adamski that his attorney made an investigation and found out that the CIA agent had lied about any warrant being signed by the Attorney-General and on the way to California. You and your group should be dissolved by Congress, for I fail to see that it is serving any worthwhile purpose at all. Not only that but you try to use the FBI to do your dirty work as a "front" in that it was never revealed by the two FBI agents that the CIA was the one responsible and I wouldn't have known this if Mr. Adamski hadn't told me.

Personally, I think that the FBI is honest but I can't say the same for your group. You have used the FBI as a tool and I am glad that Mr. Adamski got the facts to me as to who was to blame for this vicious hoax so that an innocent party--the FBI wouldn't get blamed for something it wasn't responsible for.

Now that your organization has been revealed by Mr. Adamski to be the "Silence Group," the finger of suspicion falls on your men as being the ones who tried to silence Mr. Albert K. Bender, who headed the International Flying Saucer Bureau of Bridgeport, Connecticut, and who was warned that if he didn't close his organization and shut up on the subject of saucers, that he would go to jail. These threats were made by three men in black clothing of which Mr. Bender was too scared to name. I can understand why George Adamski was warned not to mention the government or its services in that he wasn't suppose to reveal the identity of the agents that visited him. Mr. Bender wasn't either but Mr. Adamski has now talked and the truth is at last out. This sort of action taken against Mr. Bender and Mr. Adamski is illegal. The Government has no right to silence anybody on this subject and it is too bad Mr. Bender never made this a court case. You couldn't send Mr. Bender or Mr. Adamski to jail and you know it. This plot to silence Bender took place in September 1953, while the plot against Adamski took place in December 1953 and also by three men.

Why is the government afraid of the flying saucers? Does the answer lie in the fact that there have been cases where planes and lives have been lost and the cause associated with the UFO? There must be some reason why such extreme measures would be employed to scare people like Mr. Adamski and Mr. Bender.

Of course, this idea of Government agents trying to frighten and bluff people into silence because they know something is not news to most of the world. It has been in practice for sometime by the ruthless Soviet Secret Police, but it is news for America that this sort of thing is going on here too in violation of the Constitution.

By the way, James W. Moseley, editor of SAUCER NEWS, Fort Lee, New Jersey was going to print the answer to the flying saucer mystery and gave notice to this effect

- 4 -

in the October 1954 issue and was going to print this in the November issue, but it seems government agents got to him before he could get the information published. It seems that just about everytime someone finds the answer, the agents get to him first and silence him. Now I wonder if your group has Moseley working as an informant, (I do indeed have certain information that supports this idea), and that his magazine is being subsidizing by the Government. Instead, of stopping his publication like in the case of Bender, he is being allowed to continue publishing but told what to print. What do you have to say about this theory?

With respect to the so-called State Department letter to Mr. Adamski known as the "Straith letter," this was definitely an inside job by someone who knew a lot about State Department office procedure. Mr. Trench of FLYING SAUCER REVIEW, published in England, suggests that your group was responsible for this letter for the purpose of trying to discredit Mr. Adamski. Is this true?

Both Mr. Adamski and Frank Scully claimed that someone tried to bribe them if they would only sign statements that their books were fiction. If they had accepted, the government could have got them on mail fraud. Was your group behind this too?

It seems you had a hand in stopping a law suit between a Mr. Thomas Eickhoff over Adamski's book in that you threaten to get injunctions to prevent witnesses from testifying--these witnesses being government scientists Mr. Adamski said went to outer space with him. Apparently, there is just nothing your group won't do in order to stop the truth from reaching the people.

I realize that because I confront you with these issues that you may try to silence me and yet while I believe I have made a careful investigation concerning the plot to silence Mr. Adamski, I do think that it might be an injustice not to confront you with these issues before having anything printed about your group. I do seek the truth and I know that if I don't confront whoever the charges are being made against and give them an opportunity to reply could mean that what I think is true may not be. But I do have that tape recording, Mr. Girvan's testimony, Mr. Adamski's testimony, and FBI testimony and I have spent almost three years on this thing, so I do not believe that anything said in this letter is in error but I am willing to give you an opportunity to state your case in my book. But I must have your reply in writing so that testimony will be documented and if you reply by the end of March 1959, I will put your reply in my book so that my readers will be able to read both sides. As I say, because I bend over backwards to be fair and confront you with my complaint, I know I run the risk of being silenced like Bender but I will just have to take that risk in order to be fair about this thing. However, I am sending copies of this letter to several individuals just in case!

Sincerely yours,

Richard Ogden

Richard Ogden

ENCLOSURE: Transcript of a radio interview on KNX on December 7, 1953 and KRFV T.V. of December 26, 1953. Transcription done by Times Square Steno Service of 414 Olive Way, Seattle, Washington.

N O T I C E

Since you have the reputation of asking questions and answering none, I do not expect an answer to this letter. On the other hand, it would not be fair to have charges printed against you or your group without at least giving you the opportunity to answer before my book goes to press in England or this country. Therefore, my letter has been sent by registered mail to prove to my readers that you have been confronted with this issue. I do not believe that there has been any error in my long investigation of this matter but if you are of the opinion that error does exist, then this is the opportunity to state your case. If I do not hear from you by March 22, 1959, I will send my book to the publisher and assume that you have nothing to disprove anything said in the enclosed letter. If you desire to answer, I must insist that your answers be in writing or if you send agents to explain your position, the interview will be taped with or without their permission, since everything must be documented rather than having testimony that can be changed with the wind.

Richard Ogden

ENCLOSURE:

This is a direct copy of a tape owned by William St. Clair, 6531 Philomen Avenue, Vay Nuys, California. It was copied by the House of Sight and Sound, 13513 Victory Boulevard, Van Nuys, California. Mr. St. Clair took this recording on the night of the radio program. He did it automatically by the use of a timer of the program.

This is W. J. Daly at Punic, California, and the following is a tape recording of an interview of Mr. George Adamski over Radio K.N.X. from 11:40 p. m. December 7th to 1:00 a. m. December 8th on the Bill Ballance program. As I was listening to the interview it occurred to me to record this interview but about five minutes after the start of the program--and a break in the recording will be noticed as I started to record at fast speed and changed to slow speed later.

BALLANCE: Here's a George Harris who wants to know why has Robert Cole Gardiner spoken out against "Flying Saucers Have Landed"?

ADAMSKI: I don't know, I haven't heard Mr. Gardiner, so I cannot answer that question, but I will say that the picture which has been used on a T.V. last week and also I understand in a lecture - and I would like to make this correction just now, not because they're against anyone, but just because of their truthful information, so that we may not get all confused and fouled up on this great truth that's coming our way. Ah, the picture of the little man between two great G-men, standing chained, almost chains as big as the little man, enough to squash him down, has been, I understand, taken in Germany and Munich, and was made there, ah, for the purpose of a joke for a April Fools Day, and it was brought to this country and it has been promoted on the basis of truth, which there seems to be no truth. And yet, may I also say something in behalf of our F.B.I.? I hate to see the F.B.I. being used that way because they're gentlemen as far as I am concerned - I have many dealings with them and they're wonderful people, and yet to be used as brutes over a little man like that doesn't well, it kind of belittles them, and I'd rather see that picture not used at all anywhere.

(This is the only place in the program where Mr. Adamski made reference to the FBI. Unlike Hoover's version of the story given me by Mr. Lambert Zander and Mr. Galen Willis, special agents of the FBI, Mr. Adamski never said his book or his theories had been cleared by the FBI. But the mere fact that he did mention the FBI was used to distort the truth and to send government agents to his home on December 17, 1953 in order to try and make him think he had done something wrong by mentioning the FBI. THIS IS A STRANGE WAY FOR THE GOVERNMENT TO HIT BACK AT SOMEONE WHO PRAISED THE FBI---RGO)

(On the other side of the tape, an interview of Mr. Adamski that took place on December 26, 1953 that consisted of a panel on KFFV T.V. was recorded)

FRANCIS: Getting back, for a moment or two, I understood Mr. Adamski through his book to say that much of the information he had received was limited in putting it out by Military? I think Mr. McKay has a question along that line.

McKAY: Yes, Mr. Adamski, let us assume, for the moment, that there is a great deal of truth in your book. Let us assume that it is all perfectly true

and that there's a good deal of truth to all these reports about flying saucers. Then, what conceivable object could our Government have in suppressing this sort of knowledge?

ADAMSKI: Well, I'm not at liberty to answer that.

McKAY: Who is prohibiting you?

ADAMSKI: There I can't say, I'm not at liberty to even say that.

McKAY: The denial to whose? That sounds like a violation of the Constitution, freedom of speech, or something like that, I wonder about that a little bit. Mr. Ed Baltimore again, I believe you've had your hand up there for a moment?

(In my interview with Mr. Adamski, he named the Central Intelligence Agency as being the one prohibiting him from answering these questions as a result of himself being silenced by the three government agents on December 17, 1953. Thus, here is proof of a plot or conspiracy to silence Mr. Adamski and as Mr. McKay points out, this sounds like a violation of the Constitution. Mr. Adamski told me he had explained before going on the air about the visit by government agents and why he couldn't answer the questions. So the questions were brought up in order to show that he had been silenced.---RCO)

RICHARD OGDEN
1233 Ninth Avenue West
Seattle 99, Washington



VIA AIR MAIL
SPECIAL DELIVERY

RETURN RECEIPT REQUESTED

RETURN RECEIPT REQUESTED!

SPECIAL DELIVERY

AIR MAIL

Mr. Allen W. Dulles, director
CENTRAL INTELLIGENCE AGENCY
2430 E. Street N.W.
Washington, D. C.

RETURN RECEIPT REQUESTED
SPECIAL DELIVERY
AIR MAIL

RECEIVED
NO. 6395

VIA AIR MAIL
SPECIAL DELIVERY

*Released in
copy*

OGC Has Reviewed

ODP 8-1636b
26 September 1978

STATINTL

MEMORANDUM FOR: [REDACTED]
 Assistant Appeals Coordinator, IPS

FROM: STATINTL : [REDACTED]
 ODP FIO Officer

SUBJECT : FOIA Litigation - Ground Saucer Watch, Inc.
 v. CIA

REFERENCE ; CA No. 78-859

1. The Office of Data Processing (ODP) has conducted a reasonable search of its files responsive to the stipulation connected to the subject litigation. No material pertinent to this litigation was found.

2. In addition, no one currently working in ODP can recall that this Office has ever been requested or has knowingly provided computer support to any UFO-related project. However, this does not mean that ODP's computers have not been used in this regard by a CIA employee or contractor who has direct access to ODP computers through our Interactive terminal system. We have no way of monitoring the content of computer files developed independently by ODP computer users in support of their missions. Indeed, ODP policy prohibits this type of monitoring in order to protect need-to-know compartmentation of computer files.



STATINTL

Att: FOIA CA 78-859

- cc: C/MS/ODP
- DD/P/ODP
- DD/A/ODP
- C/SPS/ODP
- C/AS/ODP

STATINTL

OGC

Distribution:
 Orig - adse

STATINTL

- 1 - ea cc
- 2 - O/D/ODP

O/D/ODP/[REDACTED]: ee/9-28-78

14 September 1978

STATINTL

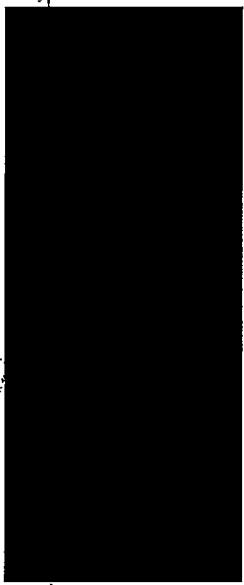


Regarding the search on the FOIA request on flying saucers. I don't believe any of these projects qualify, but you may want to check the following projects to illustrate the closest thing we have to "UFO" projects.

STATINTL

ACTIVE PROJ.

INACTIVE PROJ.



587
968
967
942
068



201 AA STATINTL

I'll be glad to show you the project description for each of the above projects.

15 September 1978

MEMORANDUM FOR: Executive Officer

STATINTL

FROM : [REDACTED]
Deputy Director for Processing

SUBJECT : File Search for Documents Pertaining to
UFO's or UFO Phenomenon

1. This is to advise you that the files in Processing have been searched for documents pertaining to UFO's and the UFO Phenomenon and that no documents of any kind on that subject were found.

2. It should be mentioned, though, that the Headquarters Data Conversion Branch, Production Division, did report that documents pertaining to UFO's are handcarried to that facility by an ODP customer for input keying to the customer's data base. The documents are retrieved by the customer after processing by DCB/PD and none are retained by that organization.

STATINTL

[REDACTED]

STATINTL

MFTR
Re paragraph 2 above
I called [REDACTED] the alleged customer, on 18 Sept 78.
She said that the project in question was not related in any way to UFO's but was a classified research project.

[REDACTED]

STATINTL

ODP 8-1636a
11 September 1978

STATINTL

MEMORANDUM FOR: [REDACTED]
Asst. General Counsel

FROM : [REDACTED]
ODP/FIO

SUBJECT : FOIA Litigation - Ground Saucer Watch,
Inc. v. CIA (CA No. 78-859)

REFERENCE : OGC 78-5734 dtd 29 Aug. 78

STATINTL

With regard to the subject litigation, the Office of Data Processing (ODP) estimates:

1. The date of document search completion will be 19 September.
2. The date of document FOIA processing completion by ODP will be 26 Sept.

STATINTL



cc: IPS

Distribution:

- Orig - adse
- 1 - IPS
- 1 - C/SPS w/ref.
- 1 - C/AS w/ref
- 1 - C/MS w/ref
- ~~1 - DD/P/ODP w/ref~~
- 1 - DD/A/ODP w/ref
- 1 - ODP Registry
- 2 - O/D/ODP

in →

STATINTL

LIST OF ORIGINAL FOIA REQUESTERS

FYI, the following is a listing of the FOIA requesters and requests on which the revised complaint was based:

<u>BRYANT</u> , Larry:	unlogged 1973 request F-77-1239
<u>SPARKS</u> , Brad:	F-75-3659 E-76-253 E-76-267 E-77-272
<u>TOMASHEVSKA</u> , Dolores	F-76-530
<u>ZECHEL</u> , John	F-77-757 F-78-081 F-78-171
<u>SPAULDING</u> , William	F-75-3653


ODP # 8-1636

LIST OF ORIGINAL FOIA REQUESTERS

FYI, the following is a listing of the FOIA requesters and requests on which the revised complaint was based:

<u>BRYANT</u> , Larry:	unlogged 1973 request F-77-1239
<u>SPARKS</u> , Brad:	F-75-3659 E-76-253 E-76-267 E-77-272
<u>TOMASHEVSKA</u> , Dolores	F-76-530
<u>ZECHEL</u> , John	F-77-757 F-78-081 F-78-171

OGC 78-5734
29 August 1978

MEMORANDUM FOR: Chief, Information & Privacy Staff
FROM : 
Assistant General Counsel
SUBJECT : Ground Saucer Watch, Inc. v. CIA
Civil Action No. 78-859

STATINTL

1. Attached is a copy of a restatement of the FOIA requests of various members of the Ground Saucer Watch Corporation which have become the subject of litigation. This restatement of the request found directly below "STIPULATION" is a reasonable restatement of approximately ten separate requests from five different Ground Saucer Watch Corporation members. It does not appear to exceed the scope of the total of these requests. I intend to advise the U.S. Attorney's office that the Agency finds this "STIPULATION," including the "Definitions" and "Reasonable Search", a reasonable basis to continue the litigation.

2. Since most of the searching required has probably already been accomplished in response to the approximately ninety FOIA requests the Agency has received since 1975, I assume that the completion of the search and processing will not require any unreasonable delays. I request that you obtain from each of the components an estimate as to (1) the date of search completion and (2) the date of document FOIA processing completion. Since the Agency has been in litigation in this case since December 77, I do not expect that deadlines beyond sixty days will be regarded as reasonable by the court.

3. Please keep me informed as to any significant developments and particularly let me know when significant increments of releasable documents become available. If there is reason to expect significant delays, the Agency might wish to consider incremental releases rather than holding responsive documents until all of the processing is finished.


STATINTL

101 EAST 101ST STREET
BRONX, NEW YORK 10451
(212) 942-9600

HENRY B. ROTHBLATT
FLORIDA, N. Y., CALIF., & D. C. BARS
JOSEPH SELIAS
STEPHAN H. PERKIN
N. Y. & D. C. BARS
JON G. ROTHBLATT
RONALD C. GOLDFARB
MICHAEL TORRES
EMMA ALDEN ROTHBLATT
N. Y., CALIF., & FLA. BARS
ROBERT L. GARDNER
BERTRAM J. ADAMS
PETER A. GERSTEN
ARTHUR D. DECKELMAN
FLORIDA & N. Y. BARS

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232 WEST END AVENUE
(212) 787-7001
HOLLYWOOD, FLORIDA 3302
1909 HARRISON STREET
SUITE 218
(305) 925-1080
WASHINGTON, D. C. 20006
1629 K STREET, N. W.
SUITE 830
(202) 223-2880

August 23, 1978

William H. Briggs, Jr. Esq.,
Assistant United States Attorney
U.S. District Courthouse
Room 3438-A
Washington, D. C. 20001

Re: GSW v. CIA

Dear Bill:

Enclosed please find the stipulation my client has agreed to along with what would be considered a reasonable search.

If you have any questions don't hesitate to call me. Thanks for the cooperation.

Very truly yours,

Peter A. Gersten
Peter A. Gersten

PAG/ab
enclosures

STIPULATION

All documents (1) in the possession or under the control of the CIA from wherever obtained, relating (2) to Unidentified Flying Objects (UFOs) (3) and the UFO Phenomena

Definitions

- (1) Documents - definition contained in the Interrogatories - 'Definitions and Instructions' paragraph B
- (2) Relating - as used herein should be synonymous with the following terms: referring to; associated with; pertaining to; mentioning; describing; and any and all like terms.

This definition should be construed liberally to achieve all purposes and objectives of request

- (3) UFOs - definition contained in the Interrogatories - 'Definitions and Instructions' paragraph F and shall also include all 'unidentified alarms'; 'unidentified images'; 'uncorrelated targets'; and 'uncorrelated sensor indications'.
- (4) UFO Phenomena - commonly known as the 'flying saucer craze' and include but not limited to; CIA involvement in the phenomena, either directly or indirectly; sociological and psychological implications; surveillance, monitoring, infiltration and manipulation of the phenomena; UFO civilian organizations; UFO researchers; alleged abductions and abductees; all contacts and contactees.

REASONABLE SEARCH

A reasonable search should include the following areas:

- (i) (a). CIA Strategic Warning Staff, including, but not limited to: unidentified alarms registered by the sensor systems managed by the national indications, warning and surveillance office.
- (b). CIA Operations Center, including but not limited to: 1) the 1975 sighting of UFOs over SAC bases; 2) the August, 1976 Tunisian sighting; 3) the September, 1976 Iranian sighting; and 4) the September, 1976 Moroccan sighting.
- (c). CIA Office of Legislative Counsel, including but not limited to: 1) the 1975 Congressional Staff Meetings on UFOs; 2) the meeting and contact with Richard Hall;

(d). National Foreign Intelligence Board records including, but not limited to, historical documents of predecessors (USIB, IAC, USCIB).

(2). National Foreign Assessment Center components:

(a). Imagery Analysis Service documents of processing, analysis, and routing of unidentified objects registered by the overhead reconnaissance systems of the NRO.

(b). Committee on Imagery Requirements and Exploitation (COMIREX) Staff including, but not limited to, documents of requirements, dissemination and exploitation planning directives, about unidentified objects registered by NRO systems.

STATSPEC

(c).  documents including, but not

(d). Office of Current Intelligence: documents of current intelligence about sightings, incidents, and flaps; and historical records, ie., briefings.

(e). Central Reference Service

(3). Directorate of Science and Technology (DD&T) components:

(a). Foreign Missile and Space Analysis Center (FMSAC/OWI) documents including, but not limited to, those inherited from OSI and new documents received from all sources, and all finished intelligence on UFOs, including estimates, policy papers, etc.

(b). Office of Electronic Intelligence (OEL) documents of unidentified electromagnetic radiations received, processed, analyzed and/or disseminated to and from all sources, including NRO systems.

(c). Office of Research and Developments (ORD) and Office of Development and Engineering (ODE): documents of basic scientific research on UFO research and design studies of UFO intelligence collection systems, contractor studies, systems implementation evaluations, and basic UFO intelligence reference materials; historical files of ODE predecessor as pertains to preceding documents.

(d). Office of Scientific Intelligence (OSI), National Photographic Interpretation Center (NPIC), and Office of Technical Service (OTS): including, but not limited to, old historical files not transferred to other components and historical files on early OTS predecessor's research and development work on UFO intelligence collection systems.

(4). ~~Approved For Release Administration (DDA)~~
Directorate Administration (DDA) 2002/01/24 : CIA-RDP83T00573R000100070006-1

Office of Security - documents of individuals and organizations invol

with UFOs and the UFO Phenomena, ie. research, investigation, and writing, including mail cover and intercept program material; and records of special security clearances for UFO intelligence special access programs.

- (b). Office of Joint Computer Support (OJCS): documents of computer hardware support requests, authorizations, and utilizations, for UFO intelligence data handling, from any and all agencies and CIA components; special UFO intelligence data handling systems projects; any and all UFO related software programs and projects, including security systems.

(5). Directorate of Operations (DDO):

- (a). Covert Action (CA) Staffs of all DDO components: historical and current files of covert action projects directed at domestic and foreign UFO researchers and organizations as well as potential foreign adversaries (USSR).

25X1A



- (c). Counter Intelligence (CI) Staff: records of mail cover and intercept programs which collected information on UFO researchers and organizations.
- (d). Counter Intelligence (CI) and Foreign Intelligence (FI) staffs of DDO: records of clandestine collection operations against UFOs and foreign nation intelligence data on UFOs, including hypnotic regression and other psychological interrogation and indoctrination projects; disinformation and deception plans and operations against UFOs and foreign intelligence agencies.

PRIORITY HANDLING FOIA REQUEST

SUBJECT: (Optional) REQUEST NUMBER
 FOIA Litigation - Ground Saucer Watch, Inc. v. CIA CA No. 78-859

FROM: [REDACTED] STATINTL EXTENSION
 Assistant Appeals Coordinator, IPS 5615
 2 E 42 HQ 1964 DATE SENT
5 Sep 78
SUSPENSE DATE

TO: (Officer designation, room number, and building)	DATE		OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
	RECEIVED	FORWARDED		

TO: (Officer designation, room number, and building)	DATE	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
	RECEIVED	FORWARDED	
1. [REDACTED] OS/IRG 4 E 21 HQ EX-1			<p><u>In connection with subject litigation, the following documents are attached:</u></p> <p>a) List of original FOIA requester b) 29 Aug 78 OGC memo c) 23 Aug 78 letter with enclosed STIPULATION</p> <p><u>Per OGC, you are specifically requested to:</u></p> <p>1) Estimate the date of search completion for your component. 2) Estimate the date of document FOIA processing completion for your component.</p> <p>Note: OGC has requested that 1 & 2 (above) be completed and sent to OGC (with a copy to IPS) on an expedite basis. If your estimates will not be completed by Monday, 11 Sep, please call me so that I can keep OGC advised.</p> <p>3) Conduct a search of your component responsive to the restatement of the requests as set forth in the Stipulation.</p> <p>Note: As stated in OGC's memo, OGC does not expect that deadlines beyond 60 days will be regarded as reasonable by the court.</p> <p>FYI: The STIPULATION so changes the original requests, original complaint and revised complaint that the latter have, in effect, become immaterial to the search you will conduct responsive to the Stipulation.</p>
2. STATINTL			
3. [REDACTED] ODP/FIO 2 D 00 HQ DX-6			
4. STATINTL			
5. - INFO - [REDACTED] AI/DDA 7 D 02 HQ BX-4			
6. STATINTL			
7. - INFO - [REDACTED] OGC BX-5			
8.			
9.			
10.			
11.			
12.			

RETURN TO:

PRIORITY HANDLING FOIA REQUEST

JH

I've saved this one for you.

IPS wants the search of our records to begin now and be completed by the end of October.

The immediate need (by 12 Sep)

is for you to (1) estimate the date the search will be completed and (2) estimate the date that we will complete FOIA document processing -

I talked to [redacted] & she said 12 Sept would be OK -

STATINTL

Jay

TRANSMITTAL SLIP		DATE	11 SEP 1978
TO: <i>DD/P/DDP C/50</i>			
ROOM NO.	BUILDING <i>Bill</i>		
REMARKS:			
Please conduct the search <i>Can you answer?</i> requested in para. (b). <i>that?</i> of last page of this request and reply to me by <i>Ed</i> 15 Sept. 78.			
[redacted]			
FROM: D/ODP/DDA			
2-D-00 HQS. x4011			
ROOM NO.	BUILDING	EXTENSION	

STATINTL

**MEMORANDUM
OF CALL**

TO: Cung

YOU WERE CALLED BY Cung YOU WERE VISITED BY

OF (Organization) allie

PLEASE CALL PHONE NO. CODE/EXT. 1464-200
 WILL CALL AGAIN IS WAITING TO SEE YOU
 RETURNED YOUR CALL WISHES AN APPOINTMENT

MESSAGE

3:00 PM
300th St. x 9 AM
 [REDACTED]
2E6104
UFO litigation
OSI
Wed at 2 PM
4488

STATINTL

RECEIVED BY 7C31 DATE TIME

STANDARD FORM 63 82-125

TRANSMITTAL SLIP		DATE
		11 SEP 1978
TO: <u>DD/A/ODP</u>		
ROOM NO.	BUILDING	
REMARKS:		
<p>Please conduct the search requested in para. (b). of last page of this request and reply to me by 15 Sept. 78.</p> <p>[REDACTED]</p>		
FROM:		
ROOM NO.	BUILDING	EXTENSION

STATINTL

FORM NO. 241
1 FEB 65

REPLACES FORM 36-3 WHICH MAY BE USED.

(47)

TRANSMITTAL SLIP		DATE <i>14 Sept 78</i>
TO: EXO/ODP		
ROOM NO.	BUILDING	
REMARKS: We have located nothing in our files regarding UFO's or Ground Saucer-Watch. We did find one little green man but he was properly badged so we did not disturb him.		
FROM: [REDACTED]		
ROOM NO.	EXTENSION <i>4502</i>	

STATINTL

MEMORANDUM OF CALL

TO: *GD*

YOU WERE CALLED BY— YOU WERE VISITED BY—

OF (Organization) *[REDACTED]*

PLEASE CALL → PHONE NO. CODE/EXT. FTS

WILL CALL AGAIN IS WAITING TO SEE YOU

RETURNED YOUR CALL WISHES AN APPOINTMENT


STATINTL

MESSAGE

will tell OWI to certify that no ODP system supports UFO studies

RECEIVED BY	DATE	TIME
-------------	------	------

15 SEP 1978

TRANSMITTAL SLIP		<small>DATE</small> 11 SEP 1978
TO: <i>C/SPS</i>		
<small>ROOM NO.</small>	<small>BUILDING</small>	
REMARKS: Please conduct the search requested in para. (b). of last page of this request and reply to me by 15 Sept. 78.  <i>None</i>		
FROM: D/ODP/DDA 2-D-00 HQS. x4011		
<small>ROOM NO.</small>	<small>BUILDING</small>	<small>EXTENSION</small>

STATINTL

FORM NO. 241
1 FEB 55

REPLACES FORM 35-8
WHICH MAY BE USED.

(47)

Special Report

Missiles flew once the party ended

By William Matthews
Times staff writer

WASHINGTON — Iraq's cease-fire didn't last long.

Twenty-nine hours after promising not to threaten U.S. planes over the northern and southern no-fly zones, an Iraqi air defense radar illuminated two Air Force planes during a routine flight. The planes, an F-4G Wild Weasel and an F-16 Fighting Falcon, attacked the radar with bombs and missiles.

A day later on Jan. 22, it happened again. Two U.S. warplanes patrolling in the northern no-fly zone were "locked on" by Iraqi anti-aircraft radar, according to Pentagon officials. One of the planes, an F-4G, launched two High-speed Anti-Radiation Missiles, or HARM, at the site near Mosul, officials said.

The missiles apparently missed their target.

The radar illuminations and the U.S. attacks in response ended a brief cease-fire declared by Iraqi President Saddam Hussein as an inaugural olive branch to President Clinton.

Iraq announced Jan. 19 it would stop firing on allied planes over the northern and southern no-fly zones at midnight, ending hostilities for Clinton's Jan. 20 swearing-in.

But at 1:09 p.m. Iraqi time Jan. 21 — 5:09 a.m. EST, as the new administration awakened from late-night inaugural balls — radar warning gear on the two U.S. planes sounded, notifying the pilots they were being tracked.

The F-4 fired a radar-homing missile at the Iraqi radar site and the F-16 dropped two cluster bombs on the installation, U.S. European Command reported. Defense Department officials were unable to say whether the missile and bombs hit the radar installation.

Out of range

Minutes before the planes were illuminated by radar, pilots reported seeing anti-aircraft artillery flashes on the ground. They did not respond to the flashes because they were out of range and were escorting a French Mirage on a reconnaissance mission, the European Command said.

The radar site was located in the northern no-fly zone, about eight miles southwest of the city of Mosul.

A Pentagon spokesman said U.S. forces in the Persian Gulf region did not consult with Clinton or Defense Secretary Les Aspin before attacking the radar sites. "When we're threatened, we react. We inform them afterward," he said.

"We were hopeful that the cease-fire would work," he added. "But we don't pay attention to Saddam's words, only to his deeds."

At the White House, Clinton said the pilots did the right thing. "We're going to ad-

here to our policy" of attacking radar and anti-aircraft sites when targeted, Clinton said.

After the first incident, the Iraqi government insisted the cease-fire remained in effect and denied the Pentagon's claim that U.S. planes were illuminated by radar.

In other developments, Iraq permitted U.N. weapons inspectors to fly unimpeded into the country, a requirement of the United Nations cease-fire resolutions Iraq had been violating.

But Saddam announced he would begin rebuilding a manufacturing plant destroyed by a U.S. cruise missile attack Jan. 17. U.S. officials said the plant, near Baghdad, was used to make material for nuclear weapons. Iraq also announced it was reopening a plant the U.S. said was a biological weapons factory that was bombed during the Persian Gulf War. Iraq said it was an infant milk formula plant.

String of encounters

The Jan. 21 attack by U.S. planes on the Iraqi radar site followed a string of encounters between U.S. and allied aircraft and Iraqi radar and anti-aircraft artillery sites in the northern no-fly zone immediately before Iraq announced the cease-fire.

The Defense Department said that from Jan. 17 to the cease-fire, Iraqi forces were aggressively painting coalition aircraft with radar and firing on allied planes with anti-aircraft artillery.

After two days, U.S. planes began to strike back. On Jan. 19, a U.S. F-4G was illuminated by radar about 14 miles east of Mosul. The F-4 fired a HARM at the radar. An hour later, an F-16 reconnaissance plane was fired on by anti-aircraft artillery, but was not hit. And two hours after that, two F-16s were fired on by anti-aircraft artillery about 12 miles north of Mosul. In response, the F-16s dropped cluster bombs on the artillery site, the Defense Department said.

Bush Pentagon spokesman Pete Williams said Iraqi warplanes were making a series of quick flights into the no-fly zone Jan. 19, "sticking a toe over the line" in hopes of luring coalition aircraft into an anti-aircraft missile trap.

Avoiding the trap

Before announcing its cease-fire, Iraq set up an array of SA-2, SA-3 and SA-6 anti-aircraft missiles, Williams said. "They're trying to lure coalition planes into the area so they can shoot them down," he added, but coalition planes were avoiding the trap.

The run-ins with Iraqi radar in the north followed major strikes by U.S. and coalition planes against missile sites in the southern no-fly zone and an attack by U.S. cruise missiles against a factory capable of producing weapons-grade material for nuclear weapons.

Williams said the strikes "functionally neutralized" Iraq's southern air defense radar system, destroying much of it and leaving the remaining parts unable to communicate with one another.

In the cruise missile attack against the weapons plant, Williams said, 45 missiles were launched, one failed upon launch and 38 of the remaining 44 struck their targets.

Three landed short of the plant in an orchard, three landed inside the plant compound, but did not hit any buildings, and one apparently was hit by anti-aircraft fire and crashed into the Al Rashid hotel in Baghdad, killing two hotel workers and

wounding many workers and guests.

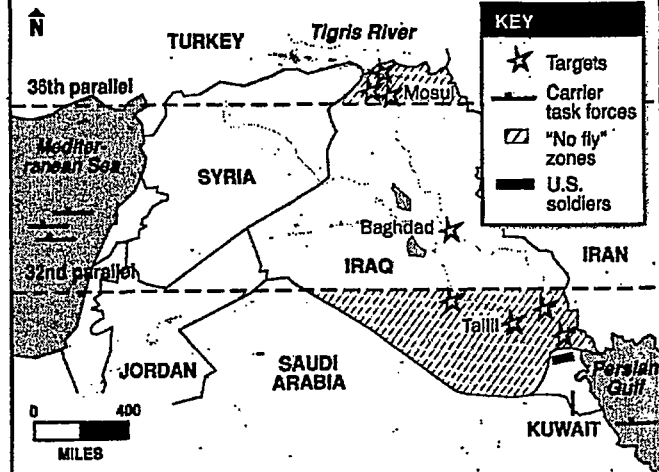
Inside the weapons plant compound, the cruise missiles destroyed four of seven buildings, heavily damaged two others and moderately damaged the seventh, the Defense Department said.

Elsewhere in the region, the allied posi-

tion appeared to have improved along the Iraqi-Kuwait border.

Iraq staged provocative incursions into Kuwait to retrieve military equipment in early January, but by Jan. 19 had withdrawn from the border, the Defense Department said.

Tensions rising



Persian Gulf chronology

Friday, Jan. 15

President Bush demands that Iraq allow U.N. flights or face another attack. Baghdad backs off.

Saturday, Jan. 16

Iraq threatens to down allied aircraft over the southern "no fly" zone and over the northern zone above the 36th parallel established to protect Kurds.

Sunday, Jan. 17

U.S. jets down an Iraqi MIG-23 Flogger over the northern zone and hit anti-aircraft missile sites that fired on allied aircraft. Iraqi President Saddam Hussein, marking the anniversary of the gulf war, declares: "The aggressors will fall in their evil purpose." U.S. warships fire 45 cruise missiles at an alleged nuclear facility near Baghdad, killing at least two people.

Monday, Jan. 18

In the first daylight raids on Iraq, U.S. and British aircraft, with French planes providing air cover, bomb Iraqi missile sites that survived the Jan. 13 bombing in the southern zone. U.S. jets bomb Iraqi anti-aircraft batteries in the northern zone. Iraq reports 21 dead.

Source: Associated Press

Tuesday, Jan. 19

An F-4G "Advanced Wild Weasel" fires a missile at a surface-to-air missile and radar installation after the radar "locks on" to the American plane. Two F-16 Fighting Falcons drop several cluster bombs on an Iraqi anti-aircraft artillery site after being fired on.

Wednesday, Jan. 20

An Iraqi-declared cease-fire takes effect. Allied military surveillance flights continue over the "no fly" zones. About 300 men from the U.S. Army's 1st Cavalry Division travel by convoy to the Kuwait-Iraq border area to counter any assault. President Clinton is sworn in.

Thursday, Jan. 21

An F-4G fires a HARM missile on an Iraqi air defense radar site about 10 miles south of Mosul after the Iraqi installation turns its radar on. U.N. weapons inspectors land in Baghdad.

Friday, Jan. 22

An F-4G and an F-16 are targeted by Iraqi anti-aircraft radar, near Mosul. The F-4G launches two HARMs in response.

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Senators conclude no POWs alive in Vietnam

By William Matthews
Times staff writer

WASHINGTON — It started with a promise that a live American POW would emerge from the jungles of Southeast Asia in 30 days. But 15 months later, at the end of the most exhaustive investigation ever into the fate of Americans missing from the Vietnam War, a special Senate committee has concluded there almost certainly is no one left to bring home.

There is "no compelling evidence that any American remains alive in captivity in Southeast Asia," the Senate Select Committee on POW/MIA Affairs reported Jan. 13.

And despite an intense search, the committee turned up no evidence that there ever was a government conspiracy to leave behind prisoners of war, or POWs, or withhold knowledge of their fates, the committee said. "The conspiracy cupboard is bare," the committee said in its 1,000-page report.

While conceding that it is impossible to say with absolute certainty that no American is being held captive anywhere in Cambodia, Laos or Vietnam, the committee said evidence gathered over the past 10 years offers no encouragement.

No live-sighting report checked out, photos said to be of POWs proved fraudulent, leads led nowhere and even the best evidence was inconclusive, the committee said.

In its search, the committee combed through thousands of pages of previously classified military documents, repeatedly visited Vietnam and questioned scores of U.S. officials, military men, POW activists, family members, Vietnamese government officials, missionaries and others.

The efforts yielded evidence, and in many

instances, "tantalizing evidence that raises questions," said committee chairman Sen. John Kerry. "But evidence is not fact and not proof."

Kerry, D-Mass., a Vietnam veteran, said the massive amount of information the investigation amassed provides the nation with "a reality base" with which to deal with the POW and missing-in-action, or MIA, issue.

For example, the Defense Department's count of MIAs from the Vietnam War is misleading, he said.

The Pentagon lists 2,264 Americans as unaccounted for. In fact, nearly half of those — 1,095 — are known to have been killed, but their bodies never were recovered, Kerry said.

Among the remaining 1,169 missing, 305 "were either known to have been taken captive or were lost in circumstances under which survival was deemed likely or at least reasonably possible," Kerry said. "There is no indication at this time that any survive."

Committee member Sen. Jesse Helms, R-N.C., who promised at the beginning of the investigation to produce a live American POW, apologized for missing most of the committee's meetings. He underwent heart surgery.

The committee's investigation was "as good a job as could possibly have been done," he said.

"I associate myself with [the committee report]," said Sen. Charles Grassley, R-Iowa, who frequently challenged government officials who said there was little likelihood that Americans remained in captivity.

However, Grassley and Sen. Robert Smith, R-N.H., included footnotes to the report that said they did not agree with the majority of committee members that there is little evi-

dence of Americans POWs in Southeast Asia. They said they put much greater credence in live-sighting reports and aerial photographs of what appear to be signals stamped or dug into fields.

Grassley called for continued investigation of possible distress signals and demanded a Justice Department probe of possible illegal, privately funded covert operations approved by the White House to search for missing Americans in Laos in the 1980s.

Sen. John McCain, R-Ariz., a former POW who has consistently has discounted the possibility that Americans remain alive as prisoners in Southeast Asia, said, "I have yet to see evidence that I can point to and say, 'See, there's an American alive.'" However, McCain said, it remains a mystery why so many pilots were shot down over Laos and so few prisoners returned.

One of the committee's most startling findings was that Nixon administration officials believed there might have been POWs in Southeast Asia when they announced in 1973 that all captives had been returned home.

But, the committee concluded, the U.S. government did not "knowingly abandon" troops in captivity. "American officials did not have certain knowledge that any specific prisoner or prisoners were being left behind," the report says.

The Senate committee also said it found the Defense Intelligence Agency guilty of overclassification. It also was evasive, unresponsive, defensive about criticism, slow to follow up on live sightings and frequently distracted from its basic mission, the committee said. But, "we found no evidence to link anyone in the government to a cover-up," Smith said.

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Life in the Times

Careers By P.J. Budahn

An easy fit into the civilian world

Q. I've worked as an aircraft refueler for four years on active duty. As I'm waiting for a medical discharge, I would like to know about the civilian job market for aircraft refuelers.

to industrial users.
You should be prepared for a starting salary that's less than what you made on active duty, but you may be pleasantly sur-

prised. If your new civilian job doesn't match what you did for Uncle Sam, expect having to prove yourself.

Your original question was about getting a job as an aircraft refueler, but you mentioned that you'll be getting a medical dis-

charge. That's a "red flag" for any employer.

Look at it this way. You are being discharged from active duty because the military doesn't think you can resume your job as an aircraft refueler. Why would a civilian employer hire you for the

same type of job?

Aircraft refuelers do a lot of heavy lifting and hauling.

Perhaps this is a good time to look at other career options. Perhaps your best long-term career move right now is one that will put you in a classroom to learn.

A. Sometimes what you've done isn't as important as what you've done it with.

A military aircraft refueler may switch to the same job in the private sector fairly smoothly. You're lucky. Many active-duty folks don't have an easy fit with a job in the private sector.

Still, it's useful to survey options. In your case, there are potential jobs far outside the aviation field.

The modern world runs on petroleum. You've spent the last four years working with it. You have skills and experiences that are valuable away from the flightline, such as:

- Testing oils, fuels and hazardous materials;
- Operating and maintaining pumps, pipelines, hoses and valves;
- Storing petroleum products;
- Transporting petroleum;
- Keeping records on shipments, transfers and storage.

Think about all the people who deal with petroleum, from those who draw it from the ground to those who use it to run an internal combustion engine.

The U.S. Labor Department projects a shrinking work force during the next 15 years for the people who work the oil fields and petroleum refining plants. But any large-scale user of petroleum has need of people with your skills — from school systems with their fleets of buses, to industries that use petroleum in the manufacturing process.

Then there are the storage plants, pumping stations and tanker trucks that get petroleum

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People By Karen Jowers

No kidding, UFOs are out there, say former service members

By Karen Jowers

LIFE IN THE TIMES staff writer

Retired Army Maj. Ed Dames' company uses specialized intelligence techniques to study current UFO operations in the New Mexico desert.

Dames, who says he has firsthand knowledge of UFOs, is president of Pai Tech in Albuquerque, N.M., a private company that studies UFOs. He is writing a book.

Dames describes strange alien machines going underground in the desert. He and other former military members interviewed talk about their ongoing research on alien activity and "mental abductions," in which aliens enter the minds of earthlings for hours. They disagree on many issues in their research, but they all take a stand against widespread ridicule of UFOs.

Pai Tech takes private and government scientists to secret sites where the company has found repeated UFO activity. He and eight other off-duty or retired military officers who work for the company use a technique called remote viewing, which involves training the unconscious to explore a target with rigorous discipline while suppressing the imagination, he says. They are not psychics, he says.

Dames was an Army intelligence officer until he retired in 1991. He started Pai Tech in 1989. The company works for a number of clients, including private companies. Their work does not deal just with UFOs. For instance, they gave information to United Nations officials about underground biological warfare research and development facilities in Iraq just before the Persian Gulf war.

Others who are or have been connected with the mil-

tary also investigate UFO reports.

For instance, there is the 4,500-member Mutual UFO Network, Inc. (MUFON), some of whose members have been members of the military. Former Air Force Capt. Kevin Randle and retired Air Force Maj. George Filer, who both served in intelligence, will speak at a MUFON conference in Washington, D.C., Feb. 6.

The focus of the conference is the question of whether the government is hiding the truth about UFOs, a preoccupation Dames doesn't like.

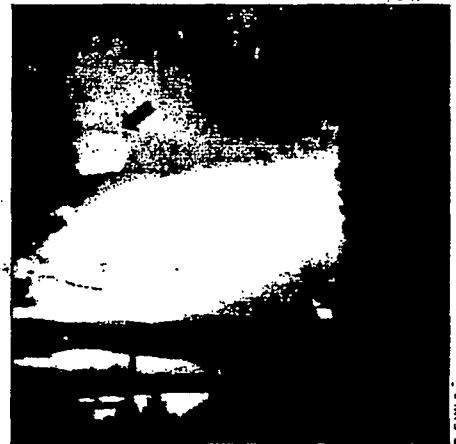
Among those convinced the government is withholding information is Randle, a Vietnam veteran and an intelligence officer in the Air Force Reserve for 10 years. He wrote *UFO Crash at Roswell* with Don Schmitt, published in 1991 by Avon Books. Randle is now an inactive reservist.

Randle is convinced a crash near Roswell Army Airfield, N.M., July 4, 1947, involved a flying saucer, and was covered up by the federal government. The official explanation is that a military balloon crashed.

Randle and Schmitt have interviewed more than 400 people, including 37 who say they handled pieces of the flying saucer debris and eight witnesses who say they saw bodies of dead aliens recovered at the crash site.

Filer says he has talked to more than 50 people who claim they have been mentally abducted by aliens.

Dames shares some of Randle's and Filer's conclusions. He says Pai Tech has compiled evidence of mental abductions. He believes that's what happened at Roswell in 1947. Aliens orchestrated the crash in the minds of the witnesses, using highly technical methods to create an illu-



Alien ship? The arrow points to an alleged UFO that Ed and Frances Walters show in their book, *The Gulf Breeze Sightings (Morrow, 1990)*. Photo was taken in Gulf Breeze, Fla., in 1987.

sion in their brains. Neither bodies nor debris ever existed, he claims. (Randle scoffs at this theory, and says he has held in his hand a piece of debris that one witness claims to have taken from the scene.)

What happened at Roswell is similar to other "mental abductions," Dames says. In Pai Tech's remote viewing, "We have seen the [Roswell witnesses] standing outside in a catatonic state, or lying in bed, or driving up and down the road, while these 20 or so spheres moved overhead, zigzagging back and forth from person to person."

On the homefront

The military's unusual way of remembering events

By Loretta Howard
Special to LIFE IN THE TIMES

Hurry up! Be here now! Be there then! Don't be late! Be on time! Time! In our fast-paced world, time is a valuable commodity.

Our day-to-day schedules are dependent on traditional watches and clocks: Wake our spouses for physical training at 0400; get the children off to school by 0730; be on the job by 0830; stop by the commissary for more bread and milk before lunch ends at 1300; leave work at 1730; stop by youth services to pick up children from practice at 1800; and so on. A typical schedule all based on exact timing is part of our daily existence.

Military families have an additional and unusual way of telling time. We measure time periods by location. This is the standard by which we retain memories.

The longer we have been military and the more locations we have shared, the more we use this method. Once we have been in the military lifestyle for more than one location, we almost always answer the question of "when" with "where."

When did our youngest daughter learn to ski? That was Germany the third time. When was our son named most valuable player in a basketball championship? This happened the second tour in Germany. When did we first learn of the sport of throwing buffalo chips? Oklahoma. When did a tornado hit a nearby town? Missouri. When did I have my appendix out? Korea.



During the Persian Gulf war, I was working for a bank in the Maryland suburbs of Washington, D.C. My friends and co-workers were predominately people who had never had direct contact with a military lifestyle. The majority had grown up and even attended college in the same general area.

Aside from numerous worldwide vacations, all of their lives had been spent in the Northeast corridor. After my 16 years as an Army spouse, this was the first time I took the time to notice that place association is characteristic of military families.

Initially, it was a matter of translation. For instance, once during our lunch break, there was a discussion about the best age to allow your teen-age children to date.

Right away I thought Georgia and Maryland. Our two oldest began dating when we were in Georgia and the youngest ones were just starting during our time in Maryland. Therefore, the oldest had to wait until age 16, but the younger ones were dating at 14.

Another time some friends and I were discussing when we became interested in the banking or business aspect of our paralegal field. I responded with Germany, which I then translated to the late 1980s.

My co-workers were amazed with the system but quick to acknowledge its potential usefulness. One friend and fellow employee, a former Air Force man, was delighted to hear the old system again.

Many people spend their entire lives in

one geographic location. We all know people who live near or in the home in which they grew up.

While, of course, there is nothing wrong with this lifestyle, it does require a more exact method of analyzing time than we in the military have.

I remember my brother's wedding as our second time assigned to Georgia. Other people would have to remember August 1983. That seems harder, somehow.

Sometimes, military families complain about the problems of each move with the implication that it would be easier to remain in one location. This special item was broken; that heirloom was lost.

It is work to get the kids to adjust to the new environment. Shopping was better at the old location. Windows are never the same size as the 40 pairs of curtains that you shipped. Life is not perfect but each move achieves a new perspective for our place-time memory.

Being aware of the value of our place-time association gives the military family an additional positive aspect to look at during the next reassignment. We are moving along our own historical timeline with the advantage of new, exciting locations to spark our memories. Where do you remember for 1992?

Loretta Howard is a paralegal and free-lance writer married to an Army sergeant first class assigned to Fort Leonard Wood, Mo.

REMOTE VIEWING SESSION DATA

```

*****
*
* Remote Viewer : LB
*
* Interviewer : ED
*
* Observer(s) : _____
*
*
* Date : 14/07/86
*
* Starting time : 1109 hours, local
*
* Site # : 0178
*
* Site Acquisit.: (CRV) ERV PRV ARV BRV Other _____
*
* Working Mode : (GT) HEM Other _____
*
* Feedback class: A (B) C
*
*****

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136649
215216

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*****
*
* Ending time : 1531 hours, local
*
* Notes : TERMINAL SESSION (S5/S6)
*
* Highest stage : S6
*
* Evaluation : + _____
*
*****

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*****
*
* Actual site : RENDLESHAM FOREST INCIDENT
*
* RV summary : _____
*
* : _____
*
* : _____
*
*****

```

234

SG1J
14 July 86
FT. MEADE
1409 HAS
ED.

P.I. NO
A.V. NONE

136649
215216

A: ACCESS
SUSPECT
RISER
OF
UNCLAS

B: _____

AC BK
OVERRIDING "VOT
FOOLING TO WHOLE POINT"
"SMOOTH"

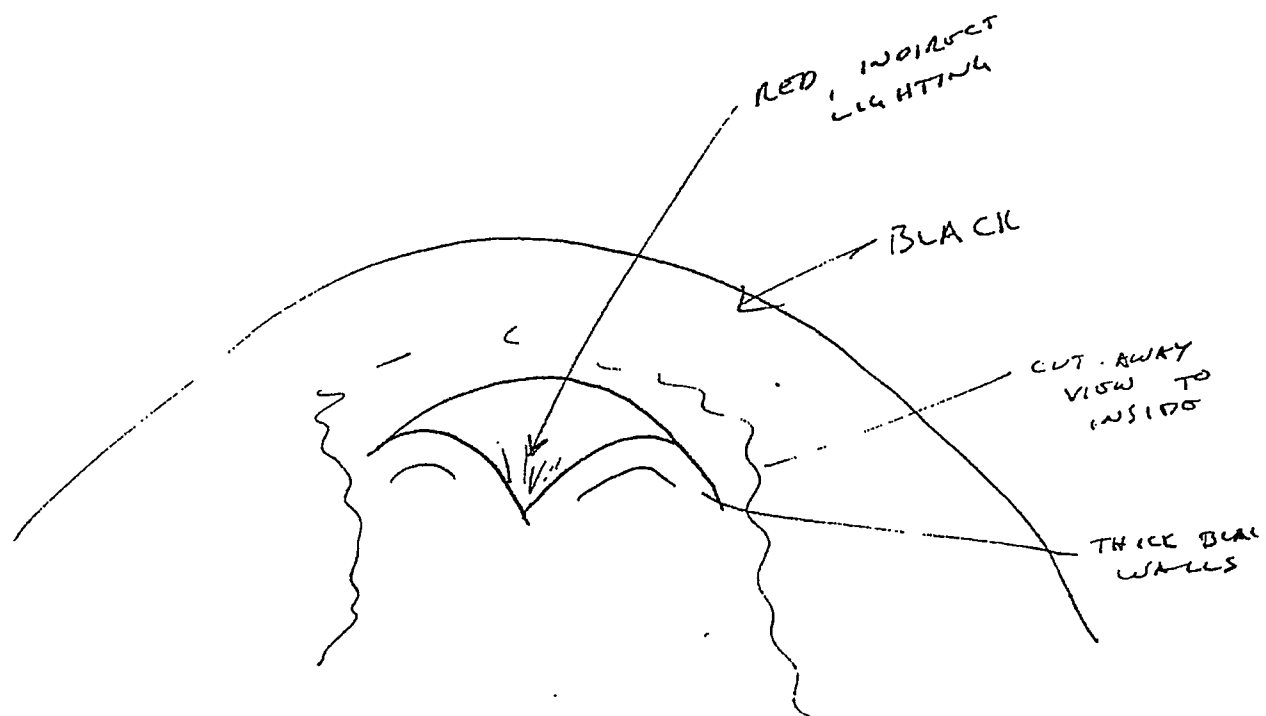
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215216

A: RISER
SUSPECT
HANDS
HATS
REMARKS

B: OBJECT

SZ: SUSPECT
NO JAW
BLACK
SHINY
SUSPECT
HATS
"SQUOOSH" SOUND

AC BK.
LIKE PAT
(EXTRAS) SKIN
ON BANNISTER.



(2)

82 D A7 ET T I KUL B/s.

8/8/84
THIS, PRIME
SUDDENLY SOUNDS
WAZZY HOURS

INSIDE

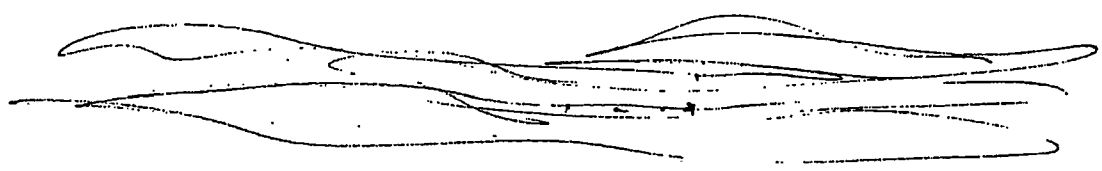
820W

8/s
"pudding"

YELLOW
LIGHT
NOISE

ALL THE
MARKETPLACES.

MANY OF PEOPLE
"MOTOD" INTO HATS.



MINDLESS MOVEMENT.

(2)

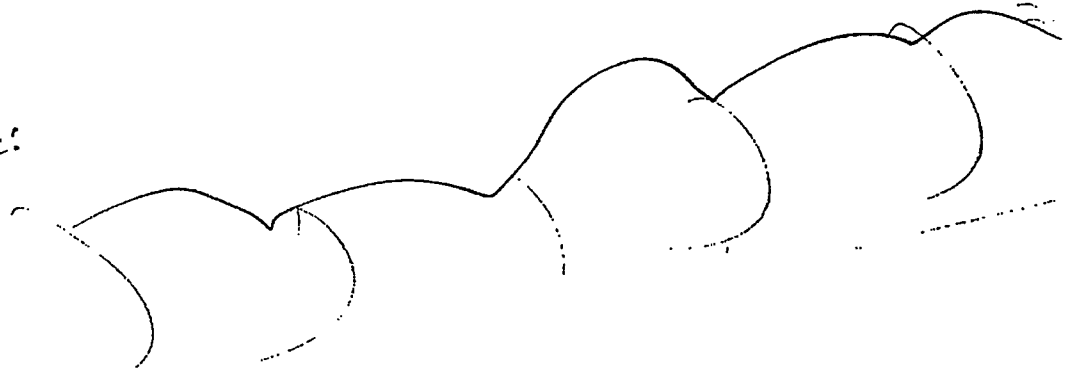
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A: ACROSS
SMOOTH
RISIN
LIT
WINDWOOD

B _____

SZ: BLACK
DARK
ROUND
LONG
MULTIPLE ROUNDS.

SF:



WOOD TASTE

ALL THE
DARK WOOD
IN A CHARACT.

3

S2 D R1 ET T 1 AOL W/S
OBJECT.

BLACK
ROUND
"KNOBBY"

AGE 5746
TIMES.

OBJECT

DARK
ROUNDED
HOLLOW

DARK
OPEN

INSIDE OBJECT SHOULD BE NON-COMMUNICABLE.

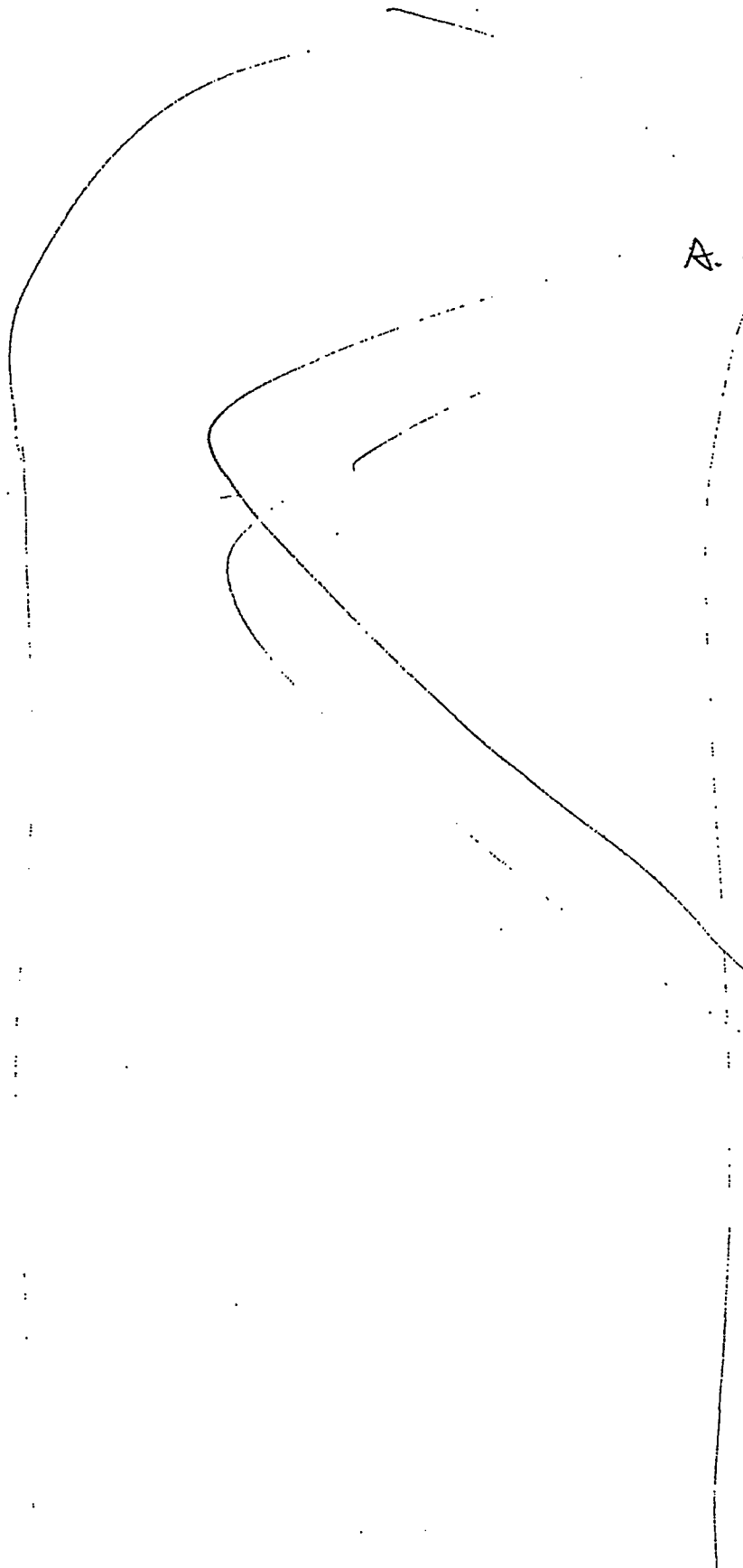
BLACK
RED/BROWN
DULL
DIM

CONVEX
AC BK
IT'S ALL CURVES.
NOTHING IS STRAIGHT.

PASSAGE

EMPTY

RED DMC
"SOPHON USED"
SPECIAL PURPOSE
NOT PUBLIC
AOL BK.



15

SZ D AT ET T / AOL r/s.
A.

WASY
4000-
DMUC

AOL BUK
MOTRZ DDDA

AOL RUK
UNREKUNO
WUK FLAOS.

A:

DMUC
LWY
BLAK
W01SY

W050D
EAD

AOL RUK
AOL "JACKETS" OF A
PLACES RESTRICTED FROM
PEOPLE WHO WANT TO USE
IT, BUT IT'S ONLY A
FAKE ANYWAY. (AS AN
OSCAR ROUTE WHICH GOES
TO NOWHERE)

6

SZ: D RI E T I DOZ R/S.

871025
INTENTION

DARK
NOISE
EMPTY
NO BULK
LINE TO WALK

NO PEOPLE
DINING.

"HAND" FROM
UNCONCERN
BUSINESS

LOCATION

WHITE
LINE WAGON
POWER
CURVED

COLD

COMFORTABLE
PERSON

NEUTRAL
~~HAPPY~~
CONTENT

5 4/2 PEOPLE SEEM TO BE INSIDE THE OBJECT,
BUT WHEN I LOOK FOR THEM THEY ARE SOMEWHERE
ELSE.
NO BULK
E.C.S.

8

S2 D A1 E7 T 1 R2 A/s.

YOUNG

PERSON

WASH

THIRD

FRANC

HOT

BUSINESS

1444

1451

S2 D A2 E7 T 1 R2 A/s.

PLACES
W/young
W/ATL

CUNYED

DOWN
Bike
ROOMY

YELLOW

HOT

MOIST.

SOUNDING

SOLID

RED BUC.
INCUBATOR

FOLLOW PEOPLE FROM TO SOURCE



SZ P M ET T / AOL A/S,
PEOPLE

CONDUCT

A/S.
CONDUCT &
STRONG PULL

A/S
STRONG PAIN
FEEL IN
DIMENSIONAL
CONDUCT.

SOURCE

CONDUCT
COOL
CALM
CLOSED
ROUND

A/S
FORESTS &
WOODS. OPEN
ANOTS.

"HARD"
FEELINGS
RESENTMENT

PEOPLE
LIVING PLACE

YOUNG HEAT
YOUNG
BUMPY
STILL
NEW TO COUNTRY

PERSON

SKIN FEEL
SOFT
FRANK

WAITING

the WAITING TO LEAVE.
... - PARK

(PERSON) IS ... WITH

(10)

S2: D AT E T I AOL A/S.

HOME

WSON
HOT
WOT
QUIET

HOW CAN WE TALK TO THEM?

PERCEPTION THAT HE HAS BEEN SUBJECTED TO
SOUNDS OF SUCH DENSITY FOR SO LONG THAT
TOUCH IS A BOTTLE COMMUNICATION DEVICE
THAN ~~TOUCH~~ ^{SOUND} TOUCH WORKS.

DESTINY

ANY
HAND
RANGE
MOD

4 1/2 ONLY NODDISH RESORT (VANDERVISOR),
AS TRAVEL THIS WAS LOCATION, BUT NOT
WHAT ~~THEY~~ WANTED.

AOL (?) FEELING THAT "THEY" ARE WAITING
TO
UNTIL CONDITIONS ARE RIGHT TO LEAVE ~~THEY~~
ESCAPE OBJECT. EXIT FROM OBJECT LEADS ~~TO~~ ^{NEEDS}

SEE ~~THE~~ WAITING FOR SATE THAT NOISE COMES.

(11)

SZ

~~R~~

R1

E7

T 1

R22

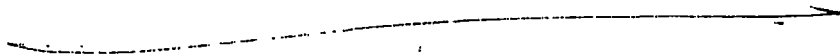
R11.

CONDITIONS
NO. 200

CLOUDY
WARM
WET

R1 SOME
"WORKS"!

LIVEABLE. CONDITIONS.



T

SITE ON
1531

136649
215216

CPYRGHT

Conclusion: Who Goes There?

Conclusion: Who Goes There?

215

the shape of a disc, of such approx-
man-made aircraft. . .
idents may be caused by natural
as extreme rates of climb, maneu-
which must be considered *evasive*
ircraft and radar, lend belief to
controlled either manually, auto-

eral in the Air Force Reserves,
that UFOs are real and who has
at Wright-Patterson Air Force

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as they are known, provide
nation of persons and things
th a person, animal, or other
ly or come within the atmo-

to the moon and, in fact, insti-
nding, the regulations can be
nating from Earth, according
neoretically, anyone who sees
h, is able to touch the object,
ar in prison if he or she does

ng will ever come down upon
eward someone with physical
lem surfaces and that is the
ne media, a potential witness
FO encounter. The threat of
ic to some as yet unknown

ounter had precisely this fear
he had gone through.

d about an unidentified flying
am Forest near the American
1980. Reports included radar
er had been visited by U.S.

ting the radar tapes. . .
and entities seen in a clearing
verified and little else could

security sergeant saw entities associated with a dome-shaped UFO in the woods; another witness, an airman, saw marks in the earth characteristic of what he had heard about UFO landing marks. All witnesses desired complete anonymity, however, and while the story became more intriguing with the increase in the number of confirming witnesses, it still could not be considered a strong case by any means. Anonymous witnesses and scattered rumors are not convincing evidence of anything.

While we were putting this book together, a person came forward as a result of a UFO article he had read. Fascinated by the subject because of his experience, this individual was eventually put in contact with the authors and told a very interesting tale. His identity is known to us, but, by his request, we will change his name to Art Wallace.

Wallace was attached to Bentwaters Air Force Base as a security police-
man. He had been assigned to the base for only a short period of time,
when at 1:00 A.M. on a night either on or very near to December 30, 1980,
his life took a strange twist. While he was on duty at the Bentwaters flight
line, a jeep pulled up. Two men, a sergeant and a lieutenant, told Wallace
to get in because they were going over to the motor pool. On the way over,
Wallace noticed that many animals were running out of the woods nearby;
something he had never seen before, even in the States. When they arrived
at the motor pool, Wallace and the sergeant were told to get gas-powered
"light-alls" (trailer-mounted lights used for illuminating large areas). The
lights were attached to the jeep, and they proceeded to the Bentwaters main
gate where they met other vehicles.

The convoy moved out toward the Rendlesham Forest a few miles
away. Wallace heard radio chatter mentioning names of people he knew
plus "OSI," most likely a reference to the Air Force's Office of Special Investi-
gations. Wallace saw security police as well as members of the British military
stationed all along the way.

They pulled onto a dirt road and drove about a mile into the Rendlesham
Forest, stopping at what Wallace referred to as a "staging point." The men
were ordered to check their weapons in since they would not be taking them
along. Wallace went into the woods with four other men led by a captain
who had met them at the Bentwaters motor pool. As they approached a
clearing in the woods, they noticed a brightness in the distance and the
sound of helicopters overhead. Wallace noticed an airman crying at the edge
of the clearing with a medic attending him. This puzzled Wallace greatly
as he couldn't imagine what might have been going on. The first thing the
personnel were milling about watching something.

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 mist inside. It did not move from its position. Wallace and some of the men approached the object to within about ten feet. Two cows in the field had come over to the object and according to Wallace, appeared to be just staring at it, oblivious to the security men in the area.

A radio call was heard over a field radio unit. A helicopter pilot said, "Here it comes." In the distance, a red light appeared, first behind a pine tree, then in front of it. The light quickly sped over to the aspirin-shaped object and hovered at a position about twenty feet above it. After maintaining this position for a minute, the red light broke up. No explosion occurred in the conventional sense. The light merely broke up into a shower of particles.

Suddenly, in the place of the red light and the aspirin-shaped object, another vehicle appeared. Wallace said it was a domed disc, bright white in color, with an intricately detailed surface much like the models used in movies like "Star Wars" and "Close Encounters." It had two appendages on the lower flange of the disc which seemed to be the beginning of delta wings but not quite. Shadows were cast on the surface of the disc by some of the raised-relief detail. Wallace and the men with him walked around the object and noticed an interesting effect. Their own shadows were cast onto the object, probably by the bright "light-alls" in the field. Not only did their shadows bend upwards at the head, but as they walked and then stopped, the shadows would appear to advance *one pace more* and then stop. Stunned and disbelieving of this effect, Wallace and the others walked and stopped several times, each time noticing the effect repeat itself. Additionally, the third time that they tried this, a light came over the head of a shadow and moved from one head to another.

Wallace recalled turning to say a few words to one of the men. The next thing he knew, he woke up in bed, fully dressed and muddy up to his knees. Wallace asked one of his companions in the barracks what time he had come in. He replied 4:00 A.M. At that point he did not remember what had happened that night. As he went about his usual duties, Wallace began to recall the events.

A phone call came later in the day. Wallace was summoned to his commander's office along with other security policemen who were at the scene of the UFO activity. Civilians were in the office also, giving Wallace the impression of being CIA personnel. The commander politely advised the men not to talk about the night's events to anyone. They were brought into another room where the civilians, much more stern and rude, reminded the men of their duty and ordered them never to discuss the matter with anyone. They were checked for radiation, debriefed for an hour, and made to sign forms which re-emphasized the high security nature of what happened. Wallace and others were put on a call-in schedule by which they would be required to phone a certain number daily at 11:30 A.M. as a check on their whereabouts and activities.

Wallace recalled being shown a film on UFOs in a room with other

reasons which he clips, some dating to World War II and times. Several of the objects were fighter aircraft, and in some cases the object passed close to a person. Wallace told they were being shown to the public need for secrecy on the part of the government.

Wallace said that the details of the detailing alien meetings were deliberately contrived by the government and was intended to be discredited. The information would be ascribed to the government.

It is quite a story. Forest events, we are interested in what may have happened.

What was the A: a FOIA request with the purpose to determine if documents from 1982, 1983, came from CIA.

Reference your letter regarding unknown aircraft and strange activity in the field but not on land. Investigation was conducted and records you requested.

If no records exist, how near Bentwaters? He is more, under the provisions either have been described. They have been passed along to you and would no longer be conducted by the 8th.

On May 7, 1983, a FOIA request with the purpose to determine if documents from the Rendle management service which covers the Bentwaters area as it seemed that a copy of the records.

However, in the case of the 513th CSG,

It might interest you to have a copy of the records.

BILL GRADISON
1ST DISTRICT, OHIO

RON ROBERTS
ADMINISTRATIVE ASSISTANT

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October 26, 1978

Reg

Mr. Fred Hitz
Legislative Counsel
Central Intelligence Agency
Washington, D.C. 20505

OLC #78-3305

Dear Fred:

I have recently been contacted by one of my constituents, [redacted] regarding UFO materials held by the Central Intelligence Agency.

[redacted] indicated to me that he has written to the CIA before and not received a reply. I would appreciate receiving a report on the nature of the information on UFO's held by the CIA; your policy on the release of this information to private citizens or groups of interested laymen; and the statutory basis for this policy.

Thank you very much for your assistance.

Sincerely,

Bu

Bill Gradison
Representative in Congress

BG/ac

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CENTRAL INTELLIGENCE AGENCY

WASHINGTON, D. C. 20505

~~Soc 401.4 ABKCO~~
Films, Inc.

PUBLIC AFFAIRS
Phone: (703) 351-7676

15 March 1979

Mr. John Fielding
Producer
ABKCO Films, Inc.
1700 Broadway
New York, New York 10019

Dear Mr. Fielding:

Thank you for your letter of 5 March requesting an Agency spokesman on film to answer questions relating to the Agency's policy towards U.F.O.'s from 1952 to date.

There is no organized Agency effort to do research in connection with the UFO phenomena, nor has there been an organized effort to collect intelligence on UFO's since the 1950's.

Thank you again for writing. I'm sorry we could not be of more assistance.

Sincerely,

[Redacted Signature]

Charles E. Wilson
Chief
Plans and Policy Branch

CEW/ks

STAT



FILMS, INC.

1700 BROADWAY, NEW YORK, N.Y. 10019

March 5, 1979

TELEPHONE (212) 399-0300

TELEX 12-7866

WRITER'S DIRECT DIAL NUMBER

212-399-0308

Mr. Charles E. Wilson
Chief
Plans and Policy Branch
Central Intelligence Agency
Washington, D. C. 20505

Dear Mr. Wilson:

I am obliged to you for your letter of February 13, 1979 explaining the Agency's position with regard to its two former employees.

Would you let me know whether the Agency is prepared to make a spokesman available on film to answer questions relating to the Agency's policy towards U.F.O.'s from 1952 up to date.

Very truly yours,

John Fielding
Producer

JF:rg



CENTRAL INTELLIGENCE AGENCY

WASHINGTON, D. C. 20505

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AIR WAR COLLEGE
AIR UNIVERSITY

PSYCHIC WARFARE:
EXPLORING THE MIND FRONTIER

by

Dolan M. McKelvy
Lieutenant Colonel, USAF

A RESEARCH REPORT SUBMITTED TO THE FACULTY
IN
FULFILLMENT OF THE RESEARCH
REQUIREMENT

Research Advisor: Colonel Donald N. Panzenhagen

MAXWELL AIR FORCE BASE, ALABAMA

May 1988

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AIR WAR COLLEGE RESEARCH REPORT ABSTRACT

TITLE: Psychic Warfare: Exploring The Mind Frontier

AUTHOR: Dolan M. McKelvy, Lieutenant Colonel, USAF

Man's greatest potential remains a prisoner of man. Vast untapped mental capabilities create an entirely new battlefield dimension which, if ignored, pose a threat to self and country more serious than nuclear weapons. This threat starts from within. Our fears and cynical attitudes towards psychic capabilities make us our own worst enemies. The Soviets, on the other hand, take psychic research very seriously at all levels, particularly for its military application. Exploring the mind frontier is essential and the key to successful exploration is a greater psychic awareness. The mind is rich in unfathomed resources ripe for exploration, a limitless source of treasures for advancing all mankind, and a serious threat to those who ignore its potential. We must overcome our psychic inhibitions, stop denying the existence of paranormal events, and start trying instead to understand the nature of these phenomena. We must shed the super secret cloaks and educate our leaders at all levels on the real psi military potentials and threats so we can adequately focus and prioritize national resources. Only thru greater openness and awareness to the truth can we adequately prepare.

BIOGRAPHICAL SKETCH

Lieutenant Colonel Dolan M. McKelvy, USAF, received a B.S. from the United States Air Force Academy and a M.S. from Kansas State University. His extensive computer science and systems engineering background have taken him from vacuum tubes to integrated circuits, from slide-rules to world-wide computer networks, and from human senses to high tech space based sensors. He recognizes the existence and tremendous potential inherent in extended mental capabilities and is concerned that their potential impact on the military and a computer-dependent world is grossly underestimated in Western society. He is a graduate of the Air Force Squadron Officers School, the Air Command and Staff College, the Armed Forces Staff College (Class 75), and the Air War College, class of 1988.

PSYCHIC WARFARE: EXPLORING THE MIND FRONTIER

Man's greatest potential remains a prisoner of man. Only a fraction of the human mind is currently used. Limitless mental capabilities are just waiting to be accepted, developed and understood. With this tremendous power comes an entirely new battlefield dimension which, if ignored, poses a threat to self and country more serious than nuclear weapons. This tremendous threat starts from within. Our fears and cynical attitudes towards psychic capabilities make us our own worst enemies. Coordinated military exploration of the mind frontier is essential. And key to successful exploration is a greater awareness of psychic phenomena. To support this thesis I will examine some of the mind's great treasures, discuss their potential use and feasibility as instruments of power, highlight major self-imposed obstacles to developing extended mental capabilities, and recommend future actions.

INTRODUCTION

In December 1980 Lieutenant Colonel John B. Alexander, US Army, authored an article in Military Review entitled "The New Mental Battlefield: Beam Me Up, Spock." In this article he challenged the imagination of his readers when he stated, "To be more specific, there are weapons systems that operate on the power of the mind and whose lethal capacity has already been demonstrated" (3:47). He discussed psychotronic weaponry and provided eye-opening, unclassified information on both Soviet and American

research into parapsychological phenomena. He concluded:

The impact that psychotronic weaponry and other paranormal applications will have in the future is difficult to determine at this time...whoever makes the first major breakthrough in this field will have a quantum lead over his opponent, an advantage similar to sole possession of nuclear weapons...The intent here is to emphasize the need for more coordinated research in the realm of the paranormal. Additionally, there is a need to provide leaders at all levels with a basic understanding of weapons systems they may encounter in the not too distant future (3:52).

A response came almost immediately. In January 1981, columnist Jack Anderson of The Washington Post was quick to demonstrate American skepticism of psychic research in an article entitled "Pentagon Invades Buck Rogers' Turf." Anderson's one-sided derogatory prose was filled with terms like "futuristic fantasies," "hogwash" and "voodoo warfare" (4:D16). A month later Anderson was back reinforcing psychic skepticism. This time he began, "The brass hats are, indeed, dabbling in the dark arts." Other carefully chosen phrases included "evil eye," "comic-strip," "Ouija board warriors" and "voodoo warriors arsenal" (5:DC11). Within weeks he returned to the subject by referring to "wacky projects" of the CIA, or studies "like a Haitian witch doctor might try" (6:B13).

Maclean's magazine reported in 1981 that President Reagan and Defense Secretary Weinberger had to decide:

Whether to continue funding the top-secret project which, according to Jack Anderson of The

Washington Post, is currently allotted \$6 million annually (30:38).

Between 1981 and 1984 numerous articles appeared in periodicals revealing an astonishing amount of research in the psychic field and reflecting great skepticism amongst the scientific community. In January 1984, columnist George Hebert wrote an article entitled ". . . but a peek at ESP is justified" in a Norfolk, Virginia, newspaper. He focused attention on U.S. Defense Department denials that the government was supporting psychic research. He suggested and hoped the denials were based on security concerns. Even as a skeptic he noted:

If, on the other hand, the denial reflects a true military disinterest in the psychic possibilities--our own and the Soviet Union's--that would be reason for worry (25:A8).

An NBC Nightline program in February 1984 discussed the possibility of "mind wars." Researchers, scientists and government consultants were interviewed. Especially noteworthy was the general skepticism of government advisors compared with the positive convictions of researchers.

And most recently, in the 11 May, 1987 issue of Newsweek, Senate Foreign Relations Committee chairman Claiborne Pell invited psychic Uri Geller for a reception and dinner in Geneva during Soviet arms negotiations. He had previously arranged for Geller to give a briefing on Capital Hill--in a special bugproof room. Most of the spectators were Hill and Pentagon aides. House Foreign

Affairs Committee chairman Dante Fascell came away impressed (22:5).

Was Lt. Col. Alexander's message taken seriously? Is the Defense Department conducting more coordinated parapsychology research? Do leaders at all levels have a basic understanding of these psychic weapons systems we may soon encounter? What is the potential threat to the electronic components which form the basic foundation of all our sophisticated weapons systems? In light of future Defense Department funding limitations, does parapsychology (the mind frontier) really offer a new battlefield dimension which warrants continued military exploration? This paper attempts to answer these questions by providing an unclassified status update on LT. COL. Alexander's 1980 concerns. It is not a research report to identify everything the government is doing. By researching events and literature in the 1980s, particularly those involving military personnel and government programs, this paper shows that too much is happening in the parapsychology field to ignore, and too little information is disseminated to know how to treat it properly.

DEFINING PARAPSYCHOLOGY

Paranormal phenomena are observable facts or events which are not scientifically explainable at this time. Psychic research includes such phenomena as telepathy (mind-to-mind communication), precognition (knowledge of future events), dowsing (clairvoyant ability to find water,

minerals, and so on, by means beyond known sensory or perceptual faculties), remote viewing or out-of-body experiences (seeing locations, objects or events shielded from ordinary perception in a spatial location separate from one's physical body) and psychokinesis (movement of matter by mental means without using any known physical force). These types of psychic functioning are also referred to as psi, which is frequently preferred by researchers to dispel the misconception that these capabilities are outside the realm of normal human experience. Researchers contend psychic functioning "occurs naturally in the everyday experiences of many people" (41:11). Psi is further subdivided into two categories. The term extrasensory perception (ESP) refers to telepathy, dowsing, precognition and remote viewing, while the term PK refers to psychokinesis (33:27). Psychotronics is the term used to describe "the amplification of psychic energies by electronic devices" (33:125).

The first recorded experiment of psi involved a military intelligence application of remote-viewing. Back in 550 B.C. King Croesus of Lydia felt threatened by the increasing power of the Persians. He needed to know what they were planning. Historians give us a detailed account of just what happened. Croesus sought an oracle who could somehow perceive his enemies plans; an oracle with proven psychic abilities. So he devised a simple test. He dispatched messengers throughout the ancient world to visit

different oracles and ask for a written description of Croesus' activities at a specified time and day. The oracle at Delphi responded:

I can count the sands, and I can measure the ocean; I have ears for the silent, and know what the dumb man nameth; Lo! On my sense there striketh the smell of a shell-covered tortoise, Boiling now on a fire, with the flesh of a lamb, in a caldron-- Brass is the vessel below, and brass is the cover above it (41:12).

Only the Delphi oracle provided the correct response; for on the specified day, Croesus did something he thought

most impossible for anyone to conceive of his doing...He took a tortoise and a lamb, and cutting them in pieces with his own hands, boiled them both together in a brazen caldron, covered over with a lid that was also brass (41:12).

Croesus' 550 B.C. experiment convinced him remote-viewing worked (for the Delphi oracle), and provided him a significant intelligence force multiplier against his Persian enemies. How far have we advanced since then?

DISCOVERING THE MINDS GREAT TREASURES

In over 2500 years since Croesus' first psi experiment, it is amazing that people still know so little about this subject. Paranormal experiences occur daily throughout the world: they are nothing new, nor are they limited to particular types of individuals. Our mind contains boundless capabilities just waiting to be recognized, used and understood. We all accept and share at least some common understanding of this vast mental potential. We have all heard statements such as "Think positive."

Sayings such as this are based on our acceptance of the

notion that our mental attitude can directly affect the outcome of events. Opinions vary, however, on just how great an impact mental attitude can have and under what circumstances it can have such an impact. When we look around us, we can all recall personal experiences or those of others who have experienced some type of paranormal event. These events demonstrate the reality of the untapped potential of the human mind. "The truth is that most people are interested in psychic experiences because they are having them" (41:156).

Have you ever heard about dowsing to find water? An old dowser used a tree branch to help some friends determine where to drill for water on their mountain property. Contrary to geologists' recommendations, he not only picked the right spot but accurately predicted how deep the drillers would have to drill and how many gallons of water per minute the well would provide. Are you skeptical? According to a June 1983 Congressional Research Service Report,

The Soviets claim that scientific studies of dowsing have yielded significant results. Accordingly, dowsing is taught to professional mineralogists and geologists at Tomsk Polytechnical Institute (17:CRS-14).

The report goes on to say, "Dowsing or divining for water, oil, and other minerals is an established practice in this country and abroad, particularly in the Soviet Union" (17:CRS-24).

And what about the "healing" stories? Researchers and

ordinary people around the world are witnessing and experiencing faith healings, psychic surgery, and miracles. Of course there are frauds, but at the same time countless numbers of people have been helped. Practitioners of holistic medicine and other health care specialists are exploring and using many of these dormant mental capabilities. The mind frontier is rich with resources beyond our imaginations. Many adventurous and courageous people have already penetrated portions of this region and are using their newly developed talents; a scientific understanding of how these gifts work continues to elude us. Soviet researchers and a few Western researchers think innate signals are transmitted via some type of radio wave, perhaps extremely low frequencies (41:33).

U.S. physicist Russell Targ invented the ultra-high-power carbon dioxide laser and is a specialist in microwave and plasma research. He also conducted psychic research at the Stanford Research Institute (SRI) for years and is known as one of the prominent experts of psychic research. He thinks

The reasons more people have not actively explored their psychic capabilities are clear. Everywhere we look, we find images of psychic functioning that are confusing, intimidating, misleading, and terrifying...Meanwhile, critics of psi, who often know next to nothing about psi research, condemn the scientific work in this field out of fear of its philosophical implications (41:119).

To date, paranormal events are unexplainable in man's view of nature. Much controversy exists as organized science and Western society quickly try to explain away

very real paranormal events. The scientific community needs proof based on logical, analytical and quantitative analysis. Such scientific approaches to psychic research always leave room for skeptics to question the validity of conclusions. Yet, as someone once succinctly noted, "Just because it can't be proven doesn't mean it isn't so." Croesus was convinced! He didn't let lack of understanding prevent him from taking advantage of the capability.

This highly skeptical Western attitude has greatly affected research efforts. Western researchers credibility is jeopardized because of the spiritual undertones associated with psychics. Jack Anderson's 1981 columns on "voodoo warfare" clearly demonstrated a cynical attitude by labeling such research as crazy. But in response to his columns, letters poured in from the general populace supporting the research (33:xix). Through greater public awareness, by 1984 even Jack Anderson was changing his tune.

But there are legitimate laboratory projects that may eventually unlock the mysteries of the human mind. One of the most promising is the testing of "remote viewing"--the claimed ability of some psychics to describe scenes thousands of miles away (7:B14).

Much of the skepticism and cynicism is generated from within the scientific community itself. In Ronald McRae's 1984 book, Mind Wars, the author describes several examples of the scientific communities inability to deal with the unknown--and how in our society

The prevailing concept defines what research is acceptable and what isn't, which laboratories will enjoy the patronage of the pope in Galileo's time or the government today, who is published and who isn't. Parapsychology, for the most part, is an 'isn't'...Publication of parapsychology papers in the major scientific journals is rare (33:21).

Of course not all scientists are skeptics constrained by "prevailing concepts". Captain Edgar D. Mitchell, an astronaut on the Apollo 14 space flight to the moon, holds a Doctor of Science Degree in Aeronautics/Astronautics from the Massachusetts Institute of Technology. He conducted ESP tests on that space mission in February 1971. In the early 1980s, during an interview with Martin Ebon, author of Psychic Warfare: Threat or Illusion?, Captain Mitchell commented:

During the intervening years, my work, as well as the work of parapsychology in general, has convinced me that the human organism is capable of all of the events we study in parapsychology. . .[I have] established this to my own satisfaction--if not fully to the satisfaction of all skeptics (18:166).

Within the exploding technological revolution "The eminent computer scientist A. M. Turing considers the question, that the only discernible difference between a human being and a computer may be that the latter cannot experience psi" (41:261). Similarly, pioneer computer researcher Dr. Jacques Vallee stated:

My contention is that machines will be able to "think" by any human standard that can be precisely defined. But as the machines get "smarter" by these rational standards, it is the definition of humanness that will change... I think we will discover, beyond these rational

standards, that the human race has many other psychic talents we had previously been afraid to recognize, talents which constitute our truly genuine existence as humans. They are the only part of us worth talking about (41:261).

Dr. Robert Davies is medical director of Fair Oaks Hospital in Summit, New Jersey, where he has studied neurologic and psychiatric illness for many years. In 1986, when discussing ESP he said, "Too many things like this happen for it to be just coincidence...The commonalities that appear in many of these reports suggest that there may be some common physical basis"(36:88). This common physical basis is what researchers are trying to determine. But to develop a scientific explanation of these events may require new principles in physics.

Skeptics and cynics will always be present. Some skepticism is crucial to the scientific study of parapsychology. Skeptics are valuable when they recognize the reality of psychic phenomena, help expose con-artists, and provide objective criticism to help us better understand paranormal events. Cynics, on the other hand are biased and close-minded, trying to make nature change itself to conform to their concept of the universe. In spite of personal skepticism, McRae points out "the opinions of the many eminent scientists in both nations who believe parapsychology research may lead to fundamental new discoveries cannot be ignored"(33:68). The other nation he is referring to is the Soviet Union.

SOVIET THREAT

: With these tremendous expanded mental capabilities comes an equally awesome threat to both self and country, one which stretches the imagination far beyond its normal boundaries. Martin Ebon cites a U.S. Defense Intelligence Agency report entitled "Controlled Offensive Behavior--USSR" which was declassified eight years ahead of schedule. The report states:

The Soviet Union is well aware of the benefits and applications of parapsychology research... Many scientists, U.S. and Soviet, feel that parapsychology can be harnessed to create conditions where one can alter or manipulate the minds of others. The major impetus behind the Soviet drive to harness the possible capabilities of telepathic communication, telekinetics and bionics are [sic] said to come from the Soviet military and the KGB (18:12).

Ebon uses extensive research to provide an in-depth account of parapsychology research in both the Soviet Union and the United States. In noting the dramatic increase in KGB security and control of Soviet parapsychology research, he concludes that "psychic warfare is something to fear" (18:219).

After returning from a visit to the Soviet Union as a guest of the U.S.S.R. Academy of Sciences in September 1983, Russell Targ wrote, "Many Soviet laboratories appear to be conducting experiments in which their main goal is the modification of the behavior and feelings of remote humans and animals by psychic means" (24:78). In summarizing his travels from Moscow to Leningrad to Yerevan and his discussions with Soviet researchers, he notes,

They universally expressed the feeling that

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psi's importance lies in the development of human potential, not in its possible military or intelligence applications. But everyone we talked with also made some oblique reference to what we were not being shown (24:79) (41:89).

In 1978 Henry Gris and William Dick, in The New Soviet Psychic Discoveries, provided a wealth of first-hand data on Soviet breakthroughs in parapsychology and related fields. From this information they presented an eye-opening, inescapable conclusion that the Kremlin was ready to adopt psychic knowledge for military use. They also reported on tests conducted by the CIA in 1973 involving two noted U.S. psychics.

In controlled tests, the psychics projected their minds over long distances, apparently accurately describing supersecret military installations and even the contents of confidential files in these bases. During one experiment Price described in minute detail a Soviet installation hidden in the Ural Mountains. CIA agents in Russia confirmed his description. The two psychics "spied" on China and once again, "ground truth" agents--CIA contacts in the People's Republic--were able to confirm their accuracy (23:292).

Retired Army Lt. Col. Thomas E. Bearden has a Master of Science Degree in Nuclear Engineering with over 29 years experience in air defense systems, tactics, and operations, technical military intelligence, nuclear weapons employment, antiradiation missile countermeasures, tube artillery and air defense missile systems. He also directed the production of U.S. Army technical intelligence on Soviet surface-to-air missile systems. In his 1980 book, Excalibur Briefing, he describes psychotronic weapons in detail, along with a mindboggling hypothesis. He

believes "that by psychotronics, the minds of all men can be linked into a great supermind having absolute psychokinetic mastery over time and space" (10:5). The basis for his sense of urgency lies in a nonconventional interpretation of two important statements. Like Gris and Dick, he points to a statement made by Soviet Premier Leonid Brezhnev on 13 June 1973.

He [Brezhnev] urged the United States to agree to a ban on research and development of new kinds of weapons "more terrifying" than existing nuclear weapons. The reason and conscience of humanity dictate the necessity of erecting an insurmountable barrier to the development of such weapons (23:289).

Bearden also cites a comment made in the mid 1970s by former Air Force Chief of Intelligence Major General George J. Keegan:

The Soviets are working on dramatically exotic new weapons, twenty years ahead of anything ever conceived in the U.S.--so awesome as to lead the Soviets to believe that in the coming decade they would be capable of total neutralization of our ballistic and submarine missiles (13:24).

Bearden feels these terrifying weapons are psychotronic or parapsychical in nature. In 1986 he wrote a book entitled FER-DE-LANCE: A Briefing On Soviet Scalar Electromagnetic Weapons. He named the book after the deadly South American pit viper snake which unexpectedly strikes its prey with great agility and lethal effects. In this book he indites the orthodox Western scientific community for its bureaucratic smugness and arrogance. He compares the current Soviet secret development of psychotronic weapons with U.S. secret development of the

atomic bomb.

We have assumed that it certainly could never happen to us, and that the "secret weapon" scenario will never be repeated. On the contrary, it has happened again, someone else has done it, and it has happened to us (9:7).

The equivalent of about seven Manhattan projects has been poured into FER-DE-LANCE by the Soviets and the program has been successful almost beyond imagination. The eery weapons are now developed, deployed, and tested. The ambush has been completed; FER-DE-LANCE is coiled and ready to strike (9:1).

Bearden's book provides a detailed theory with supporting evidence which he and others who share his convictions have been compiling for years. He has ventured beyond the "prevailing concepts" of our scientific community to find answers to real paranormal events which have been occurring around the globe. His evidence specifies dates, times, and places where these weapons have been tested and how they were detected. His theory of scalar electromagnetic waves (electrogravitation) and Jules Verne-type weapons is overwhelming, as well as the ramifications. He notes that, "the results of psychotronic research extend into every field of military application" (10:221).

Almost every weapon system we presently have -- or are developing -- is totally vulnerable to scalar EM weaponry. This includes personnel, electronics (including fuzing and warhead), explosives, propellants, fuels, ordnance, ships, submarines, torpedoes, aircraft, helicopters, missiles, drones, rockets, tanks, armored vehicles, weapons carriers, self-propelled and towed artillery, communications, satellites, radars, command and control, directed energy weapon systems, surveillance and sensor systems, mines, artillery rounds and ammunition, nuclear

warheads, etc." (9:84).

Whether the Soviets have developed all of these weapons is not the crucial point. What is apparent, however, is the tremendous potential threat of psychotronics as an instrument of power. The crucial point, therefore, is that the Soviets apparently are aggressively pursuing research to control this instrument.

In 1977 Soviet parapsychology research finally became an issue the Carter administration could not ignore, no matter how skeptical some officials remained. On June 11, the KGB arrested Los Angeles Times reporter Robert C. Toth in Moscow and charged him with obtaining a "secret" state document, which revealed the existence of ongoing research in parapsychology at several laboratories in the Soviet Union...[Soviets] admitted for the first time current official Soviet interest in the military potential of parapsychology (33:74-75).

This incident focused presidential attention on a science which some of his advisers claimed did not even exist.

Carter ordered a new definitive intelligence estimate of Soviet psychic research and its military potential, using all the intelligence resources available to the CIA, the first such report ever done at the pinnacle of the U.S. national security establishment (33:76).

The report was completed in 1978 but only partially released under the Freedom of Information Act in 1980. Rather ambiguously, they "found no evidence of a massive Soviet 'psycho-warfare'...Nor did the CIA dismiss entirely the most apocalyptic allegations of secret Soviet psi research...the evidence is fragmentary and contradictory at best" (33:78).

A June 1983 Congressional Research Service report to Congress says,

It is also speculated that the Soviet Government is firmly committed to the funding of psi research and that much of this funding, variously speculated to amount to tens of millions of dollars, is directed toward military research (17:CRS-14).

What makes the Soviet research effort such a threat is the United States' apparent lack of interest. The same report to Congress also mentions that "total funding for psi research in the United States probably does not greatly exceed \$500,000 per annum, and most funding originates from private sources and foundations" (17:CRS-13). Attempts to identify more recent and accurate funding levels have been to no avail.

U. S. RESEARCH

Any lack of interest in psychic research in the United States is an outgrowth of personal fears, sensationalism, and restrictive scientific mind-sets. We are our own worst enemies. Through cynicism, biased criticism, and ridicule the scientific community and society as a whole have suppressed exploration of the mind frontier. Greater psychic awareness is the key to opening our minds and discovering the hidden treasures.

Dr. Roger A. Beaumont, professor of history at Texas A&M University, has published more than 40 articles and three books on military history and strategic studies. In a 1982 article in Signal magazine he points out:

In the West, psychic research has long been

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tainted by sensationalism and some charlatanism...The dramatic and the absurd overtones of the popular culture aspect of ESP has [sic] led even the more conservative elements of the popular press to treat ESP as a novelty...Major centers of ESP research in the West, at Utrecht, London and Duke University, have come under suspicion from many scientists. As a result, researchers...have labored to prove an effect which the Soviets accept and attempt to explain--and control (12:40).

Dr. Beaumont's comments are certainly proven true when one considers the continued skepticism of the scientific community in view of the extraordinary potential Soviet threat. According to Russell Targ, one of the reasons psi research has suffered is that critics suggest any acceptance of scientific data in the field of psychic research would be inherently irrational (24:77). A survey of America's elite scientists, which elicited 353 responses from 497 council members and committee members of the American Association for the Advancement of Science (AAAS), was published in June 1982. The study states:

Although recent studies hint that belief in ESP may be increasing among the general population and among the scientific community, the elite scientific group polled by this study demonstrated the highest level of skepticism of any major group surveyed within the last twenty years (32:127).

Also mentioned in this report was a movement started in 1979 that sought to disaffiliate the Parapsychology Association from the AAAS. It is interesting to note that "among this elite group, believers in ESP tend to cite personal experience as grounds for their belief. Skeptics tend to cite a priori reasons as grounds for disbelief" (32:128). The "prevailing concepts" and negative peer

pressure within the scientific community is best shown by the 1984 award of a \$750,000 endowment for parapsychology research to the University of Edinburgh in Scotland. Leading British universities, including Oxford and Cambridge, "decided not to apply for the endowment, primarily on the grounds that it would throw doubt on the credibility of other research programs" (16:1274). Obviously this is an example of the "suspicion" Dr. Beaumont was talking about; it is an indication that major self-imposed obstacles continue to impede psychic research.

The first great battle of any "mind race" must be fought within ourselves. If each of us becomes more aware and open-minded to the reality of paranormal phenomena, we can learn to use these treasures rather than fear them. This greater psychic awareness has perhaps already begun. A survey by the president of the American Society for Social Psychiatry revealed in 1981 that 58 percent of medical faculties polled felt that "understanding of psychic phenomena is important to future graduates of psychiatry programs", and that the American public accept the reality of psychic phenomena with 51 percent believing in ESP and 37 percent believing in precognition. The June 1983 Congressional Research Service report says,

All polls of both the public and the scientific community in recent years have yielded evidence of a generally positive attitude toward the existence and relevance of psi phenomena as a class and research into them. The general public accepts the concept of psi, often based on personal experience (17:CRS-21).

But given such great controversy within the scientific community, what should be the military attitude, what are the potential military uses, and how feasible are they? Thirteen of the fourteen best-known parapsychology laboratories in the United States responded to a questionnaire in 1979 giving us part of the answer.

Four considered "ESPionage" possible, five likely, and the remaining four certain. Similar proportions of the researchers believed psychic powers might be used to physically harm, sicken, or kill individuals, or to interfere with the operation of physical equipment such as computers (33:53).

Ronald McRae, an investigative reporter for Jack Anderson, spent over a year sifting through a "sea of conjectures, rumors, and confusion", studying conflicting reports, competing interests groups and conjectures of psychic researchers to compile the most accurate record of facts he could find. His 1984 book, Mind Wars: The True Story of Government Research into the Military Potential of Psychic Weapons, provides startling insights into numerous government projects involving psychic functioning. So much so that professor Marcello Truzzi, Director of the Center for Scientific Anomalies Research in Ann Arbor, Michigan, said,

He has given us enough pieces of the puzzle so that we can now at least see some of the areas filled in enough to make a preliminary assessment and recognize that government psi efforts have been grossly publicly underestimated (33:xii).

Similarly, Russell Targ and Keith Harary authored a 1985 National Bestseller entitled Mind Race, where they

discuss the unclassified portions of over ten years of government sponsored psi research at Stanford Research Institute. They note,

In laboratories across this country, and in many other nations as well, forty-six experimental series have investigated remote viewing. Twenty-three of these investigations have reported successful results and produced statistically significant data, where three would be expected (41:5).

Psi research is definitely alive in the United States and Internationally. In 1983 the Fifth International Conference on Psychotronic Research was held in Bratislava, Czechoslovakia. The founder and president of the 15 year old International Association for Psychotronic Research (IAPR) was Dr. Zdenek Rejdak, from Czechoslovakia. Russell Targ points out that several speakers at this conference expressed "a clear desire for openness and cooperation-- rather than for developing military uses of psi" (41:86). Targ agrees. But I contend that government and the military have a responsibility to determine what kinds of military uses/threats might exist.

POTENTIAL MILITARY USES

It should not be hard for anyone to envision potential military uses of the powerful psi capabilities discussed thus far. Telepathy, precognition, dowsing, remote viewing and psychokinesis offer an endless list of possibilities. In 1984 Charles Honartton, Director of the Psychophysical Research Laboratories in Princeton, said, "There is potential for military and other uses, but psi has not

reached the application stage"(38:38). Let's look at some specific military uses before addressing the implementation issue.

INTELLIGENCE

Just like Croesus in 550 B.C., remote viewing and precognition can break through barriers of time and space to perhaps eliminate the word "secrecy" from our vocabulary. In 1976 CIA director George Bush enthusiastically gave retired astronaut Edgar Mitchell "permission to organize high-level seminars at the CIA to discuss possible intelligence applications of parapsychology"(33:103). Although interest waned in 1977 when Admiral Stansfield Turner replaced Bush, it shows there are others who see definite psi applications for the intelligence community.

As mentioned earlier, four of the best-known U.S. parapsychology laboratories are certain that psi can be used for espionage. Those four labs must of known about Project Scanate! In a previous section of this paper I quoted Henry Gris and William Dick's 1978 book where two U.S. psychics described supersecret military installations and even the contents of confidential files at the installation. Ronald McRae's 1984 book gives more details on this actual test:

Psychics versus the CIA, extrasensory perception against the most sophisticated codes known to the U.S. National Security Agency, remote viewing against satellite photography and top U.S. agents behind the iron curtain--the

whole of the U.S. national security apparatus cooperating to make cheating impossible. The test was dubbed "Project Scanate"--an impossible test with impossible results...Puthoff, Targ, and the psychics won" (33:92).

The following example demonstrates some results.

On impulse, Puthoff gave Price the coordinates for the latest series of targets selected by the CIA, including an area in Virginia approximately 135 miles southwest of Washington, D.C. Three days later, he got Price's five-page written response in the mail, "beginning with a description of the area from an altitude of 1,500 feet and ending with a tour through building interiors. The tour was complete with descriptions of equipment, names from desks, and--just to show he was serious--a list of a dozen labelings on file folders locked in a file cabinet."...Three weeks later, the CIA informed him [Puthoff] that Price was right. Exactly right (33:100).

The other psychic, Swann, although sometimes ambiguous or off the mark, also was remarkable when he described

A previously unknown Soviet installation, sketching buildings and rail lines, and noting an "unusually high proportion of women" among the personnel. A U.S. spy satellite verified Swann's report three months later (33:101).

Another example involved Navy Captain Joseph L. Dick, the leader of the Defense Intelligence Agency office responsible for gathering evidence on potentially live MIA's. He used psychics and said, "Some of their leads have checked out...They've been able to visualize aircraft crashes, and we've found the wreckage where they indicated" (33:18).

Remote viewing is obviously a capability well suited to the intelligence business, and unobstructed by distance limitations.

Remote viewing showed that the planet

Jupiter had faint rings like those of its neighbor Saturn. Astronomers scoffed at this claim; Carl Sagan called it "ridiculous." Nine years later, Voyager 1 sent back pictures of the Jovian rings (33:29).

In addition to remote viewing, map dowsing could be used to pinpoint the locations of soviet submarines or find underground tunnels in the Korean demilitarized zone.

PERSONNEL

Before discussing potential personnel applications of psi let me remind you that at least four of the U.S. best-known parapsychology research laboratories are certain "psychic powers might be used to physically harm, sicken, or kill individuals." Their confidence is probably based on experiments like that done in 1975 at San Francisco medical research institute with psychic healer Dean Kraft.

He was to try, psychically, to lower the blood pressure and heart rate of a laboratory rat in a Plexiglas cage...The observers, however, had an opportunity to watch for twenty minutes, and record the steady decrease of the rat's heart rate, all the way to zero (41:81).

He mentally killed the rat without any contact.

Similarly, Nina Kulagina of the Soviet Union is known for her psychokinetic abilities. After just 40 seconds of focusing her mental influences she

was able to completely stop an isolated frog heart from a distance of about a meter and a half... "When we [Soviet Professor Gennady Sergeyev] examined it, we found that it was torn apart, as if bombarded by lightning balls of microscopic size. The energy flow can reach incredible intensity!" (41:269).

From these examples we see the lethality of this type

of psi. Soviet interest in these capabilities is nothing

new. Targ notes "Experiments that feature induced pain or behavioral manipulation at a distance have been the distinguishing characteristics of almost all official Soviet psi research since the early 1920s" (41:77). From the mid-sixties until the mid-seventies the KGB beamed mysterious microwave radiation at the U.S. embassy in Moscow. This bombardment did not exceed U.S. health standards but did exceed much more rigid Soviet standards. Why are Soviet standards more rigid than ours, and why were they putting U.S. embassy personnel at greater risk than they would allow their own personnel--for no apparent reason? (33:72)

From a more positive view, psi could be used to monitor and even restore health from great distances. A doctor could diagnose and treat many patients via remote control. Or better yet, experiments in biofeedback have shown that our minds have the ability to control much of our own physiology. When discussing the interaction of mind and matter, Alexander said, "The functions of the autonomic nervous system, previously thought to operate independently of the conscious mind, can be controlled." With training, we can develop this ability to control stress, fear and even bleeding (3:50).

Another potential area for psi use is personnel training. In 1982 at Fort Hood, Texas, the Army tested a program where soldiers practiced visualizing their combat tasks to improve their human performance. An expanded

contract was then initiated to train Green Berets meditation skills so they could adapt to long hours behind enemy lines (20:69).

What about executive decision making and stress management? In todays analytical and statistical world we tend to underdevelop our "gut instincts". But good leaders and visionaries recognize the value of a highly sensitized intuition. Albert Einstein said the really valuable factor, attributing to his theory of relativity was intuition. (41:181). Targ says through psi "you can learn to evaluate the reliability of your intuitive impressions" (41:182).

COMMUNICATIONS

Just think of the possibilities telepathy provides in the area of communications. Direct mind-to-mind link ups could eliminate security problems and provide direct access anywhere--without equipment dependencies.

Soviet researcher, Paul Naumov, described an experiment where a mother rabbit was placed in a laboratory with electrodes implanted in her brain to monitor activity. Her baby rabbits were taken aboard a submarine which then submerged deep in the ocean. At synchronized times the baby rabbits were killed and at each precise moment the mother rabbit's brain reacted (33:33). This innate form of communication which traversed great distance and ocean depths may be the source of many "natural instincts". When asked in an interview about the limits to man's extended mental awareness, Targ responded:

One of the conclusions of our decade of research at SRI is that we found no bounds for psychic functioning. As physicists, we always try and look for the limits of phenomena, but what we found is that electro-magnetic shielding does not interfere with psychic functioning. We even went to the extent of having remote viewing experiments conducted with the viewer submerged in a submarine under 500 feet of sea-water. That greatly alters even the lowest frequency of electro-magnetic waves. But we found the viewers perfectly able to do remote viewing from the submarine, just as they had done on dry land. We also found that they were to look across distances up to thousands of miles. So from our experiments we found that neither distance nor electro-magnetic shielding interfered with psychic functioning (39:86).

Bearden goes even further. He postulates that through the use of psychotronic electromagnetic scalar weapons all forms of electronic communications are vulnerable. He supports an emerging theory of local general relativity (LGR), which does not assume that local spacetime is always flat, but rather allows the individual conservation laws to be violated locally. "The major implication of this startling new engineering physics is that one can engineer physical reality itself...communication faster than light speed is possible"(9:10).

ELECTRONIC EQUIPMENT

Many researchers are concentrating on tests of low-energy psychokinesis, called micro-PK. "Typically, the psychic subject tries to influence a simple mechanical or electrical system, such as a sensitive thermometer or computer microchip, which can be affected by a very low level of energy." Robert Jahn, Dean of the School of

Engineering and Applied Science at Princeton University,

says such tests have shown consistently positive results (33:54). If a microchip and other electronic equipment can be mentally manipulated, the new high-tech information revolution has just been handed a deadly setback. Financial institutions, businesses, governments, and those dependent on computers are suddenly very vulnerable. This apparent capability has created a paranoia amongst talented psychics in the parapsychology field--perhaps with some justification. "Researcher Jeffrey Mishlove believes that anyone with the ability to jam computers 'would probably have to be destroyed'" (33:55).

How big of a step is it from being able to mentally stop an elevator at will, to manipulating the computer or electronics of a weapon system?

WEAPONS

Through psychotronics Bearden says "almost every weapon system we presently have -- or are developing -- is vulnerable to scalar EM weaponry." Once again we see existing weapons and technology possibly falling prey to a new weapons generation, called psychotronics. He developed this weapons list in 1980.

The following list enumerates all the probable Soviet psychotronic weapons that I am aware of: (1) Electromagnetic Field Canceler; (2) Electron Current Canceler; (3) Death Radiator (De-inceptor); (4) Free Energy Generator; (5) Psychotronic Bomb; (6) Brain link; (7) Brain Probe; (8) Disease Radiator Ray; (9) Emotion Radiator Ray; (10) Antisubmarine Systems; (11) Teleporters (Prototype); (12) Force Generators; (13) Orthoframe Generators; (14) Quark/Antiquark Rays; (15) Distant Telepathy; (16) Nuclear

Radiation Inhibitors; (17) Mental Implantation; (18) ABM Systems, Midcourse and Terminal; (19) Materializer Shields; (20) Sweeps for Nuclear Debris; (21) AAA Systems; (22) Antisatellite Systems; (23) Tesla-effect Weapons; (24) Earthquake Generators; (25) Antivehicle Systems; (26) Weather Control Systems (10:220-221).

He and others have continued monitoring and documenting instances where they believe these weapons have been tested, theorizing the possible effects and matching them up with real world paranormal events. Typical incidents he describes include, a Tesla Weapon at Saryshagan (Scalar Potential Interferometer), "Nuclear" Flashes off the Coast of Africa, the 15 April, 1979 Yugoslavian Earthquake, a Tesla Shield sited in August 1980, a Continuous Tesla Fireball in Lithuania on 10 September, 1976, a Continuous Tesla EMP Globe in Iran, East Coast Aerial Blasts (High Burst Registration?) in 1977 and 1978, Booms in Delaware in 1982, and "Laser" Blinding of U.S. Satellites in 1975,(11:26). More recent incidents include abnormalities during Titan launches, shuttle launches, and even associated weather anomalies.

Think, the ability to manipulate the weather would allow you to literally control the fog of war. But Bearden's 1986 apocalyptic message foretells of an ultimate destructive power,

There is a special time bomb ticking away for all of humanity. For the first time, the total destruction of our entire biosphere -- and perhaps our entire solar system -- is only moments away from the finger on the trigger (9:86).

Just how feasible are these potential military uses

of psi?

FEASIBILITY OF OPERATIONAL EMPLOYMENT

The experiments of the 1970s should more than convince you of psi's potential military uses. But why did Charles Honarton say in 1984 that, "psi has not reached the application stage?" (38:38) Probably because to use psi capabilities operationally requires: 1. the ability to control psi so it can be repeated on demand. 2. the ability to teach it and learn it. 3. the ability to practice it, gain confidence, improve our understanding, and increase reliability. How close are we to satisfying these requirements?

CONTROLLABILITY

Psi is frequently criticized because it is so unpredictable. Psychics are not always successful, experiments are hard to replicate, and therefore use upon demand is unreliable. But is that reason to exclude it all together? We see it used mainly in situations where there are no other alternatives. "The Defense Department used psychics in an attempt to find General Dozier, kidnaped by the Italian Red Brigades in January 1982." All attempts were unsuccessful and unrelated to his eventual rescue (33:16). But if 100 percent reliability is required, then no technique used today is acceptable either.

A CIA commissioned independent evaluation following

Project Scanate concluded "manifestations of extrasensory
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perception [were] sufficiently sharp and clear-cut to justify serious considerations of possible applications" (33:102). However, it cautioned that

existing ignorance of the basis of paranormal phenomena together with the capricious and unreliable nature of the channel dictate that information derived from this source can never stand alone and must be used with caution (33:102).

Who said "never say never?" Psi could be routinely used to compliment other systems we have--and as a last resort when and where appropriate. Remember, a 1983 Congressional Research Service Report says "Dowsing for water, oil, and other minerals is an established practice around the world." Similarly, other professionals are using psi functioning to assist them in their businesses. Police seek help identifying clues and suspects in criminal investigations. Mr. Price frequently used his talents as police commissioner of Burbank, California (33:100). Health care specialists utilize psi techniques for determining and improving patients health. Companies and individual property owners use dowsers to locate water for drilling wells.

But where do you find people like the Delphi oracle or Mr. Price?

LEARNABILITY

After years of study Targ says "We are certain that psychic abilities are a totally normal aspect of human awareness, and that you can learn to develop this potential

sanely and rationally"(41:5). "Anyone who decides for himself that it is safe to experience paranormal functioning can learn to do so"(41:125).

The key to learning appears to be acceptance and support, rather than skepticism and criticism. Since Western society has repressed these psychic abilities, most people experiencing psi also tended to ignore their potential and usefulness.

In our society, a person who is beginning to experience emerging psychic abilities, or who is interested in doing so, has almost nowhere to turn for guidance....They can admit their interests and risk being branded as social deviants, or they can deny their interests in psychic functioning and thereby become alienated from what might be an important aspect of their own lives and experiences (41:122).

However, as people hear more about these capabilities and realize psi functioning is a normal experience, there is a greater sharing and exchange of personal experiences.

People from all walks of life are attending personal awareness and assertiveness seminars to learn how to take control of their lives. Instructor Robert Robbins teaches a seminar entitled "Fear into Power: The Firewalk Experience" where hundreds of people learn to walk barefoot over hot coals in a four hour seminar. Their whole concept is that mind and will can control the world. Norman Cousins, and adjunct professor at the UCLA School of Medicine has written two books on the subject of self-healing. He is certain that the mind has the power to affect "physical" processes (21:48).

are taught dowsing at Tomsk Polytechnical Institute. Similarly, the U.S. National Dowsing Association teaches classes at annual conferences to anyone who is interested.

After using many untrained individuals in remote-viewing experiments, Targ concludes, "The best scientific research suggests that the capacity for developing genuine psychic abilities lies latent in many, or perhaps most, people" (41:4).

In 1984, the U.S. Army initiated a two-year study to evaluate the potential of certain unconventional methods to enhance human performance. That study recently concluded,

Sleep learning, mental imaging and accelerated learning programs are among the unconventional techniques which may improve soldier performance...[however], the committee rejected parapsychological techniques such as extrasensory perception and psychokinesis as scientifically unsupportable (19:75).

Note this study rejects psi because it is not scientifically supportable. But does it work?

During Vietnam the Marine Corps trained a platoon of dowers to locate hidden tunnels and weapons caches in I Corps near Hue. They were withdrawn after five months "because the successful use of dowsing appeared to require 'special skills that cannot be taught to the average marine'" (33:15). The commander of the Training and Development Command did not discredit dowsing, but merely pointed out it is a special skill his marines hadn't mastered.

PRACTICE

Given that psi can be controlled, taught and learned, it probably requires more than a four hour short course for use operationally. Many skills require specialization, long term training and extensive practice to master.

The experienced psi practitioners of today are those people who have spent years developing their individual talents. With those years of experience comes the increased confidence of how to use their talents. Like other "normal" skills, practice and training improve performance, understanding, and reliability. And those who have learned the most about psi are best suited to begin training a new vanguard to carry on and improve their skills.

But in the hostile environment of Western society, the history of psi has been one of independent research and independent findings, held closely to prevent the scorn of organized science and society. Consequently, we continue to lose the knowledge and experience of past masters, rather than building on their understanding to improve our own. The one historic thread of commonality is a belief that psi exists and can offer much more for the future of mankind. In 1983, Targ said that "our understanding has reached the point where we can seriously consider transferring the remote viewing technology from laboratory research to real world applications" (24:78). Are we ready?

There are three avenues that parapsychologists have long since recognized as possible routes to general acceptance of psi: 1. Through experiments which produce psi upon demand in laboratories so skeptics are convinced that all conditions are correctly controlled. 2. Through mainstream sciences acceptance of new theories which explain psi phenomena. 3. Through finding practical applications that "work" regardless of our limited understanding (33:xii-xiii).

Researchers have traditionally tried to use method one to convince the scientific community, but "prevailing concepts" reign supreme. Method two is also directly dependent on the scientific community and is very unlikely given the limited understanding of psi today. That is why psi practitioners and many researchers have gone to method three in the 1980s. Through practical application they can develop their skills, leaving "prevailing concepts" behind, along with the scientific community. Many researchers point to how the scientific community was the last to accept hypnotism--so too researchers feel psi will gain acceptance from society long before the scientific community comes to grips with it.

Operational use of psi is up to the user. King Croesus was content after one test to use the Delphi oracle. World famous psychic, Edgar I. Cayce, advised General John Pershing and accompanied him on European missions. Even General Patton used the psi talents of a

water dowser while in North Africa (33:42).

More recently, according to Barbara Honegger, who worked three years in the White House office of Policy Development for the Reagan administration,

parapsychology played a major role in one of the administration's most controversial defense decisions--abandoning the Carter administration's 'shell-game' deployment for the MX missile... In other words, U.S. studies show Soviet psychics could beat the shell game and pinpoint the missiles (33:17).

These examples show how operational use depends equally on someone taking the risk to try unorthodox techniques. Congressman Charlie Rose (D-N.C.) is a respected long-term congressman and member of the House Select Committee on Intelligence. He takes psychic weapons seriously, but in 1984 didn't think we had the technology to build them.

The congressman's personal experience has convinced him such breakthroughs are on the horizon. He has attended classified demonstrations of remote viewing arranged by the CIA. Says Rose, "I've seen some incredible examples of remote viewing--so much so that I think we ought to pay close attention to developments in this field, and especially to what the Soviets are doing. If they develop a capacity to have people mentally view secret centers within this country, we could come to the point where we didn't have any secrets" (33:47-48).

Bearden thinks those breakthroughs have occurred. He has documented evidence that the Soviets are beyond the speculation and research stages, and have deployed psi weapons systems ready to strike. With the threat so near, why are we so unprepared?

SELF IMPOSED OBSTACLES

Despite extensive evidence of psi and its tremendous potential use as an instrument of power, we continue to impede our own progress. Our mind set, extreme secrecy, and disjoint research fuels skepticism and criticism rather than seeking truth.

MIND SET

The history of psi in Western society is filled with distinguished scientist from diverse fields who became maligned and professionally ridiculed for their psychic research. People feared that science would undermine traditional religious beliefs. Even electricity was considered to be an occult and mystical force in the 1850s. Robert Hare, a major American chemist, Alfred Russel Wallace, the cofounder with Darwin of the theory of evolution by natural selection, and Sir William Crookes, the chemist and physicist who discovered thallium and invented the radiometer, were the first of a continual succession of eminent scientists who endorsed paranormal claims based on their own research (27:825). Even today, the 130⁺ years of controversy over psychical research is impeding progress. Robert Jahn, Professor of Aerospace Sciences and Dean of the School of Engineering and Applied Sciences at Princeton related one experience.

I confess that I [discuss parapsychology research] with some trepidation, borne of previous unpleasant experiences. For example, a lighthearted article in the Princeton alumni magazine, in which I attempted to share some of

[my] experiences in this field with the university community at large, brought an intensity and breadth of reactions for which I was totally unprepared, ranging from irresponsible and categorical condemnation on one extreme, to equally irrational messianic accolades on the other. Rather than precipitating further such distracting outbursts, I have largely avoided opportunities for public presentation (33:22).

As long as the scientific community continues to challenge the existence of psi, experiments to improve our understanding of it are limited. "Few Soviet style experiments are done in this country because it is difficult to obtain funding to explore the mechanism of psi when its very existence is politically controversial in the scientific community" (33:61).

This mind set is best describe by one eminent physicist who read SRI's report on years of remote viewing research, "This is something I won't believe even if it turns out to be true." Even author Ronald McRae, after his investigation into government psi research, is plagued with the Western culture mind set, "Personally, I cannot accept the reality of remote viewing..." (33:109).

Bearden says "...even when Western scientists are confronted with the actual Soviet tests of these [psychotronic] weapons directly over their heads, they do not recognize the weaponry nor the nature of the effects produced" (9:2).

How can this kind of atmosphere promote the search for truth? It won't--it retards it. In 1977 a group of prominent self appointed people such as Carl Sagan and

astro-physicist Dennis Rawlins, formed the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP) to refute all claims of paranormal events. This committee was later rebuked by Rawlins himself, a co-founder of the committee, because of the integrity of some of those who make a career of opposing anomaly research. He said,

I now believe that if a flying saucer landed in the backyard of a leading anti-UFO spokesman, he might hide the incident from the public (for the public's own good, of course). He might swiftly convince himself that the landing was a hoax, a delusion, or an "unfortunate" or mundane phenomena which could be explained away with "further research" (33:171).

This mentality is even more disturbing when we see the debilitating affects it can have. Case in point--A February 1987 article in OMNI states:

In one strange incident CSICOP official Philip J. Klass, learning of a forum on anomalies research that the University of Nebraska was sponsoring, called the school to protest that CSICOP's views were not being represented and that, moreover, in questioning the United States government's word on the nonexistence of UFO's, speakers at the conference were seeking "what the Soviet Union does--to convey to the public that our government cannot be trusted, that it lies, that it falsifies...As a patriotic American, I very much resent [this]." After Klass threatened legal action against the university, it canceled its sponsorship of future conferences of this kind. Klass withdrew the threat and pronounced himself satisfied with the university's action. Since then satellite groups of debunkers have proliferated all around the country, determined to do battle with "pseudoscience" real and imagined. Not content simply to argue the issues on their merits, they have harassed colleges and universities into dropping (usually noncredit) courses in parapsychology, conducted vituperative campaigns against anomaly proponents, and done--in the words of Philadelphian Drew Endacott, one of

their number--"anything short of criminal activity" to get "the point across to people who have no demonstrated facility to reason" (14:33).

Given this obstacle which many in the scientific community create, the military is confronted with a similar situation, both personal and professional. Can the military risk association with the scorned psychic community? Can a military officer?

I stated earlier that operational use of psi is equally dependent on the user as well as the psychic. What is the military mind set when dealing with parapsychology? I began this research because I was concerned the military establishment was unaware of psi potential applications, or not taking Lt. Col. Alexander's message seriously. As my research indicates, the government, or at least some individuals, were well ahead of me. They have been involved, daring to try unorthodox techniques, and helping demonstrate the existence of psi by using it when all else failed. But the military and government is a reflection of its society, so the controversy exists there also. Congressman Rose thinks skeptics in the Pentagon and CIA are hindering U.S. research in remote viewing and wonders openly about their motives.

Some of the intelligence people I've talked to know that remote viewing works, although they still block further research on it, since they claim it's not yet as accurate as satellite photography. But it seems to me that it would be a hell of a cheap radar system, and if the Russians have it and we don't, we are in serious trouble. This country wasn't afraid to look into the strange physics behind lasers and semiconductors, and I don't think it should be afraid to look at this (33:104).

Samuel Koslov, the assistant secretary of the Navy who tried unsuccessfully to eliminate psychic research, dislikes even the mention of so called psychic weapons (33:66).

Navy research in the mid-seventies determined that psychics could detect remote electromagnetic sources, indicating perhaps they could also detect submerged submarines. The Navy also sponsored research to see if psychics could influence the magnetometers used to detect the magnetism of submerged substances. Dr. Joel Lawson, once head of the Naval Electronic Systems Command, said "I have always believed that ESP is the only way to fight submarines. The magnetometer tests were designed to prove the principle." Once willing to discuss psychic warfare openly, now he has been officially silenced (33:106).

My own research experience demonstrates leaders at all levels do not have a basic understanding of psychic weapons systems. I questioned many general officers on the subject of parapsychology and only one was even aware of what I was referring to. That one senior officer said, "If you are interested in that you need to have your head examined!" He refused to even discuss which service or organization I could contact for more information. The total unfamiliarity of senior officers I questioned and similar indications from my Air War College classmates is a poor response to Alexander's 1980 message. Further, the hostile response I received from the one general who had some familiarity indicated either a "closed-mind" or "stay away" attitude. You can imagine my surprise when I later found

his name in a 1984 Washington Post article as one Pentagon general who was impressed with some of the psi results, and concerned about the Soviets lead in psychic research (8:C13). So I take it he meant "stay away."

EXTREME SECRECY

Through additional research I was surprised to discover the 1982 Air War College research paper presented the Most Significant Contribution award was on this same topic; an unclassified paper, later up-graded to classified, and then completely withdrawn.

Contacts with the intelligence community for information brought back a resounding--NO, regardless of clearance or willingness to make this research effort classified. Discussions with previous DOD psi proponents warned it might be all right to do research in this academic situation, but forget it afterward or it could be unhealthy for your career.

From this study and these experiences I will assume the government is pursuing psi research. I'm convinced psi has tremendous human/military applications which can be used operationally. I'm also convinced that relatively few military leaders at any level are aware of the threat. But most of my original questions remain unanswered: How much research? How well coordinated? How well funded? What priority in impending funding cuts? In addition, I've developed some new concerns. I expected to learn the truth about military applications of psi and current research so

I could help identify impacts within my area of specialization--computers and space systems. Instead, I only confirmed Alexander's warning, and found that super secrecy in this area is shrouding the truth, promoting skepticism within society and the military, confining military strategic thinking, and ultimately may be more harmful. I, like Congressman Rose, have to wonder the motive. I've felt like an investigative reporter in my own backyard. When talking about the electronic warfare (EW) area, experts emphasize how in the past our services treated EW as a "Black Art" far too long. The result was improper resource allocation which left us with our pants down. I contend psi research has been locked on the same course--with significantly greater risk.

Many senior leaders have been quick to point out that "Intelligence is too important to leave to the Intelligence community." I would add "psi capabilities" are too important to leave to the Intelligence community. Marcello Truzzi goes one step further.

Psi is too important to become the exclusive property of governments, either at home or abroad, who might become interested in exploiting these abilities for their own purpose (41:8).

Discussions with classmates on this subject demonstrated a reflection of Western societies mind set. Most of the highly technical scientific community didn't even want to discuss it, "they may laugh too hard" or, "if there were any possibility of psychotronics then the entire scientific community would be jumping at it." Others were

caught off guard by its possible reality. And the few who were not surprised (mainly Intelligence backgrounds) knew something about it but had no idea if we were still actively pursuing psi applications.

NO FOCAL POINT

The establishment has apparently gone underground and is using titles other than psi, ESP or parapsychology to contract out research. Targ feels "Reliable, undistorted scientific information about psychic functioning must be made more easily available and identifiable" (41:139). McRae suggests it is fear of ridicule that makes DOD so sensitive to this subject. "Any CIA report mentioning psi is automatically classified top secret or higher." He also suggests that parapsychologists not spend a significant portion of their effort on military-related research.

The failures of psychic warfare projects in military laboratories, the record shows, have often been among the most irresponsible experiments ever reported: The seances with dead Soviet agents, the multispectral image analyzer that supposedly detects submarines with a photo, the hyperspatial nuclear howitzer, and the antimissile time warp over the North pole, to review only a few (41:133).

His book Mind Wars, gives an excellent introduction to the broad range of government projects attempted, and what's ridiculous to one may not seem so ridiculous to another. In response I would suggest he is burning the wheat (those examples used in this paper) with the chaff. Opponents of psi research use the failures to justify abandonment. But Professor Jahn says the failures merely

underscore

The difficulty of the task, not in justifying its abandonment. Historical examples abound of far more frustrating and costly routes to ultimate attainment of difficult scientific and engineering aspirations (e.g., transmutation of the elements and manned aerospace flight, to name but two) (28:525).

The less focused the initiatives, the slower the progress and the smaller the knowledge base. The less information, the more destructive misinformation. Targ says "Reliable, publicly available information about psi research can help protect us all from the damaging effects of misinformation" (41:9).

RECOMMENDATIONS

Seven years after Alexander's article appeared in the Military Review, I can only concur with his message--and more so. The implications of a distant US second place in the parapsychology mind race with the Soviet Union are unthinkable--total vulnerability. Yet this appears to be a real possibility. We are no better or stronger than our weakest link. And our total dependence on high tech sophisticated electronic weapons systems may become our Achilles heel. Continued coordinated research is imperative for rapid advancement. Psi smart leaders at all levels are essential for necessary resource support, strategic thinking, and acceptance of the threat/potential we might soon encounter. Targ would argue that "The mind race should not be seen as a psychic competition between

nations. Rather, it is a race to develop our own innate potential for extended awareness" (41:9). While I can agree with this in theory, I agree even more with Marcello Truzzi when he says

Our government has a responsibility to achieve security and military parity, if not superiority, in relation to our potential enemies. Thus, even if the probabilities for psi research producing anything practical are small, it would be negligence for our guardians in government to ignore such matters especially when others are pursuing such avenues. Long shots have paid off in the past. Atomic energy was once a "wild idea" (33:xi).

Opponents to psi research today are similar to the late Admiral William Leahy, Chief of U.S. Naval Operations from 1937 to 1939. He said, "The A-bomb is the biggest fool thing we have ever done. The bomb will never go off, and I speak as an expert on explosives" (30:39).

To accomplish these objectives means: 1. Opening the super secret door to allow broader classified knowledge of psi's true capabilities, where we are, and where we are going. 2. Focusing military exploration resources and start targeting capabilities/defenses like we did for the Strategic Defense Initiatives. 3. Doing strategic thinking on a totally new type of warfare.

Opening the super secret door is necessary to begin acclimating the military community to psi's true capabilities. "It is past time for bringing psi into the open, where everyone can benefit from a realistic awareness of it" (41:262). Otherwise, how do we expect people to accept and use psi capabilities? Let's learn from our

personal experiences with computers. We are still trying to get leaders accustomed to hands-on computer systems. Changing attitudes takes time. The sooner we begin using psi to compliment other systems, the sooner we will build a reliable psi force and gain managements confidence. Targ said,

We believe the question of psi's usefulness and importance may be settled in the next decade. Settling this question will not require another century. It will probably be settled in the marketplace and in the everyday lives of millions of people and not, alas, in the corridors of Cambridge (41:189).

The military community needs to be poised on this leading edge, lest it fall behind the society it is sworn to protect.

Focusing resources and targeting capabilities is the cornerstone to knowing the true picture. Otherwise, who has the stick? Who really knows where we are, and what it will take to get where we need to be? How else can we present accurate, reliable information to senior leadership for prioritizing resources? Targ notes that

The popular view of our relationship to space and time is inadequate...One possible conclusion is that there is something incomplete about our understanding of the space-time continuum in which we exist (41:5).

This is Bearden's position also. So the military needs to force the scientific community of open their eyes and minds to better understand paranormal events and the new physical principles which explain them.

Renowned Soviet physicist and Nobelian P. Kapitsa informed Soviet leader Krushchev that, "If a means of total

neutralization of foreign missiles was to be found, it could only come from a group of new principles in physics which was called "energetics" (9:106). The term "energetics," was contracted from "psychoenergetics," and is essentially the expanded physics/electromagnetics that Bearden has dubbed scalar electromagnetics. The military needs to find young blood in the scientific community who don't know all the reasons why something can't be done. They are the ones with fresh minds to evaluate Bearden's evolving concept of scalar electromagnetics, and to find new physical principles explaining psychic phenomena.

August Stern is one person in the West who actually worked in top-secret Soviet military laboratories searching for a physical key to psychic phenomena.

He warns, the Soviets will emerge with a completely new view of man--not of muscle and bone but of quantum physics, magnetism, and electromagnetic waves. When that day comes, he asserts, they won't need to scour the countryside for psychics. They'll just build machines for manipulation of the mind (40:108).

He goes on to remind us, "But remember how surprised you were when they launched Sputnik. You'd better prepare" (40:108).

Strategic thinking is essential to preparing a solid foundation for a totally new type of warfare. The Air War College should incorporate this subject in its curriculum, and present it and other futuristic technologies early in the overall curriculum. Knowledge of history must be combined with knowledge of future weapons systems (space.

technology, directed energy, psi etc.) to most effectively study war, challenge current leaders, and prepare future warriors. This is the place and the time to stimulate military visionaries. In the words of Edgar Allan Poe, "Those who dream by day are cognizant of many things which escape those who dream only by night"(44:144).

In addition, speakers such as Bearden, Alexander, and others should be invited to a forum similar to the Aerospace Power Symposium, where the issues are put on the table, controversies explained, and the students really understand the weapons and threats they may soon employ or confront.

CONCLUSION

Man's greatest potential remains a prisoner of man. Exploring the mind frontier is essential to unlock our innate capabilities, and the key to successful exploration is a greater psychic awareness. The mind is rich in unfathomed resources, ripe for exploration, a limitless source of treasures for advancing all mankind, and a serious threat to those who ignore its potential. We must overcome our psychic inhibitions, stop denying the existence of paranormal events, and start trying to understand the nature of these events.

Alexander's message is still valid and needs repeating. We are at risk! We need to open the security doors and open our minds to educate all levels within the military community. We need a well coordinated ongoing

military exploration of psi. Since the basic electronic components which form the foundation of our weapons systems appear to be vulnerable, we need psi strategic thinking to chart the course for entering this entirely new battlefield dimension. In the words of James Thurber, "Let us not look back in anger, nor forward in fear, but around in awareness."

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR UNIVERSITY
MAXWELL AIR FORCE BASE AL 36112-5001

cc: [unclear]

7 APR 1988

Mr Gordon Negus
Executive Director
Defense Intelligence Agency
3E265 - Pentagon
Washington DC 20340-1027

Dear Mr Negus

As AF/IN's "Man in Montgomery" I am doing the entire Air War College faculty "thing" to insure the Air University hierarchy is positively dispossessed toward my real efforts (atch 1). Accordingly, one of my roles is as a faculty advisor on several research papers.

I am forwarding one (atch 2) to you in an effort to avoid a repeat of the problems encountered earlier when, due to what is locally described as DIA concern, a paper on this subject went from unclassified, to classified, to withdrawn. Not knowing the original concerns, I have deliberately steered the author away from anything remotely resembling an expose! Hopefully, this is adequate. But, if it was not, I am sending it to you for Agency review in this "almost finished draft" stage. I believe Air War College requirements can be quite easily coordinated with any other recommendations/requirements at this juncture.

Very respectful

Don

DONALD N. PANZENHAGEN, Colonel, USAF
Military Intelligence Advisor to the
Commander, Air University

2 Atch
1. ACSI Charter
2. Paper



DEFENSE INTELLIGENCE AGENCY

WASHINGTON, D.C. 20340- 6150

U-1,041/DT-ACO

TO: Department of the Air Force
Headquarters Air University
Attn: Donald N. Panzenhagen, Colonel, USAF
Maxwell Air Force Base, AL 36112-5001

SUBJECT: Request for Review of Paper

Reference: Your ltr dtd 7 Apr 88.

1. We have reviewed enclosure 2 to your referenced letter, "Psychic Warfare: Exploring the Mind Frontier". This document is presented as a research report to fulfill a research requirement at the Air University.

2. We wish to express some concerns on the documents' over all tone and composition. The document is based largely on reviews of uncritical material and consequently may have misleading interpretations and conclusions. A section, or appendix, that summarizes laboratory research and presents constructive critical reviews of this controversial area would be helpful for achieving a balanced viewpoint. The document as written might be presented as a limited survey paper, rather than a research report.

3. Even though we have the above concerns, we pose no objection to the publication of this document by the Air University provided that a clear definition of scope and purpose be included with or after the "disclaimer" section.

FOR THE DIRECTOR:

RESEARCH PROPOSAL

- I. Tentative Title. Psychic Warfare: Exploring The Mind Frontier.
- II. Research Question. In 1981, Washington Post columnist Jack Anderson periodically ridiculed the Pentagon for invading Buck Rogers' turf by exploring potential extrasensory weapons for psychic warfare. His cynical attitude perhaps represented western societies mindset that such research was crazy. Since then, various articles and books have continued the debate on whether this type of research has any merit. My assumption is that Mr. Anderson's view is still prevalent and government supported research is limited. In light of future government fiscal constraints and the impact on military spending this paper will address the following question: "Does parapsychology (the mind frontier) offer a new battlefield dimension which warrants continued military exploration?" The search for an answer should provide insights into this new frontier and provide a better understanding to help determine what importance parapsychology should have in future military exploration efforts.
- III. Methodology. Most of the work will be completed through library research. Source material will consist of primary and secondary works on parapsychology, current research efforts/results, potential military applications and potential threats. Some telephone interviews with government personnel, researchers, experts or practitioners may be conducted depending on literature survey findings.
- IV. Implications. This paper could help document an area requiring greater national resolve in light of possible threats, current capabilities, and vast potential future military applications. Research could lead to or result in sensitive/classified information.
- V. Special Requirements. A two- or three-day trip to Washington may be necessary, but I hope to accomplish my work there by telephone.


Dolan M. McKelvy
Lt Colonel, USAF

APPROVED

Research Advisor

Date

Seminar Director

Date

Questions to AIA

1. Show proposal for research and get feedback.
2. Current funding status within DOD
 - a) Past few years (1984 - to present)
 - b) Out year projections & estimated funding level
3. Key players within DOD (Army, Air Force, organizations, people)
4. Research institutes with Government contracts
who, purpose, results...
5. Recent News Media
 - CNN - SAN FRANCISCO -- Army Study on Parapsychology - Training?
 - Army MAJOR before Scientific Board for parapsychology capable
 - Studies/Reports COMBAT organization?
6. AREAS of PARAPSYCHOLOGY actively pursuing (eg, Dowsing, Telekinesis, remote viewing, Telepathy, precognition)
 - People with talents -- names/phone #'s? (actual practitioners)
7. Comments on LTC (Ret) ^{USA} Bearden's Book "Excalibur Briefing"
LTG Keegan's role + feelings
who/where is driving
8. General recognition issue -- Do we accept existence of paranormal?
 - Are we exploiting ability to perform on request?
 - Have we identified military applications?
 - Time frames for implementing & how?
9. Current concept of Russian involvement/commitment to this area.
(Funding, capabilities, current threat, future milestones, etc)

The Wary Warlords

The Joint Chiefs of Staff have made it clear to President Reagan that if a treaty on medium-range missiles in Europe is politically necessary, they can live with it—but not happily. The Soviet proposal to eliminate missiles with ranges of 500 to 5,000 kilometers, say the chiefs, would “stress” NATO defenses. And even their grudging endorsement of the deal is contingent on modernization of NATO’s remaining nuclear forces. They are drawing up a list of requirements, topped by an air-launched cruise missile enabling NATO jets to strike deep inside Eastern Europe and a land-based nuclear missile with a range, as one source puts it, “of 499 kilometers if 500 is the cutoff” under a zero-zero plan.

The chiefs were influenced by a recent study by the staff of retiring NATO commander Gen. Bernard Rogers. The document is a follow-up to an

earlier study that concluded that NATO should give up shorter-range missiles (under 1,500 kilometers), which don’t threaten Soviet territory, in favor of longer-range intermediate systems with greater deterrent value.

With both categories slated for oblivion under Mikhail Gorbachev’s proposal, says the new study, deep-strike NATO aircraft could probably fill the gap, though more would be needed—armed with new cruise missiles. The deal makes it even more urgent that the Soviets cut conventional forces to something approaching equality with NATO and agree to ban chemical and biological weapons, the study concludes.

■ Vitaly Churkin, 35, blow-dried first secretary at the Soviet Embassy in Washington, will be rewarded for five years of vigorously defending Moscow’s disarmament strategies—and for



JOHN DURICKA—AP

Up and away: Churkin testifying

his mastery of U.S. TV after the Chernobyl nuclear accident. Headed home last week, Churkin told associates he was moving to the Central Committee’s international department, led by ex-ambassador to the United States Anatoly Dobrynin, now Gorbachev’s chief adviser on American affairs. Churkin’s new assignment could bring him quickly into the loftiest Kremlin circles. “He’s going to the top,” said one U.S. diplomat who has worked with Churkin.

A Twilight Zone Defense?

Did Senate Foreign Relations Committee chairman Claiborne Pell enlist psychic spoonbender Uri Geller to read the mind of a Soviet arms negotiator at a dinner in Geneva—and to beam messages of peace into the communist’s unconscious? Is Pell trying to sell Geller to the Pentagon for a Psychic Defense Initiative? No; the senator insists. But Geller is happily claiming some credit for the move toward an arms deal.

Geller insists he did beam thoughts of peace at Yuli Vorontsov, head of the Soviet arms-talk delegation. The very next day Mikhail Gorbachev made his offer to eliminate medium-range missiles from Europe. “I have a very strong feeling that Vorontsov called Gorbachev,” says Geller, who sensed a transfer of psychic power between himself and Vorontsov. “When I gave him the spoon, it kept bending in his hand.”

Pell says he finds Geller



LONDON NEWS SERVICE

Psychic Initiative: Pell (left), Vorontsov, Kampelman and Geller

“really a very interesting man ... I felt myself stimulated by his ideas.” But Pell says he simply proposed Geller’s parlor feats as entertainment for the reception and dinner in Geneva hosted by U.S. negotiator Max Kampelman for Soviet officials and visiting U.S. senators. A briefing that he arranged for Geller to give on Capitol Hill—in a special bugproof room—“had nothing to do with the peace talks. Nothing at all,” says Pell. “I just wanted to ex-

pose him to some people here.”

Geller, in America to promote a new book, discussed Soviet psychic research at the meeting, says a Pell staffer—and twice failed to divine messages on pocketed scraps of paper. Most of the spectators were Hill and Pentagon aides. But one of two congressmen to show up did come away impressed. House Foreign Affairs Committee chairman Dante Fascell, says his press secretary, rushed out to get a book about Geller.

Tales From the Campaign Trail

The still unannounced presidential campaign of Sen. Joseph Biden startled some strategists with the choice of Bill Daley—a son of Chicago’s legendary Mayor Richard Daley—as political director. “What does he know about the country outside of Chicago?” sniffed one rival pol. But March’s Illinois primary could be crucial for Biden; Daley “can earn his pay if he can deliver Chicago,” says one party insider. Meanwhile, Biden insiders foresee greater influence by Pat Caddell, the guru-pollster who helped win the White House for Jimmy Carter. Caddell pal Tom Donilon—ex-Carter and Mondale operative—is expected to take a top campaign position. His brother, Mike Donilon, is likely to do campaign polling.

■ Democrats in the Middle Atlantic states now plan a high-profile, regional primary to follow the Southern Mega-Tuesday on March 8, 1988. New York and Pennsylvania party leaders chose April 12 and hope Democrats in New Jersey and Connecticut will go along.

Call for Action

Congress wants faster Justice Department action on allegations that Education Department officials falsified documents and backdated letters in a rush to comply with school desegregation orders. The Education Department inspector general found serious misconduct in the department’s civil-rights office in Boston last summer; an internal investigation showed similar practices in six other regional offices. Top department officials insist the problem is solved, but a whistleblower in San Francisco recently claimed otherwise. And Congress reportedly has evidence that Education Department staffers in several regions are pressing complainants to drop discrimination charges.

DAVID GATES with bureau reports

who are the

SECRET



DEFENSE INTELLIGENCE AGENCY

WASHINGTON, D.C. 20340-

S20,017/DT-S

20 September 1989

MEMORANDUM FOR CHIEF SCIENTIST, DEFENSE INTELLIGENCE AGENCY

SUBJECT: SUN STREAK Operational Report - 8926 (U)

1. (S/NF/SK) During the period of 6 August 1989 through 15 September 1989 inclusively, seventeen remote viewing sessions were conducted in an effort to determine and describe a key activity of intelligence interest at a geographical location represented by encrypted coordinates 815470/766420. Results of this effort follow below.

2. (S/NF/SK) Remote Viewer 003 described the key activity as being related to the ~~assembly~~ of "cylindrical objects with rounded ends." The object of specific interest was shaped like a propane tank. Hissing sounds, coughing sounds, the presence of a bright searing light and the odor of an obnoxious chemical were associated with the object. There was a presence of chemical agents at the target site. The activity took place at a storage site. The rounded segments reminded 003 of missiles or space vehicles.

3. (S/NF/SK) Viewer 018 initially described the key activity in terms of shipping, hauling, storing, moving, trucking, and loading of medium to small parcels. In a subsequent effort 018 described the activity as being drug-related. [OPS CMTS: 018 was unable to work through the distracting concept of a "drug-related" perception. This perception does not appear to be target-related; it seems to be the result of interference caused from recent efforts directed against drug-related targets].

4. (S/NF/SK) Viewer 025 described the key activity as being related to the production of a "hydro-bomb," conceptually described as "an aerial torpedo propelled by a rocket engine traveling through "water" (or atmosphere). The object is large and pencil-shaped. The activity involves the production of a

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SECRET

SECRET

"destructive war machine" with an extensive use of piping (TAB A). Results of the activity produce fire sparks and sound waves. A "hydro-activity" produces enormous fumes (clouds) and causes intense resonance. See conceptual sketch at TAB B. A "seismograph" (or similar apparatus) is used to record the results of this "hyperactivity". Viewer 025 used such expressions as "hydro bomb, hydro activity" in an effort to describe the results of the ongoing key activity. Reportedly, a lecture is to be held on this subject in February (1990). The target site was located in a seemingly flat, agricultural area. The presence of a red and white flag was perceived but not further explained.

[OPS CMTS: The issue of the February 1990 lecture (meeting) was not further pursued.]

5. (S/NF/SK) Remote Viewer 032 perceived the key activity as being directly related to a swirling, metallic energy mass rotating in a counter clockwise rotation. See TAB C. This object was perceived as a "deadly weapon." During the course of a subsequent effort, 032 labeled the object as an information gathering UFO. See TAB D and TAB E.

[OPS CMTS: The perception of a "UFO" is considered as being probably incorrect; it was the cause of a viewing distraction which 032 was unable to overcome.]

6. (S/NF/SK) Viewer 079 initially perceived the key activity as being related to an object that conceptually resembled a large gun turret (barrel or silo.) See sketch at TAB F. The "key activity" according to 079, involved the cessation, the shutting down of an activity." There appeared to be "a reversal, a turning down of an activity." Additional concepts of "bubbling water", and "teasing waters" were associated with the target. The presence of "a slender object going through the center of a wheel-like device also surfaced during the sessions. Its function was undetermined. The idea of "fixed rates, price-rise and markups", (regulation of oil prices?), repeatedly surfaced during the sessions.

7. (S/NF/SK) Remote Viewer 095 described the key activity as comprised of a "discussion", a meeting that would lead to a program cut and the cessation of an activity that "must not be allowed to continue". The plans for the actual implementation of such a cessation of activity will be delegated to a subordinate group of personnel representing members of the original discussion group. The program "to be cut" involves an activity utilizing metallic-bars or rods. The rods are blue-black in color and have tapered ends. See TAB G. The rods are often

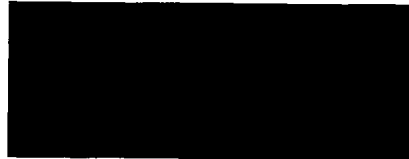
SECRET

SECRET

held in metal pinchers while being transported down an aisle. The main structure perceived at the target site is at least three stories high. The presence of equally-spaced narrow windows make it readily identifiable. See TAB G.

[OPS CMTS: The perception of the metallic rods/bars led O95 to believe that a nuclear related environment was target-related.]

7 Enclosures
TABS A - G
Sketches



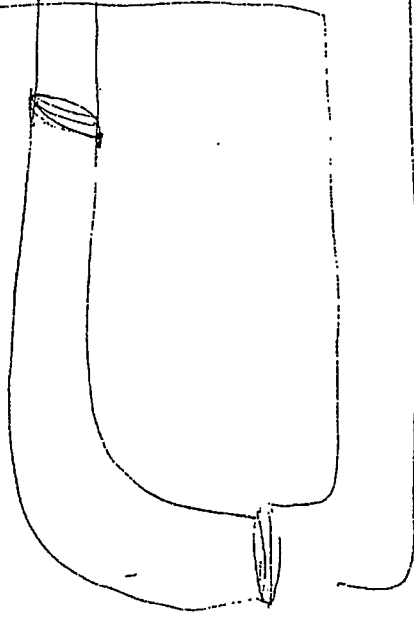
Branch Chief

SG1J

SECRET

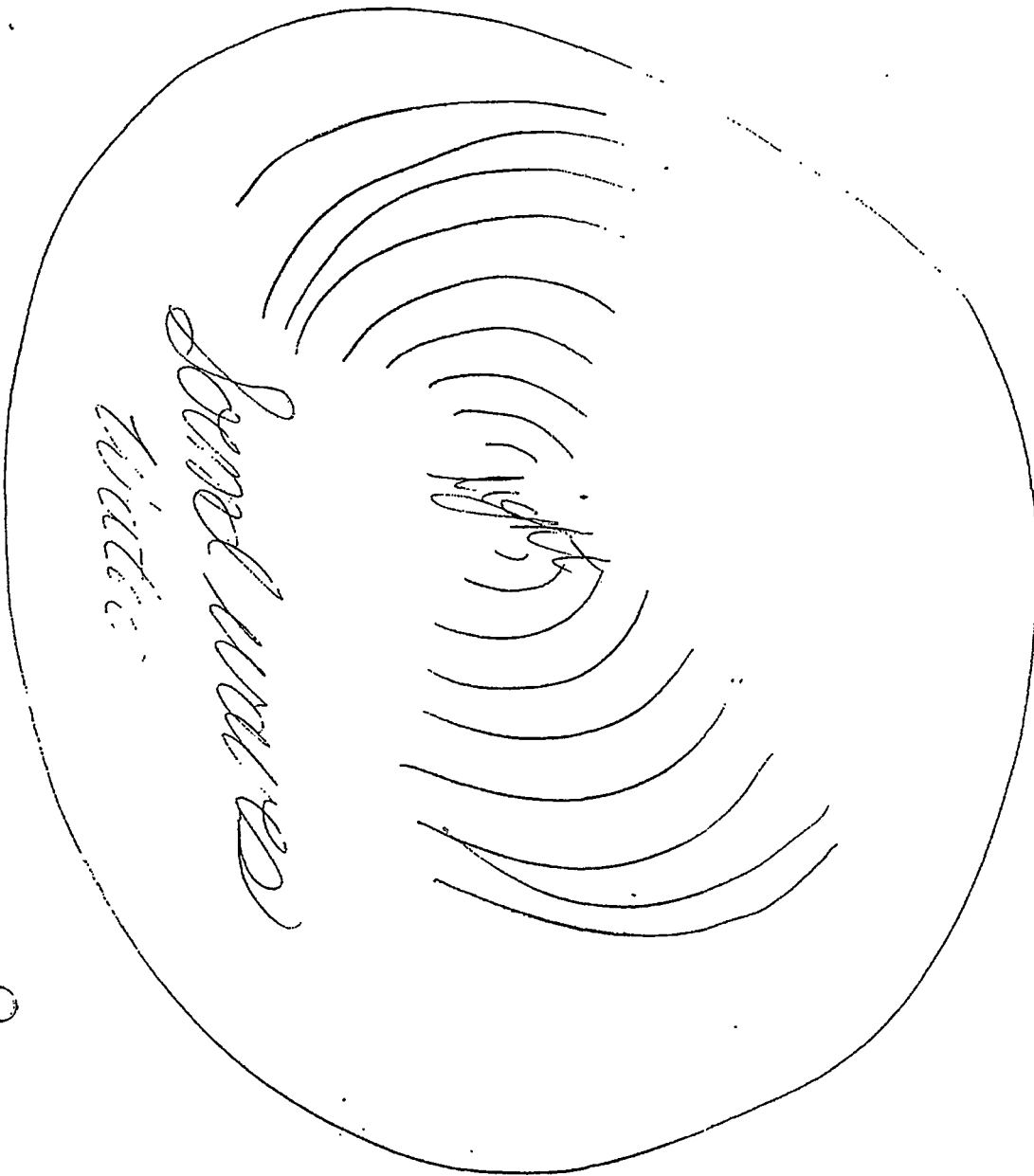
Computer

Primo - Ag. Inst. Sembrado



Medals

Activity - Equipment cases



*Special word
activity*

Resource

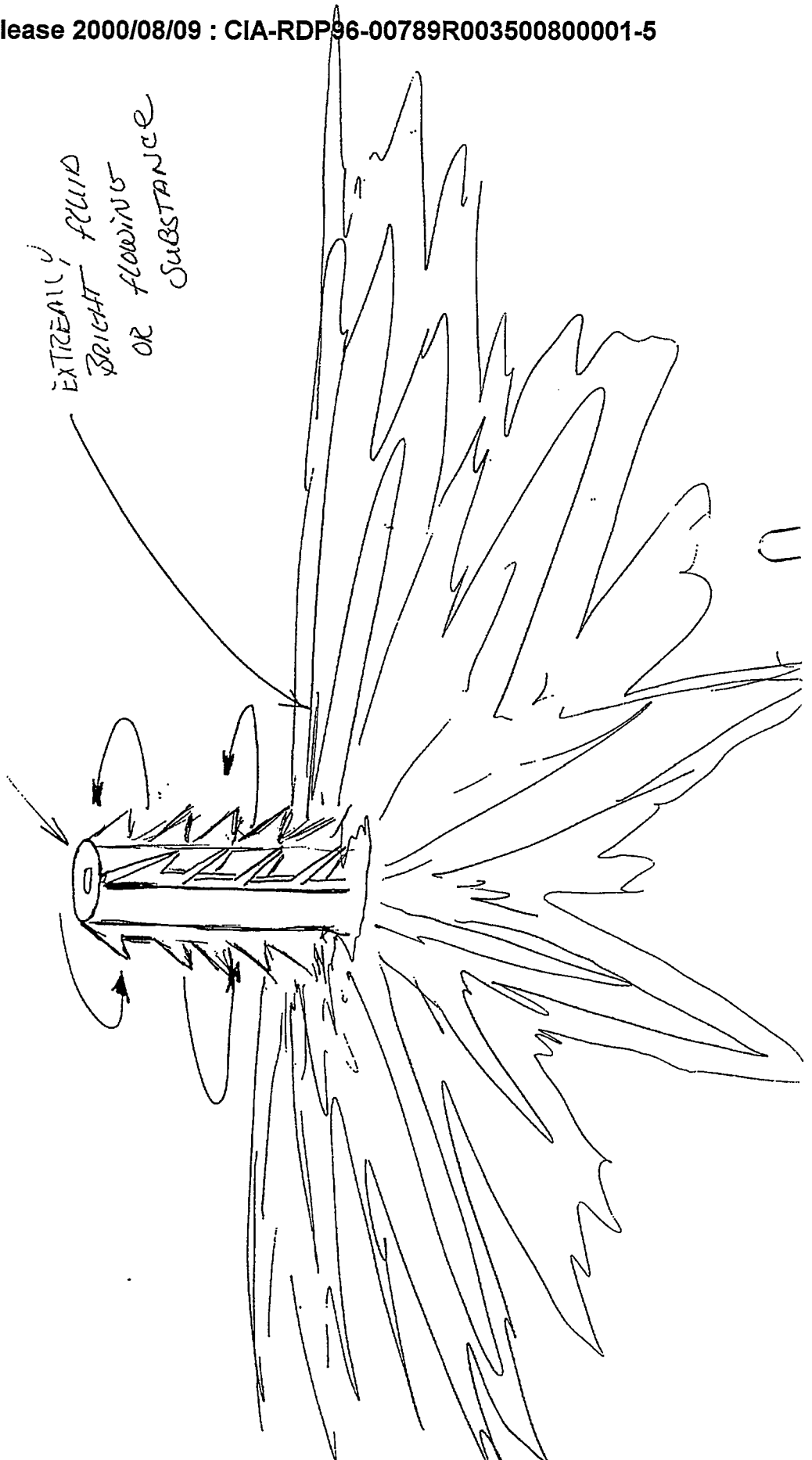
U

TAB B

Sketch

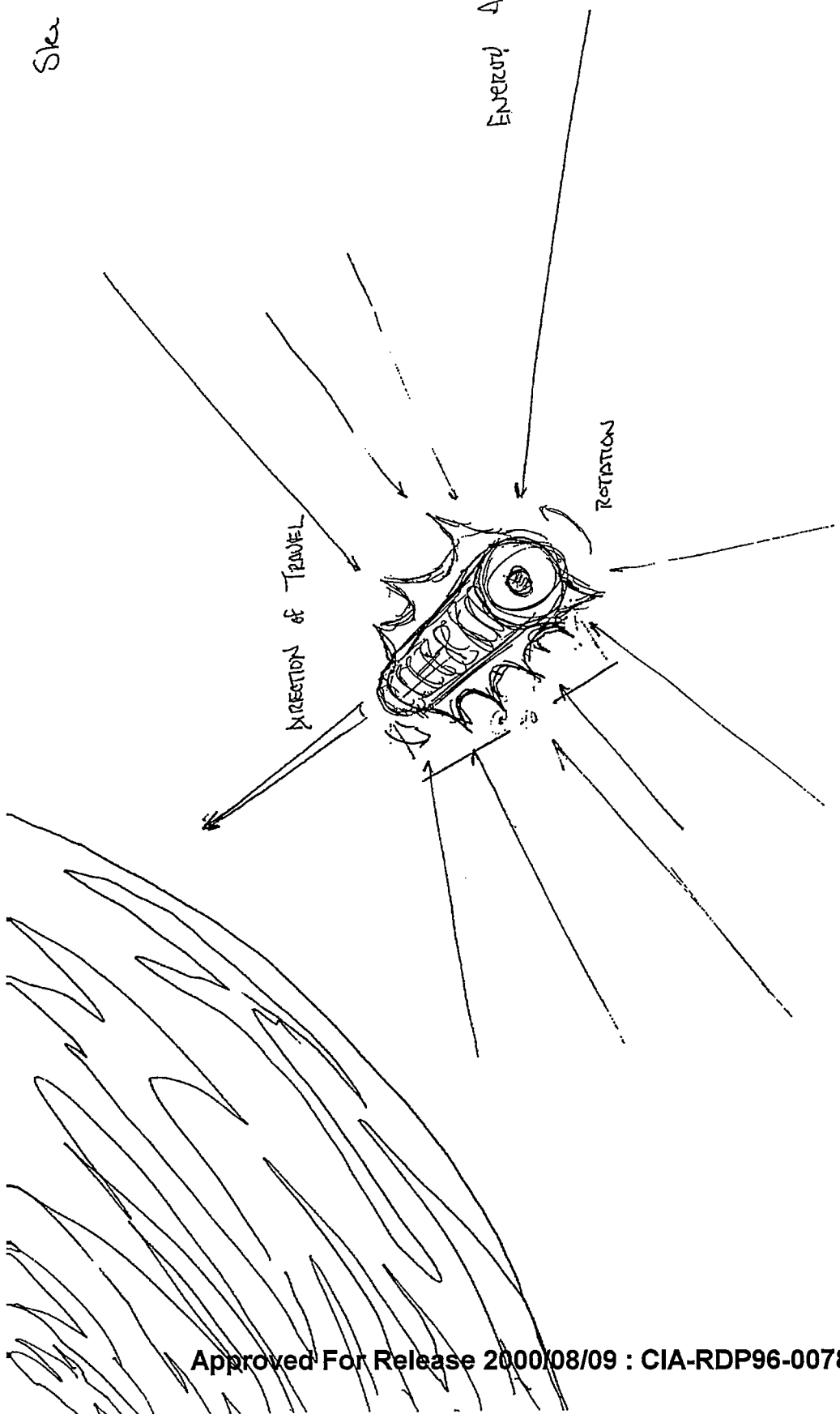
RISING &
SPINNING

EXTREMELY BRIGHT
FLUID
OR FLOWING
SUBSTANCE

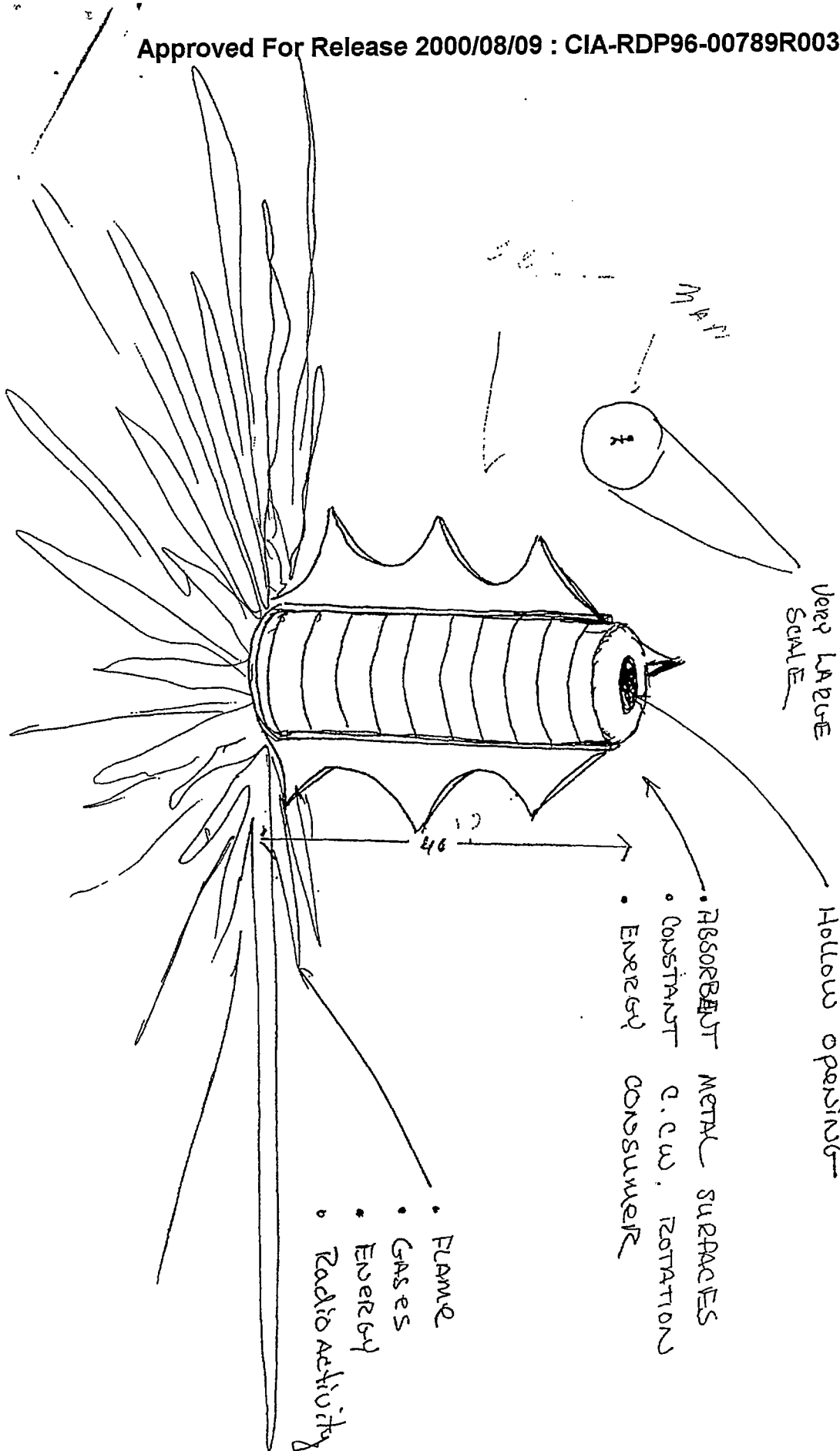


TAH-C

Slew



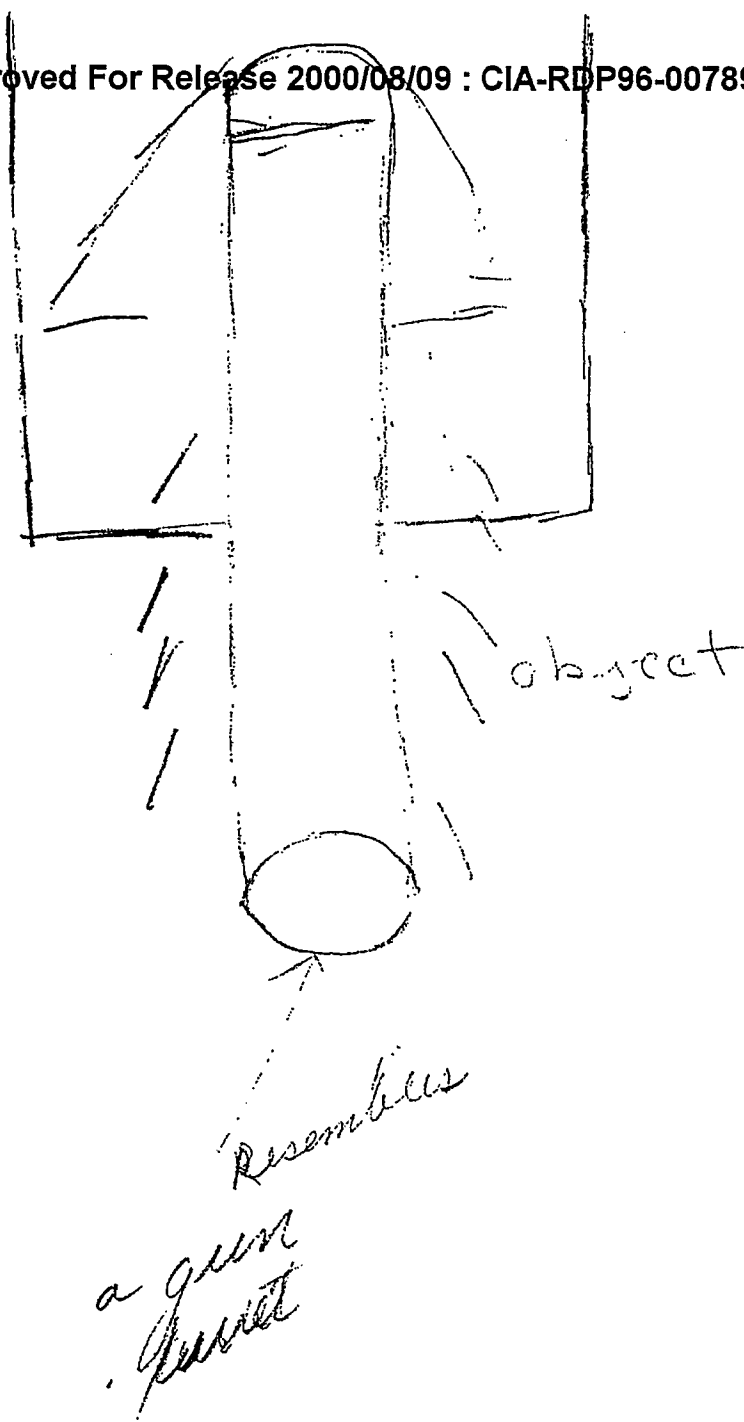
U



U

*Counties
Chickens*

Sketch 2



TAB F

blue-black color
"like" metal.
solid



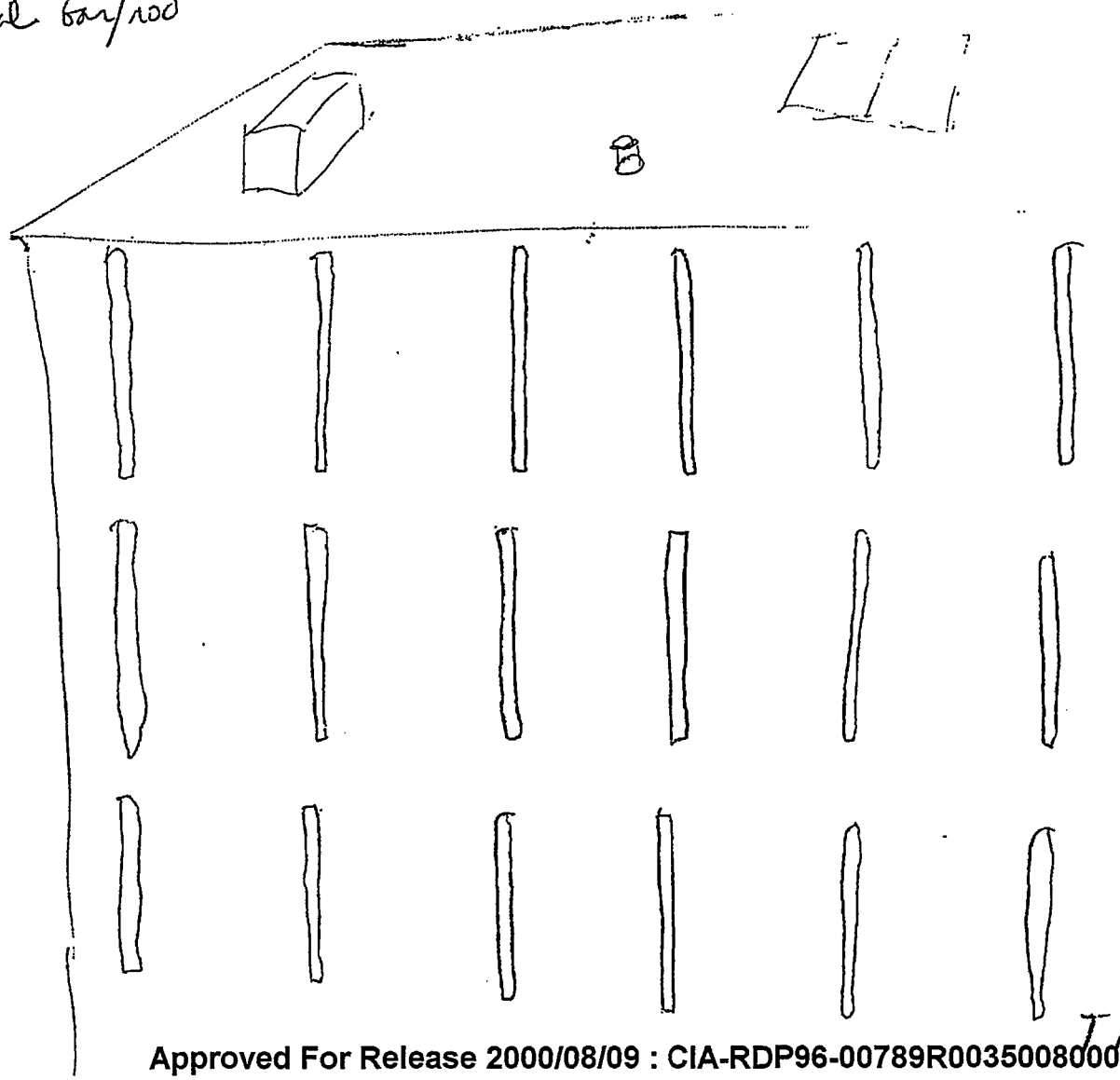
screw

METAL
Rods/Bars

TARGET BUILDING
PRODUCTION
FACILITY

Very modern
lookers
production facility.

metal bar/rod



TAB 6

Ek

Executive Registry
77-8727

12 August 1977

STAT NOTE FOR:

[Redacted]

White House/Chief
Agency Liaison

This came to us on the rebound from DoD. Because the author's main concern is establishing a Presidential commission for UFO research with himself as Chairman, it doesn't seem to fall within our purview.

STAT

[Redacted]

Deputy,
Executive Secretary

*Enjoyed meeting both of you
last week!*

(EX-100) EXECUTIVE REGISTRY FILE White House

OGC Has Reviewed

DD/A Registry
78-4536

6 DEC 1978

DD/A Registry
File Reports

MEMORANDUM FOR: Deputy Director of Central Intelligence

FROM: John F. Blake
Deputy Director for Administration

SUBJECT: IPS Report on Impact of the FOIA and
Privacy Act

In response to your request at the 5 December Goals Management Conference, attached hereto is a copy of the paper recently prepared by [REDACTED], Acting Chief, STATINTL Information and Privacy Staff, entitled "Impact on the Agency of the Freedom of Information Act, the Privacy Act, and Mandatory Classification Review." While the paper could use some polish, I believe it effectively tells the FOIA and Privacy Act story.

John F. Blake

John F. Blake

Attachment: a/s

STATINTL

AI/DDA: [REDACTED]:ydc (5 Dec 78)

Distribution:

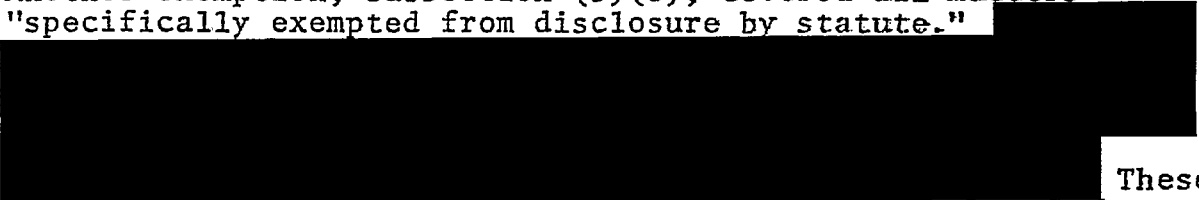
- Original - Addressee w/att
- 1 - Executive Registry w/att
- ✓ 1 - DDA Subject w/att
- 1 - DDA Chrono w/o att
- 1 - AI Subject w/att
- 1 - AI Chrono w/o att

IMPACT ON THE AGENCY OF THE FREEDOM OF INFORMATION ACT,
THE PRIVACY ACT, AND MANDATORY CLASSIFICATION REVIEW

1. Historical Background, Pre-1975

The Freedom of Information Act was passed in 1966 and took effect the following year. It established the right of the public, citizens or aliens, to demand access to "identifiable records." Federal agencies were required to publish in the Federal Register the procedures to follow in requesting records. To the extent authorized by statute, agencies were permitted to assess fees for services rendered. Records were to be made "promptly available" to requesters, but no time limits were specified. If documents were withheld under one or more of the nine exemptions of the Act, the requester could bring suit in a U.S. district court and the burden was on the agency to sustain its action.

One of the exemptions of the Freedom of Information Act, subsection (b)(1), exempted "matters specifically required by Executive order to be kept secret in the interest of national defense or foreign policy"--i.e., all classified documents. FOIAb5 Another exemption, subsection (b)(3), covered all matters "specifically exempted from disclosure by statute." FOIAb5

 These two exemptions, (b)(1) and (b)(3), pretty well blanketed the records of the CIA and, consequently, the Freedom of Information Act initially had little or no impact on the Agency.

With respect to national security classified records, a key decision was enunciated by the Supreme Court on 22 January 1973 in the case of EPA v. Mink. Patsy T. Mink (Dem., Hawaii) and 32 congressional colleagues sued to obtain access to certain EPA records denied them on the basis of exemption (b)(1) of the Act. The issue before the Court was whether the presence of a classification marking on a document was sufficient cause for denial, or whether the court should go into the question of whether the classification was warranted. The Supreme Court ruled in this instance that while an agency should examine classified documents before invoking exemption (b)(1), it was not the intent of the Congress that the courts should rule on whether classification was justified. An affidavit from the agency to the court was all that was required to establish the classified status of documents. Thus, national security classified records could be denied to the

public without fear of the denial being overruled through litigation. This opinion, as much as any other single factor, led to the 1974 amendment of the Freedom of Information Act.

While the Agency received virtually no Freedom of Information requests until the 1974 amendments took effect in February 1975, a number of requests for records were received under the provisions of Sec. 5(C) of Executive Order 11652, which became effective on 1 June 1972. Among its other provisions, this Order required the mandatory classification review of any records, 10 years old or older, requested by a member of the public, citizen or alien, or by another Government agency, which were described accurately enough to permit their identification, retrieval, and review without undue burden. The records could be withheld only if, under the criteria of Sec. 5(B) of the Order, they qualified for exemption from the General Declassification Schedule established by Executive Order 11652. An Interagency Classification Review Committee was set up under the National Security Council to oversee implementation of the Order, and one of the functions of this Committee was to hear appeals from denials by Departmental review committees. (CIA's review committee, established in compliance with the Order, was named the Information Review Committee. It still exists today, but its membership was upgraded to the Deputy Director level when the Freedom of Information Act was amended in late 1974.) Requests from the public were to be answered within 30 days, but requesters had to wait an additional 30 days before appealing because of the lack of response. Full or partial denials could be appealed to the Departmental review committee, which was supposed to act on appeals within 30 days.

As soon as Executive Order 11652 took effect, journalists submitted to the CIA what appeared to be "test requests." The requests usually involved several categories of obviously sensitive materials, and the requesters were quick to take advantage of their right to administrative appeal. A number of these initial requests were so broadly phrased that they had to be rejected as lacking in specificity. After the initial flurry of activity, the volume of requests received dropped off, but over the long run there was a steady increase in the number of classification review requests logged. A high percentage of the requests processed under Executive Order 11652 has consisted of referrals from Presidential libraries, where researchers are apprised of the existence of classified records pertinent to their research interests and given assistance in requesting their mandatory classification review. (Under the provisions of the Presidential Libraries Act of 1955, the holdings of the libraries are "donated" materials, rather than public records. As such, the General Services

Administration has held that these records are not subject to the Freedom of Information Act. Access to them is governed by the donor's restrictions and by mandatory classification review procedures.) Statistics showing request activity under Executive Order 11652 are presented below. It should be pointed out that many of the documents sent to the Agency for review are not of CIA origin. Rather, they are often White House papers or third-agency documents which must be reviewed by the CIA because they concern, in whole or in part, intelligence matters.

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u> (thru 30 Aug)
Requests received	30	110	191	232	374	568	284
Granted in full	1	50	89	63	81	156	47
Granted in part	6	19	47	88	220	268	71
Denied in full	15	18	23	28	37	101	17
Miscellaneous	0	0	0	5	6	11	12

2. 1974 Amendments to the Freedom of Information Act

In 1974, both the Senate and the House passed by overwhelming majorities essentially similar bills to amend the Freedom of Information Act. A conference committee was formed, and it reported out a modified version of the House bill, H.R. 12471. It easily passed in both houses, but the bill was vetoed by then President Ford. President Ford objected to the unrealistic time periods allowed for processing requests, appeals, and court cases. He also objected to changes in the exemption regarding investigatory files, i.e., subsection (b)(7). Moreover, he maintained that the courts should be required to uphold the classified status of records if there was a reasonable basis for such classification. Upon its return from recess, however, the Congress overrode the veto and the amendments took effect 90 days after enactment, 19 February 1975.

Considerable pressure had been exerted upon the Congress to liberalize the Freedom of Information Act. Requesters, particularly representatives of the media, complained that Federal agencies had succeeded in frustrating the intent of the Act through delaying tactics, the unreasonable assessment of fees, and the wholesale invoking of exemptions. Moreover, the post-Watergate mood of the country called for greater openness in Government. Some of the principal features of the Act, as amended, are:

- a. Agencies have 10 working days to decide whether to comply with a request, and 20 working days to respond to appeals. Upon notification to the requester, agencies may invoke an extension of 10 working days

to the time allowed for processing either the request or the appeal (but not both). The only circumstances justifying such an extension are that the records are stored in remote locations, that the records are voluminous, and/or that intra- or interagency clearances are required.

- b. The failure of an agency to meet deadlines permits the requester to go directly to court. The court, however, if circumstances warrant, may delay action on the suit until the agency has had sufficient time to complete the processing of the request.
- c. The requester must be notified of his appeal rights each time a denial occurs, along with the names and titles of the agency officials responsible for the denial. If the denials are upheld upon appeal, the responsible officials must again be identified and the appellant must be apprised of his recourse to the courts.
- d. Only the direct costs of searching for records and copying them can be assessed the requesters. At the discretion of the agency, fees are to be waived if release of the records sought primarily benefits the general public.
- e. The requesters need only to "reasonably" describe the records. (Before the amendments, the Act referred to "identifiable records.")
- f. A complainant can file suit in the district where he resides, has a place of business, or in the District of Columbia. Agencies have only 30 days to serve an answer to complaints brought before the courts. The court can subpoena records and can rule, after in camera inspection, whether the classification of a document is warranted under the criteria established by Executive Order 11652 or whether other claimed exemptions were correctly asserted. Any reasonably segregable portion of a document not falling under the exemptions of the Act shall be provided to the requester. Furthermore, if the complainant substantially prevails, the court can require the Government to pay his attorney's fees and other litigation costs.
- g. If the court has reason to believe that an officer responsible for withholding documents acted in an arbitrary or capricious manner, it can require the Civil Service Commission, to conduct an investigation.

The Civil Service Commission, in turn, can require the agency to take disciplinary action against the officer.

- h. Annual reports must be made to the Congress by each agency on its administration of the Act.

3. The Privacy Act of 1974

The Privacy Act, which became effective on 27 September 1975, is in a sense a companion law to the Freedom of Information Act. Its enactment was the result of concern over the amount of personal information collected by Federal agencies and the ways in which this information was being utilized. The basic principles of the Act are:

- a. There should be no secret information systems.
- b. There should be no unforeseen use of information that an individual supplies about himself without his consent.
- c. An individual should have access to the records that are kept about himself.
- d. Information collected concerning an individual should be collected directly from him, whenever feasible, and then only when it is necessary, and the information should not be retained unless it is accurate, timely, and relevant.

The Privacy Act differs from the Freedom of Information Act in two important respects--it applies solely to personally identifiable information, and only U.S. citizens and permanent resident aliens are entitled to its benefits. Subsection (j)(1) of the Act afforded the CIA the possibility of exempting itself from many of the provisions of the Act, including the provisions whereby individuals can request access to records pertaining to themselves and, if the accuracy of these records is in question, request their amendment or expungement. However, the Agency did not fully avail itself of this subsection, limiting the application of (j)(1) to the exemption of such categories of information as intelligence sources and methods and polygraph records. (Even if the CIA had exempted itself from the access provisions of the Privacy Act, individuals could request the same records under the Freedom of Information Act.) Another difference between the Privacy Act and the Freedom of Information Act is that no search fees may be charged for requests processed under the Privacy Act. The CIA, while permitted to do so, does not assess copying fees either.

Under the Privacy Act, the Agency is required to publish in the Federal Register descriptions of those systems of records which contain information on U.S. citizens and permanent resident aliens and which are indexed by personal name or some equivalent identifier. Steps have to be taken to ensure that access to personal information is limited to those with a need to know, and records must be maintained of all disclosures. Except for routine uses covered in the Agency's implementing regulations, and other circumstances specifically covered in the law, personal information cannot be disclosed to a third party without the express consent of the person concerned. To the extent possible, information is to be collected directly from the subject individual. Whenever the information is being used in making a determination about the individual, to the degree practicable, steps must be taken to ensure that the information is accurate, relevant, timely, and complete. In addition, no records may be maintained describing how any individual exercises rights guaranteed by the First Amendment.

When an individual requests access to records under the Privacy Act, we first require from him proof that he is who he purports to be--a notarized statement of identity which includes his date and place of birth. Unlike the Freedom of Information Act, there is no statutory deadline for responding to access requests, but guidelines promulgated by the Office of Management and Budget call for answering such requests within 30 days. The exemptions are roughly equivalent to those of the Freedom of Information Act. For example, classified information is withheld under subsection (k)(1); sources and methods are protected under (j)(1); the personal privacy of others is covered by subsection (b); and the identity of sources utilized in compiling investigatory reports is afforded protection under subsection (k)(5).

4. CIA's Experience in Handling Freedom of Information and Privacy Act Requests, Appeals, and Litigation

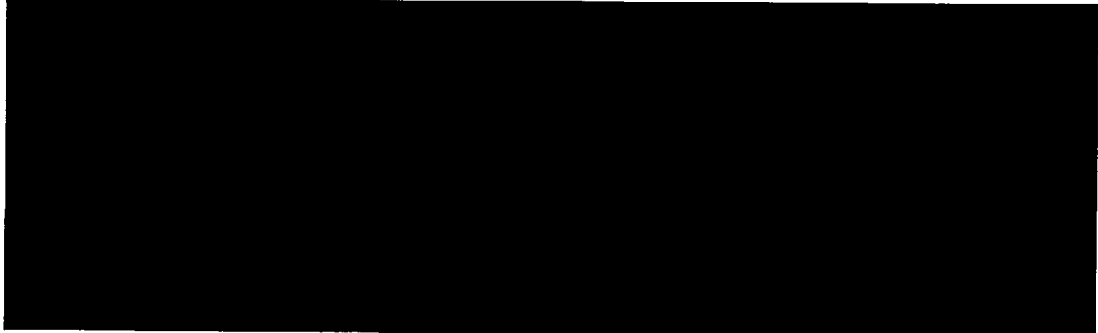
A few rather complex requests, notably those submitted by Morton Halperin, were received shortly after the amended Freedom of Information Act took effect on 19 February 1975. These were apparently intended as "test" cases by the requesters. Requests were not received in large volume, however, until late March of that year. Bella Abzug, then a Member of Congress, had been provided, at her request, copies of records pertaining to her which the Agency had collected, including intercepted mail. Ms. Abzug was very indignant over what she regarded as a gross invasion of her personal privacy, and she had a heated exchange with Director William Colby over

the matter. Much publicity resulted, and the Agency began to receive a large number of requests from other persons who wished to know whether the CIA had established files on them. (Around that time, it was decided by Mr. Colby that no fees would be charged for requests from U.S. citizens for their personal files.) The volume of requests for personal files rose dramatically in July, August, and September of 1975, with approximately 200 letters a day coming in on peak days. This development can be attributed to a campaign by the Center for Constitutional Government, which flooded the country with form letters addressed to the CIA and urged everyone to write to "Big Brother" and to send copies of the Agency's replies to the Center. There was no way that the Agency could cope with this deluge of requests, and a processing backlog developed that persists with us to this day. Requests dropped off for some reason during 1976, and for a time we managed to reduce the unprocessed backlog to 1,000 cases. However, the backlog increased during 1977 at the rate of about 22 cases per week, and although the volume has declined somewhat during 1978, the backlog has continued to rise this year by approximately 16 cases per week. We are currently logging an average of about 86 new requests (Freedom of Information, Privacy, and Executive Order) a week, and available resources enable us to answer only about 70 a week. The total backlog of unprocessed requests now amounts to over 2,700 cases, and the appeals backlog exceeds 300 cases.

Other than requests for personal files--and these requests are usually now processed under the Privacy Act rather than the Freedom of Information Act--the types of requests we receive can often be predicted from the previous week's newspaper headlines. In addition, there have been other organized campaigns to encourage Freedom of Information requests, with the CIA as the target. It should be emphasized that, although foreigners have the right to use the Act, most of the requests have been submitted by U.S. citizens. We do not maintain statistics on the citizenship of requesters--indeed, this is often difficult to determine; however, an analysis of the first 468 Freedom of Information Act requests logged during 1978 revealed that only 16 of them (3.4 percent) came from persons who were definitely neither U.S. citizens nor permanent resident aliens. We are unable to recall having received any requests from Communist China or Sovbloc countries, but, of course, such requests could conceivably have come to the Agency through intermediaries.

Some of the most popular topics for requests have been:

- a. Unidentified Flying Objects (UFOs). (There are several organizations of UFO aficionados, whose members keep in close contact with one another.)

- b. CIA's past and present relationships with academia. (The American Civil Liberties Union and the Center for National Security Studies have encouraged such requests.)
- c. The assassination of John F. Kennedy.
- d. Past programs of the Agency in the field of drug and behavioral control experimentation. (In addition, we have received a large number of Privacy Act requests from persons who suspect that they were the subjects of Agency-sponsored tests.)
- e. CIA's past and present relationships with state and local law enforcement agencies.
- f. Persons missing in action in Southeast Asia. (The next-of-kin of MIAs are using the Freedom of Information Act to delay status hearings which would change the status of the MIAs to that of presumed killed in action. The relatives have a financial stake in the matter.)
- g. Copies of procurement contracts. (Many of these requests have concerned EDP-related contracts. Some persons regard such requests as a form of industrial espionage.)
- h. 
- i. Personal files of prisoners. (These are processed under the Privacy Act, and we seldom have any "hits." The volume is large, however.)
- j. The use of newsmen, missionaries, etc., as sources.
- k. Covert action projects, particularly of the political action type.

25X1C

- l. OSS operations. (Everybody seems to be writing a book on the OSS.)
- m. Foreign economic, financial, and trade developments.
- n. Biographical data on foreign leaders.
- o. Improper payments by U.S. industrial firms to foreigners.
- p. CIA records on U.S. domestic organizations.

A breakdown of the number of Freedom of Information and Privacy Act requests processed since the start of 1975 is provided below.

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u> (thru 30 Aug)
<u>FOIA</u>				
Requests received	6609	761	1252	1126
Granted in full	300	148	167	113
Granted in part	428	562	241	189
Denied in full	174	122	95	92
Miscellaneous*	4577	523	269	483
<u>PA</u>				
Requests received	552	2356	3023	1578
Granted in full	4	154	195	131
Granted in part	3	404	520	314
Denied in full	0	56	124	76
Miscellaneous*	189	1500	1559	873

A large number of other requests (ca. 4,750), principally requests for access to personal records, have been received since 1975 but never processed because of the failure of the requesters to provide the information needed to establish their identity, or other data. Although never fully processed, each of these unlogged requests has required, at the minimum, the establishment of a case file and at least one letter of response, thereby adding to our workload.

*Miscellaneous category includes "no record available" and "no CIA record available" responses; canceled and withdrawn requests; requests referred to other agencies; and requests appealed due to lack of response.

5. Agency Organization, Manpower Costs, and Fees Collected

The Agency program for administering the Acts is decentralized, reflecting the decentralized nature of our files. The Information Review Committee, which is chaired by the Deputy Director for Administration, sets overall Agency policy and rules on all appeals. The Information and Privacy Staff, which is located organizationally within the Office of the DDA, is the focal point for the receipt of requests from the public, coordination of their processing, the preparation of replies, and the maintenance of records of all transactions. Each of the Directorates has a person who serves as Directorate Freedom of Information officer, and, within the Directorates, each major component (office or division) has its own Freedom of Information officer (some full-time; others part-time). The program within the Operations Directorate is somewhat more centralized than is the case with the other Directorates. All contacts with the Information and Privacy Staff are through the Freedom and Privacy Group of the Information Management Staff, whereas, in the other Directorates, the Information and Privacy Staff usually deals directly with offices below the Directorate level. In addition to the above, there is a Freedom of Information officer in the Office of the DCI and an officer for each of the major components within that Office. The Office of General Council has an entire division, the Freedom of Information and Privacy Law Division, working full-time on appeals and litigation. Requests involving Intelligence Community Staff records are processed through the CIA mechanism, as well, and the IC Staff has appointed a Freedom of Information Officer to serve as the contact point.

There are about 65-70 persons in the Agency who are employed on a full-time basis in complying with the demands of the Freedom of Information Act, the Privacy Act, and mandatory classification review requests. Hundreds of other Agency employees, however, get involved in the programs on a part-time, ad hoc basis--conducting searches, reviewing records for releasability, etc. According to manpower statistics collected on a weekly basis during 1977, a total of 192,800 man-hours was expended in processing requests, appeals, and litigation--the equivalent of approximately 109 man-years. The manpower commitment thus far in 1978 has run somewhat higher, but it is believed that we have just about reached the limit of the resources that can be employed without detracting from our ability to carry out our foreign intelligence mission.

A great deal of manpower can be expended on individual requests, particularly if they go into the appeal and/or litigation stages. For example, we estimate that we have

already devoted 11.5 man-years to processing a request from John D. Marks, now in litigation, for records pertaining to MKULTRA and other drug/behavior modification programs. A request from David Belin (others have submitted the same request) for copies of all records dealing with John F. Kennedy's assassination has already cost us some 8.75 man-years of labor.

We estimate that the manpower costs for 1975 amounted to \$1,400,000; for 1976, \$2,000,000; and for 1977, \$2,377,000. Almost half of these sums can be attributed to the Freedom of Information Act alone. Although considerably less than half of our total requests are handled under the Freedom of Information Act, these requests tend to be more complex and are more likely to lead to expensive litigation. By contrast, very little has been collected in the way of fees. As was pointed out earlier in this paper, there are no charges for processing Privacy Act requests and, in addition, we are required to waive or reduce fees whenever it is in the public interest to do so. Only \$1,867 was collected in 1975; \$10,035 in 1976; and \$16,439 in 1977. We anticipate that the total fees collected in 1978 will fall below last year's figure.

There are other costs, such as office space, supplies, equipment rentals, and computer support, which we have not attempted to calculate, but these would be minor in comparison with our personnel costs. Fees collected from requesters are turned over to the Treasury Department, and the total cost of administering these programs must be absorbed by the Agency within overall operating funds.

There are severe limitations on the costs that we can pass on to requesters. As noted earlier, no charge is made for requests processed under the Privacy Act, and, inasmuch as most of our mandatory classification review requests are referrals from other Federal agencies, fees are seldom collected by our Agency for them either. Under the Freedom of Information Act, we are authorized to levy charges only for copying costs and for the time spent in locating relevant documents. No fees may be charged for the far more time-consuming and costly process of reviewing and sanitizing documents. Until such time that the fee structure takes into account actual processing costs, we are unlikely to see any significant

drop in the number of requests, and large amounts of the taxpayers' money will continue to be spent reviewing and sanitizing material for release to a relatively small number of individuals.

In the meantime, the fee structure which we do have affords some protection against capricious "fishing expeditions" and omnibus-type queries which would be extremely costly to process. For example, during the period 1 January 1977 through 8 March 1978, 67 Freedom of Information were canceled or withdrawn because of the refusal of requesters to agree to the payment of reasonable search and copying fees. Although not large, the number provides some indication that fees cause requesters to exercise restraint in pursuing their informational needs. Moreover, we must assume that many others are deterred from submitting requests because they are aware that fees may be charged. We estimate that if our current authorization to charge fees were to be drastically limited through judicial interpretation or legislative amendment of the Act, the volume of requests might very well double. We do, of course, voluntarily waive fees, in whole or in part, when the subject matter sought is clearly of public interest and it is our judgment that release of the material would significantly benefit the general public. It is not our policy, however, to automatically waive fees whenever the requester states his intention to publish the results of his research, as many of our critics contend that we should. Our stand in this regard is weakened somewhat by the divergent policies followed by other Federal agencies. It is our understanding, for example, that the Department of Defense always waives fees when the requester is a newsman.

6. Problems for the Agency in Complying With the Law

- a. It has been impossible to meet the deadlines for responses. Requests are generally processed on a first-in, first-out basis and, in view of our huge backlog, the statutory time for responding to Freedom of Information requests usually has elapsed before we can even commence searching for the documents requested.
- b. Even if the processing backlog did not exist, it would be very difficult to meet the statutory deadlines. Because of the specialized missions of various Agency components and the security requirement for compartmentalization, the CIA, unlike many other agencies, has no central file or index to its holdings. A search for "all" information on a given topic or topics may therefore entail the searching of several file systems, under different command

authorities and with varying degrees of retrieval capabilities. Our date of completion of the search is governed by the time required to thoroughly search the least efficient of these systems. (By way of contrast, it is our understanding that a search of the FBI's central files seldom takes more than 10 minutes.)

- c. The search task is further complicated by the fact that many of the Agency's records have become inactive and, as an economy measure, are stored in a records center. If "hits" made during the index search phase relate to such records, a not infrequent occurrence, it takes from two to three days to retrieve them from remote storage in order that their relevance can be determined, thereby delaying the process.
- d. Searches in one component will often surface records originated by, or of subject-matter interest to, other CIA components or other departments and agencies. The time required for reproduction and referral of such documents to the organization having cognizance in order that they can be reviewed further delays completion of processing. This problem, of course, is not unique to the CIA, but an unusually large proportion of our reports are jointly produced or contain inputs provided by other agencies.
- e. The biggest single factor in slowing down our response times is the absolute necessity that all records be carefully reviewed before release. At best, the review of classified intelligence documents is a time-consuming process. A single request can involve the review of hundreds or thousands of documents and, depending upon the subject matter, there are a limited number of experts qualified to perform this task. Often, the review must be done by senior officers and managers, with numerous other demands, often more urgent, placed upon their time. Experience has taught us, also, that a very careful review by at least two levels of authority is required to ensure that sensitive information is not inadvertently released. Mistakes, needless to say, would be costly. Unless our sources are afforded protection from disclosure, they could lose confidence in our ability to maintain secrets, thereby impairing the Agency's ability to collect the foreign intelligence essential to national survival in this atomic age.

- f. Foreign nationals and other persons holding views inimical to U.S. national interests can and do seek information from the CIA under the Freedom of Information Act. This is well-known throughout the world. Compliance with their requests and the resultant publicity given to any information released appears to have had the cumulative effect of leading persons or organizations who were once willing to cooperate with the Agency to question whether they can safely continue their collaboration without the risk of exposure. Compared with unauthorized revelations by former employees and others, very little sensitive intelligence information has been inadvertently released through Freedom of Information channels. Yet the possibility of such releases exists, and the Operations Directorate can document specific instances of the loss of real or potential sources where the Freedom of Information Act was in part responsible. There is, accordingly, widespread concern within the Agency over what is widely, and not wholly incorrectly, perceived by our information sources to be a problem for the Agency in protecting its legitimate secrets.
- g. Despite the expense involved in processing Freedom of Information requests, the public is not always served by the information we are able to release. Some requests are for records concerning sensitive covert operations, the existence of which we are not even free to acknowledge. No information is released, but Agency manpower is diverted from other tasks, particularly so if the denials are appealed or litigated. In other instances, compliance with the Act has led to the release of fragmentary and sometimes inaccurate raw intelligence data, which, rather than enlightening the public, results in a misinterpretation of what actually occurred. More accurate reports often had to be withheld to protect sensitive sources or collection systems.

7. Legislative Relief

The Agency has long been committed to a policy of openness believed to be unprecedented for a foreign intelligence agency. For example, the Agency's analytical products, to the degree consistent with our obligation to protect intelligence sources and methods, have often been made available to the public on a voluntary basis. Numerous unclassified monographs, reference aids, maps, and translations of the foreign media

are released by the CIA each year through the distribution facilities of the Library of Congress, the Government Printing Office, and the Department of Commerce. Moreover, there has been no serious objection on the part of the Agency to complying with the access provisions of the Privacy Act, burdensome though they may be. Indeed, subsection (j)(1) of the Privacy Act contains the authority for exemption of the Agency from many provisions of the Act if we saw fit to do so. Similarly, compliance with the requirement for the mandatory classification review of 10-year-old records pursuant to Executive Order 11652 (almost identical provisions are contained in Executive Order 12065, which supersedes Executive Order 11652 on 1 December 1978) is not so troublesome as to be unacceptable. However, the burden imposed on the CIA by compliance with the Freedom of Information Act as it now stands, and the associated risks to our intelligence sources and methods, have been brought to the attention of our oversight committees and individual Members of Congress. While we take no issue with the concept that the American public has a right to know what its Government is doing, we do submit that in the case of foreign intelligence records the public benefits deriving from the Act have not been commensurate with the costs. As pointed out earlier in this paper, because of our statutory mandate to withhold protected information, only a very small portion of the information requested of us under the Freedom of Information Act can be released. Thus, in most cases, a search for and review of thousands of pages of documents relating to a particular request might result in the release of only a few pages of sanitized, disjointed information which neither truly responds to the requester's interests nor satisfies the intent of the Congress. And the price to the taxpayer for this dubious service is enormous. At the same time, the Agency's work suffers from the drain on its resources, the chilling effect that the Act has had on cooperating liaison services, the fears of agents overseas of exposure, and the concern of various U.S. corporations and CIA contractors that their activities with or on behalf of the CIA might become public.

Clearly, the CIA and the other foreign intelligence agencies of the U.S. Government are in a distinctly different position vis-a-vis the Freedom of Information Act than are other departments and agencies, and a good case could be made for total exemption from the Act, or, if that is impossible, partial relief. Critics will be sure to charge that the CIA seeks only to cover up continued illegal domestic surveillance operations and other abuses. We maintain, however, that all of our old "dirty linen" has by now been thoroughly exposed to public scrutiny. The public's interest in preventing future abuses or illegalities by U.S. intelligence organizations

will be adequately served by the elaborate oversight mechanisms that have been established in the Agency, the Intelligence Community, the White House, and the Congress. There is no compelling need, therefore, for the Freedom of Information Act to be a means of monitoring Agency activities.

To date, the Agency has not submitted any formal legislative proposals to the Office of Management and Budget. We have, however, raised the question of amendments in correspondence with Members of Congress, including Senator Birch Bayh, Congressman Bill D. Burlison, and Congressman Samuel L. Devine. The latter subsequently introduced a bill in the House of Representatives that incorporated certain aspects of the suggestions contained in our letter to him. The questions that we have posed have dealt primarily with procedural changes and fees, although the need for broader exemptions for raw intelligence reports and operational data was also mentioned. The questions were as follows:

- a. Should the benefits of the Freedom of Information Act, like those of the Privacy Act, be available to U.S. citizens and permanent resident aliens only?
- b. Should the mandatory response time on initial processing of requests be changed from the present 10 working days to 30 calendar days, plus an additional week for every 100 pages, or fraction thereof, of material requiring a review? At the same time, should the mandatory response time on appeals be changed from the present 20 working days to 60 calendar days, plus two additional weeks for every 100 pages, or fraction thereof, requiring a second review?
- c. Should agencies be permitted to charge requesters for review time as well as search time?
- d. Should requests be limited to one specific subject of manageable proportions rather than permitting blanket omnibus-type requests which cover a wide date span and a variety of topics?

If the above suggestions were acted upon by the Congress, the Agency's problems in administering the Freedom of Information Act would be somewhat ameliorated, but not to any great extent. Proposal a. would be difficult to enforce inasmuch as it would be no problem for a foreigner to arrange for a U.S. citizen to act as his agent. Even with the more reasonable response deadlines suggested in proposal b., we would still be unable to comply as long as the current processing backlogs

exist. Proposal c. would be very helpful if enacted, but requesters would still have the right to ask that all fees be waived in the public interest. (There has been one court case in which our refusal to waive fees was overruled by the judge.) Proposal d. would provide a basis for not acting on certain requests, although it would be possible to finesse the requirement by merely submitting several related requests in lieu of one complex request.

The Office of Legislative Counsel is currently endeavoring to draft an amendment to the Freedom of Information Act for presentation to the appropriate committees of the Congress after clearance by the Office of Management and Budget. The Information Review Committee, through its Working Group, is assisting in this matter. The major thrust of the amendment proposal will be either to list certain categories of foreign intelligence information (e.g., covert operations, raw intelligence reports) as not being subject to the provisions of the Act, or, conversely, to state that all foreign intelligence records are not subject to the Act except for specified categories (e.g., finished intelligence). The latter approach has certain merit in that it seems positive, rather than negative. Moreover, in any attempt to list types of information not subject to the Act, there is always the danger that sensitive categories may be overlooked. Another decision to be made is whether the draft amendment should apply only to CIA records or to all Intelligence Community records. Many of the problems that the CIA has encountered in administering the Freedom of Information Act have undoubtedly been experienced by other intelligence agencies as well. It might also be better for the CIA's public image if it were not singled out.

All indications are that the prospects for obtaining relief through amendments to the Freedom of Information Act are not bright. The suggestion has been made that we might be able to achieve the same results through appropriate charter legislation provisions, with the charter legislation then providing the basis for invoking exemption (b)(3) of the Freedom of Information Act. The feasibility of this approach should be explored. We could presumably expect a more sympathetic hearing from our oversight committees than from the committees having jurisdiction over Freedom of Information legislation.

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30 March 1978

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DDA

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MEMORANDUM FOR: Deputy Director for Administration
FROM :
 Chief, Information and Privacy Staff
SUBJECT : IPS Weekly Report (23-29 March)

1. The Week in Review

	<u>23-29 Mar</u>	<u>1978 Weekly Average</u>
a. New cases logged	150	99.8
b. Cases closed	50	63.9
c. New appeals logged	0	3.8
d. Appeals closed	0	1.5
e. Manpower (man-weeks)	108.9	100.3

2. Spotlighted Requests

a. Janet E. Smith, administrative assistant for the Federation of American Scientists, asked for copies of any records held by the CIA concerning "the mysterious noises and lights that have afflicted the East Coast, Canada, Europe and, possibly, other regions." The director of the Federation, Jeremy J. Stone, recently advanced the theory at a press conference that the noises off the Atlantic Coast had been caused by Concorde flights. The Agency received a similar request a few weeks ago from Robert Todd, one of our UFO buffs.

b. Prof. Bruce Erickson of Culver-Stockton College, Canton, Missouri, requested copies of all files maintained by the CIA on the late Edgar Parks Snow, an American journalist who gained fame through his reporting of the Chinese Communists between 1936 and 1971. Snow died on 15 February 1972. Professor Erickson alleges that Snow was the subject of a CIA investigation.

c. The president of The Newspaper Guild, Charles A. Perlik, Jr., requested copies of any documents in CIA files concerning the Guild. The organization was formerly known as the American Newspaper Guild.

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d. Jonathan Knight, who is the associate secretary of the American Association of University Professors, asked for copies of all files maintained by the CIA on his organization, plus any records concerning past or present contractual arrangements or agreements between the Agency and the Association or any of its personnel. The request letter was obviously patterned after the standard ACLU form letter used to request documents concerning CIA's connections with academic institutions.

e. We received requests from the campus newspapers of the College of William and Mary (The Flat Hat) and Vanderbilt University (The Vanderbilt Hustler) for copies of records pertaining to the Agency's past and present contacts with these institutions or members of their staffs.

3. Spotlighted Responses

a. Two requests from Barry Lando, CBS News, were denied in full. In each case, we replied that the fact of the existence or nonexistence of records relevant to his request was in itself a classified matter involving intelligence sources and methods. The requests were for records concerning negotiations with the Israelis to obtain captured military equipment of Soviet manufacture, and for records of payments to the Israeli Government or Israeli citizens from the DCI's contingency fund.

b. The same reply was sent to Howard Kohn, associate editor of Rolling Stone, in response to his request for access to all documents pertaining to "CIA-sponsored expeditions" to the mountains Nanda Devi and Nanda Pot in the Indian Himalayas.

c. E. J. Applewhite, who resides in Washington, D.C., was provided a copy of the sanitized version of "Clandestine Services History; The Berlin Tunnel Operations," dated 25 August 1967. This history was initially released in connection with a request from David C. Martin of Newsweek.

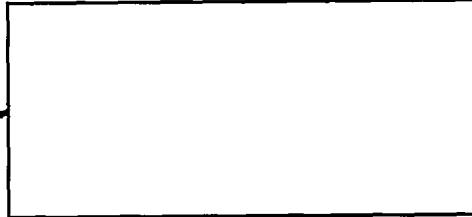
d. Twenty-six documents, 16 of them sanitized, pertaining to Ohio State University were provided to Robert Rudinger, editor of the school newspaper, The Ohio State Daily Lantern. He was informed that the existence or nonexistence of additional records which might reveal any covert CIA connection with the University or its personnel was a classified matter involving intelligence sources and methods. This reply was sent in answer to three requests, all submitted separately by members of the newspaper's staff, for the same material.

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4. Analysis

A review of the first 468 Freedom of Information requests logged during 1978 revealed that only 16 of them (3.4) percent) came from persons who were definitely neither U.S. citizens nor permanent resident aliens. Determination of the citizenship of requesters is not an easy matter, however, since this is rarely mentioned in the request letters. Students with apparently foreign names writing to us from the campuses of U.S. colleges could be foreigners here on student visas, or they could be U.S citizens. We assumed the latter to be the case. The citizenship of U.S. correspondents for foreign newspapers and periodicals is also often difficult to determine.



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[Redacted]

/30 March 1978

Distribution:

Orig. & 2 Addressee

- 1 - DCI
- 1 - DDCI
- 1 - ER
- 1 - D/NFAC
- 1 - DDO
- 1 - DDS&T
- 1 - Asst to DCI/PA/Mr. Hetu
- 1 - Comptroller
- 1 - IG
- 1 - OGC
- ① - OLC
- 1 - DDO/PIAG
- 1 - IRG/OS
- 1 - NFAC/FIO
- 1 - AI/DDA
- 1 - OS/SA/DO/O
- 1 - IPS Subject
- 1 - IPS Chrono
- 1 - IPS Reading Board

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NRO review(s) completed.
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SOURCE MATERIAL - DDS&T FILES in RECORDS CENTER

<u>Job No.</u>	<u>Description of Contents</u>	<u>Date Retired</u>
X 66-R-638 (1 box)	DD/R--DD/S&T Organization, Delegation of Authority (1962); Staff Mtg. Minutes, Chronos, (1962-63)	5/17/66
X 67-B-25 (1 box)	DD/S&T Admin. (1962)	7/15/66
X 66-B-560 (1 box)	DD/S&T Admin & Ops (1963)	3/4/66
X 66-R-546 (2 boxes)	Policy, Planning, Coordination, Direction (1963); Chronos (1963); Committees, Boards and Panels	2/28/66
X 67-B-558 (1 box)	DDS&T Admin, committees, panels etc. (1964)	2/3/67
X 1+2 X 3+4 67-R-587 (4 boxes)	DDS&T Subject files (1964); Miscel. Admin. and Aerial Recon Action Memos	2/27/67
X 68-R-530 (4 boxes)	DDS&T Subject files (1965); Budget, Security, Training, Logistics, etc.	1/29/68
X 69-B-596 (1 box)	DDS&T Subject files (1965-66)	2/26/69
X 69-R-597 (4 boxes)	DDS&T Subject files (1966) (non-record copies)	2/26/69
X 69-R-598 (1 box)	DDS&T Chronos (1964)	2/26/69
X 69-R-599 (2 boxes)	DDS&T Chronos (1965)	2/26/69
X 69-R-600	DDS&T chronos (1966)	2/26/69
STAT		
X 70-R-435 (2 boxes)	DDS&T Chrono (1967)	1/29/70
X 70-R-465	DDS&T Subj files (1967) Budget, Logs, Personnel, Security, Liaison, Travel	2/5/70

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X	70-B-501 (1 box)	DDS&T Policy Files (1967)	2/10/70
X	70-B-511 (1 box)	DDS&T Policy Files (1958-68) (Wheelon, 1963; History 1962-65; Basic Policy Agreements)	2/16/70
NO	70-543 (2 boxes)	1. Project Officers' Manual, 11 copies 2. "Energy Sources and Conversion" 39 copies	2/24/70

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Does Dr. Chamberlain have any recollection of how Dr. Wheelon came to be recruited as AD/SI in early summer 1962 to replace Dr. Scoville?

Who recommended him?
Was PFIAB (or any of its members) involved?
Who approached him?

Dr. Cline was then DD/I -- What part did he play in Wheelon's appointment?

STAT Dr. Wheelon was the TRW (then Space Technology Labs) Manager [redacted] in 1961-62 and as such well known to Dr. Scoville and many of us in OSI. It was Dr. Scoville who talked Dr. Wheelon into taking the job with assistance from John McCone. Others who played a part were Jimmy Eos. Little (STL Board Member) and Rube Mettler (then a senior v. p. at STL) both of whom knew me well. I don't know about PFIAB members (Maybe Killian was consulted).

I'd say Ray Cline played a near zero part in Wheelon's appointment and in a short time they were not what you call dear friends.

[redacted]

STAT

[redacted]

STAT

CPYRGHT

New York Times - Dateline Los Angeles, June 14

"McCone is Opposed to 'One-Man Rule'"

A.E.C. Nominee is Expected to Keep Strauss Policy
on Power and Tests

-----By Gladwin Hill, Special to the New York Times

Los Angeles, June 14.

(McCone nominated last week to Chair AEC; Strauss retiring
30 June.

Interview in L.A. brought out following views from
Mr. McCone:

Basic research in science should proceed hand in hand with
applied, or immediately practical studies.

While scientists are not infallible, their participation in
policy formulation is a "healthy" and progressive application
of the nation's brain power.

A well-informed public is a very important factor in the
adoption of national policies.

He was quoted, with regard to his part in the writing of
the report by the Presidential Air Policy Commission,
known as the Finletter Report, that he took pride in the
report which was as applicable in 1958 as when it was
written in 1947.

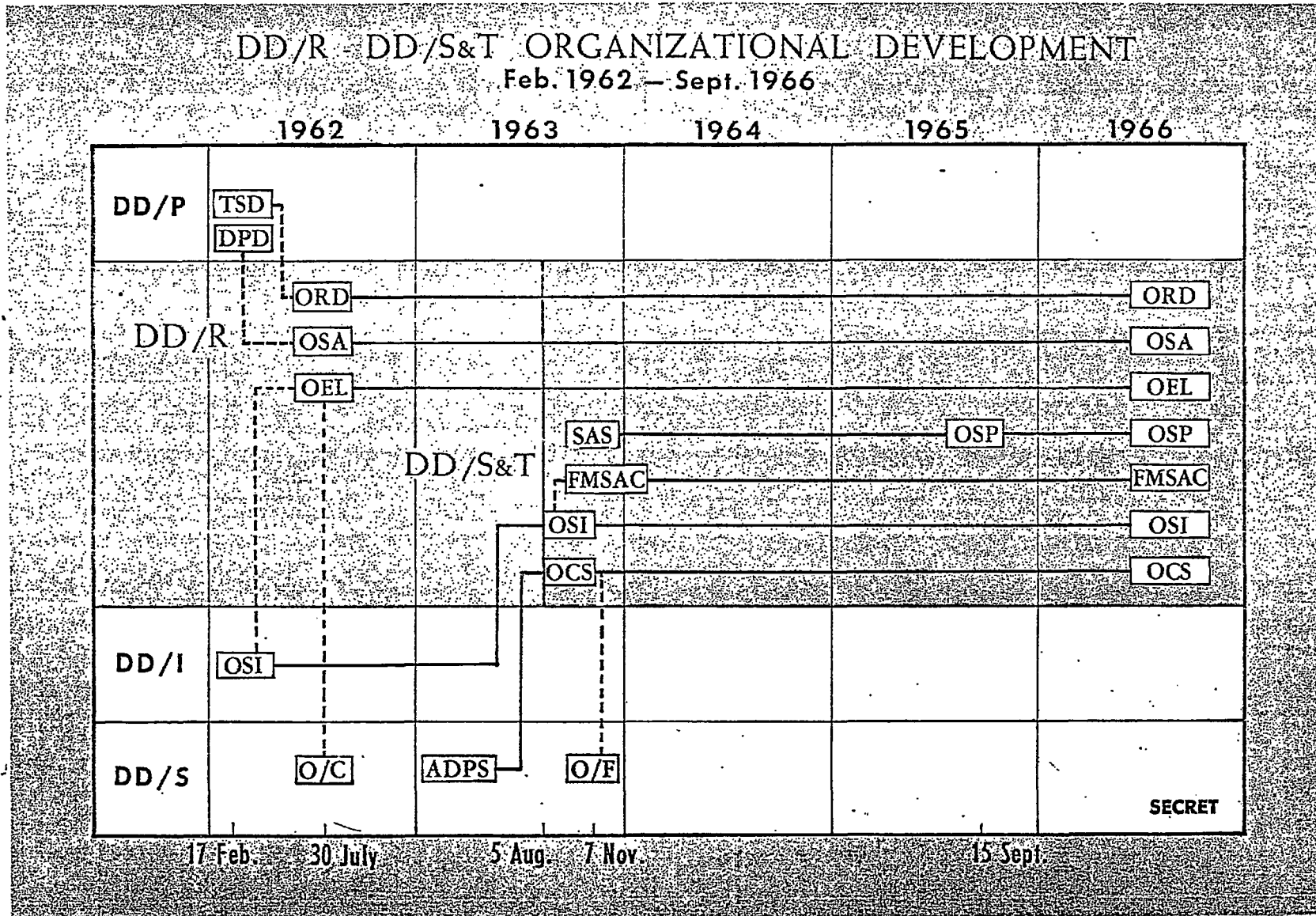
At a time when top scientists didn't think the
Russians would have an atomic bomb, the report
anticipated the early development by other nations
of supersonic bombers, atomic weapons and guided
missiles--possibly ahead of the United States--and
urged that this country bestir itself in those
fields.

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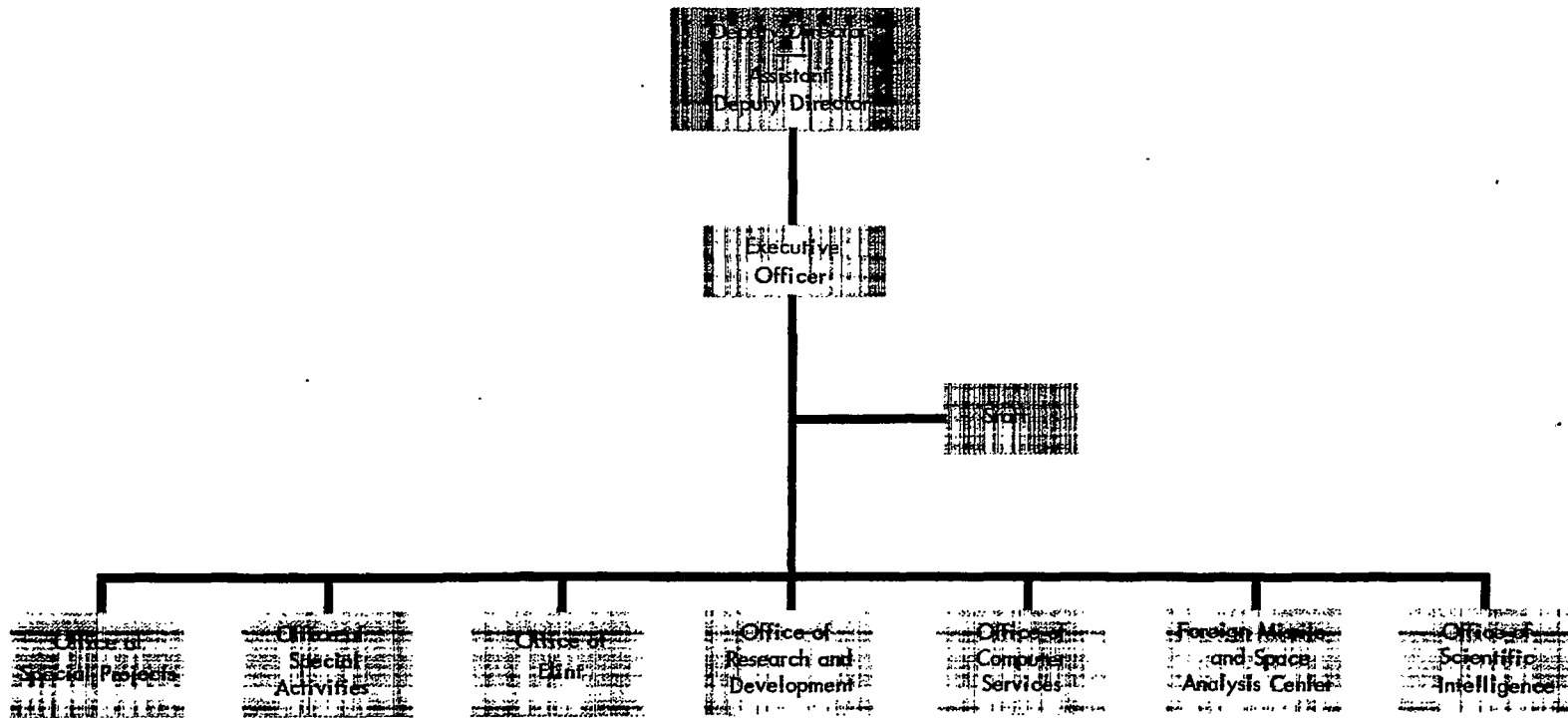
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The end design of DD/S&T's myriad of activities is to provide the Director of Central Intelligence, and through him the U. S. Intelligence Board, the National Security Council and the President, with the best possible intelligence on science and technology worldwide, to aid them in the formulation of national security policy.

Directorate of Science and Technology



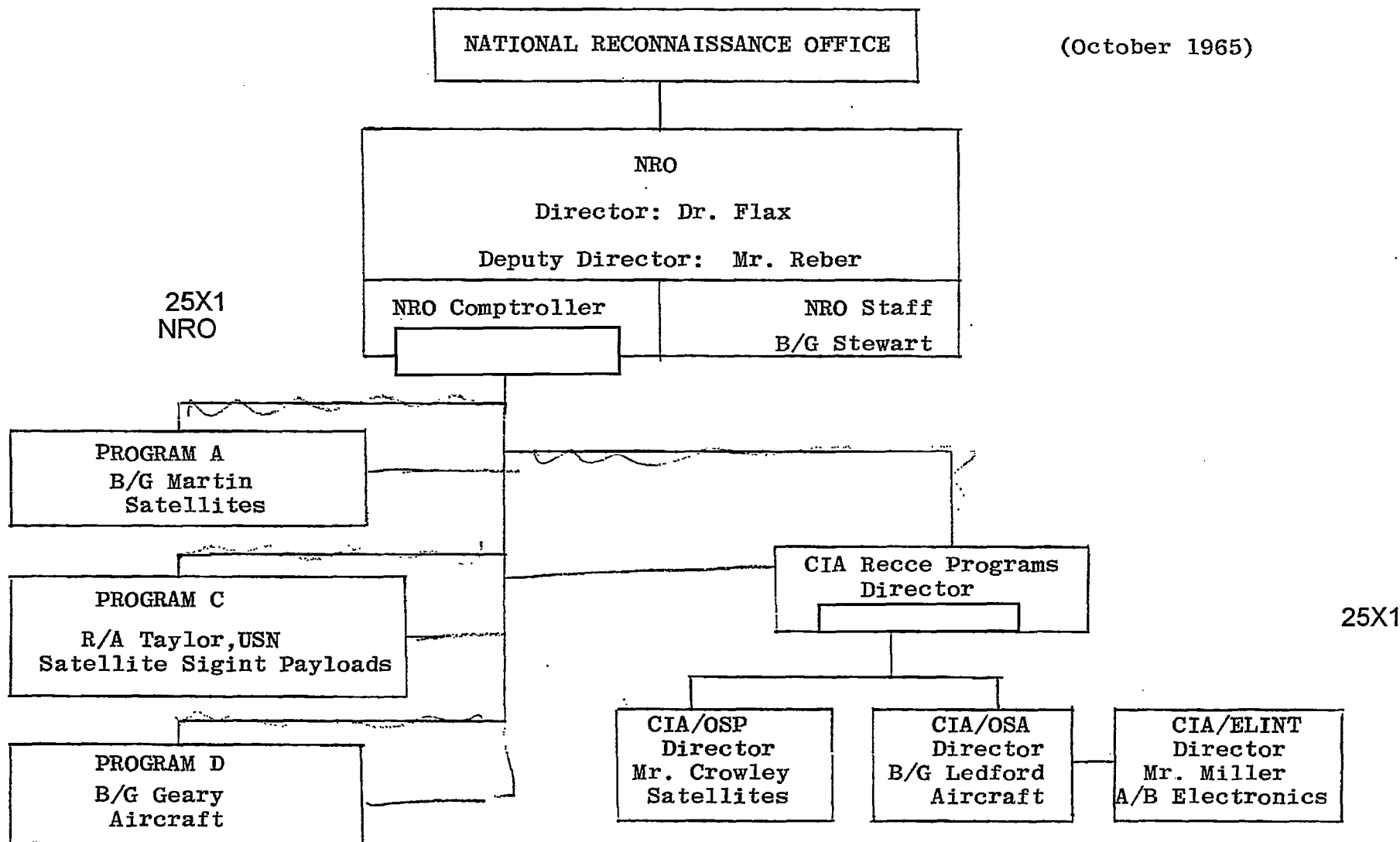
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FIGURE 4

(October 1965)



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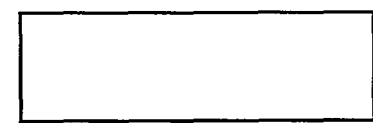


Figure 5

THE NRO ORGANIZATIONAL DEVELOPMENT

TOP SECRET

October 1965

THE PRESIDENT

NATIONAL SECURITY COUNCIL

FOREIGN INTELLIGENCE
ADVISORY BOARD

PSAC

(Panel on NRP Matters)

USIB

303 COMMITTEE

Adm Raborn, DCI
Mr. Belmont, FBI
Mr. Brown, AEC
Lt.Gen.Carroll, DIA
Lt.Gen.Carter, NSA
Mr. Hughes, State

Mr. Bundy, WH
Adm. Raborn, DCI
Mr. Johnson, State
Mr. Vance, DOD

Mr. Clifford, Chairman
Dr. Wm. Baker
Mr. Gordon Gray
Dr. Land
Dr. Langer
Dr. Long
Mr. Murphy
Mr. Pace
Adm. Sides
Gen. Taylor
Mr. Coyne, Exec Sec

Dr. Land, Chairman
Dr. Baker
Dr. Drell
Dr. Garwin
Dr. Ling
Dr. Puckett
Dr. Purcell

DIRECTOR
CENTRAL INTELLIGENCE
Adm. Raborn

SECRETARY OF DEFENSE
Mr. McNamara
DEP. SEC. OF DEFENSE
Mr. Vance

NRP
EXECUTIVE COMMITTEE

Mr. Vance, Dep. Sec. Def.
Adm. Raborn, DCI
Dr. Hornig, WH

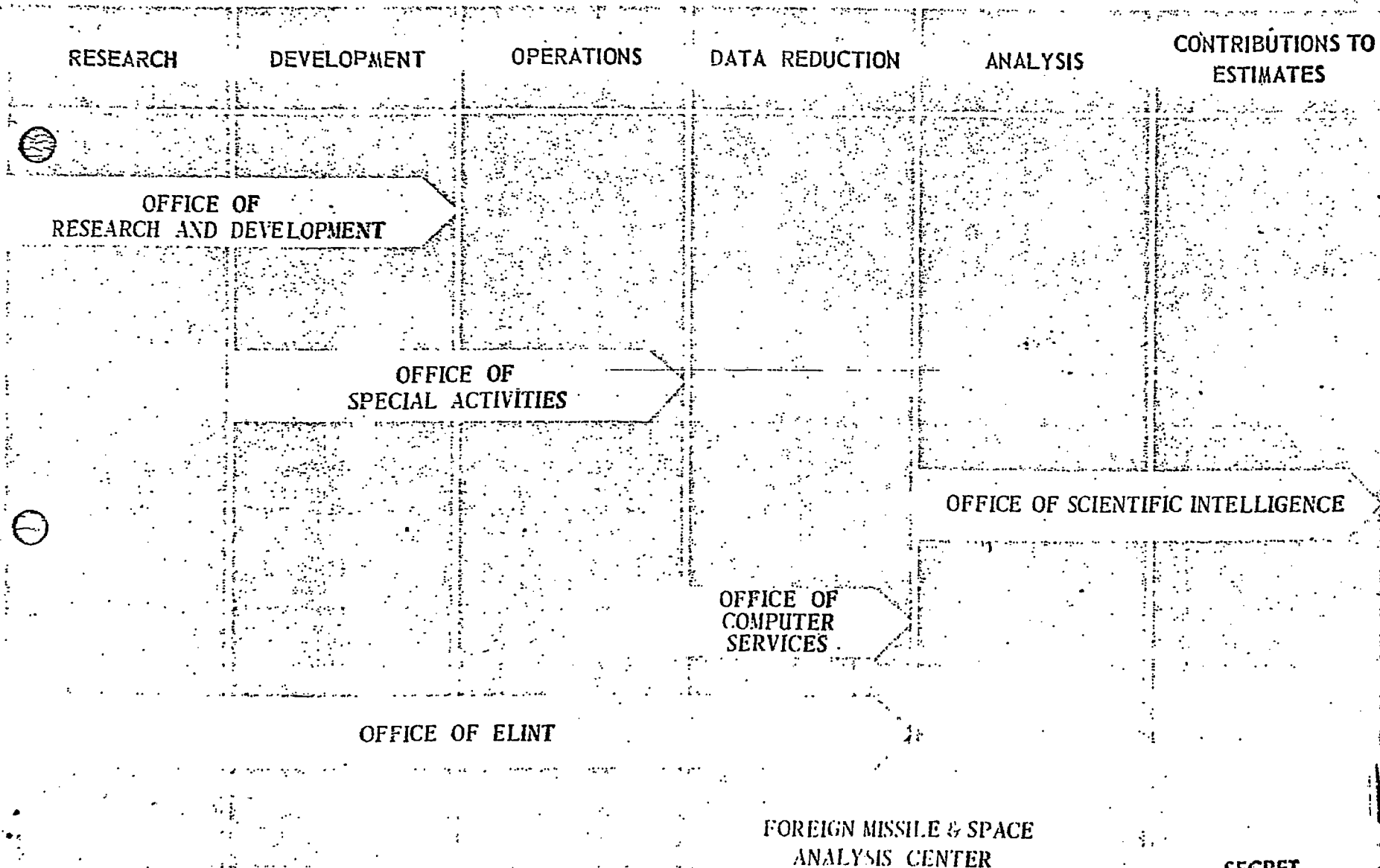
NRO
Director
Dr. Flax
Deputy Director
Mr. Reber

TOP SECRET

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DD/S&T FUNCTIONS

FIGURE 2



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