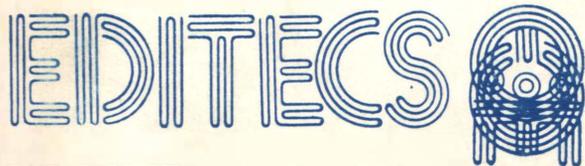


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UPIAR

**UFO PHENOMENA
INTERNATIONAL
ANNUAL REVIEW**

EDITORIAL

WHY STILL 'UFO PHENOMENA' ?

Perhaps there are two the keys for interpreting the title of this editorial. The first is an express reference to our maiden editorial appeared in the 1976 *Miniature* issue. This title has been revived in the UPIAR *Excerpta* issue we are sending to all those who request further information on the journal and its goals.

The second key for interpretation raises an old query which is gaining major regard: *Why defining the field of our interests as 'UFO phenomena' today?*

This is a pressing question for us but it will not be answered in these lines. Here and now we would prefer to make some remarks. Three years ago, when heading our first editorial 'Why UFO phenomena' we tried to take stock of the reasons which had led us to engage in this enterprise. Those reasons and statements are still valid and happen to be deeply rooted to such a pass that they have turned into a real commitment.

Our attempt to meet our engagements was made possible thanks to the help, to the friendship and to the responsibility of our editors in particular. On the other hand we had recourse to a policy that many will find unpopular but which has proved absolutely necessary: a quality control of manuscripts submitted for publication exerted by our referees. Another proof of our commitment is the publication of UPIAR Letters to Editors and the States of Art serving the purpose of encouraging criticism on the major topics covered by UFO research.

In our opinion criticism and discussions *ought to* get wider and stronger than ever since significant progress was made in UFO area in recent times.

GEPAN, the first governmental civilian committee for scientific study of UFO phenomena was set up in France. It is a leader of its kind in Europe.

The United Nations examined Sir Eric Gairy's proposal aiming at calling greater attention on UFO phenomena from UN Member States.

During a session of the House of Lords the Earl of Clancarty formally requested the British Government that the subject be tackled in the proper way.

This succession of events struck the public opinion favourably. We wonder whether such a commitment has succeeded in putting the heart of the matter in the right perspective.

Let us go into details.

“The Special Political Committee decided by consensus this morning to recommend to the General Assembly that it invite interested Member States ‘to take appropriate steps to co-ordinate, on a national level, scientific research and investigation into extra-terrestrial life, including unidentified flying objects’ ”.

The above is an extract from a press release (1) delivered after the 32nd, 33rd, and 34th work sessions of the UN General Assembly. Once again, this is the evidence of the enormous confusion existing even among experts. It is astonishing to see that the Committee has accepted unreservedly the diehard axiom decreeing - almost like an anathema - that UFO phenomena are an integral part of the search for extra-terrestrial intelligence.

A similar formulation of the problem can be noticed in the interpellation submitted by Lord Clancarty, better known in UFO circles under the name of Brinsley Le Poer Trench, who cleverly thought to bring his thirty-year experience as a UFO writer on the benches of

the House of Lords. He displayed the same passion as twenty-five years ago when bringing the names of Desmond Leslie and George Adamsky on the pages of the *Flying Saucer Review*.

Now what about GEPAN?

Nous étions au comble de la joie. If 1977 was a promising year for GEPAN, they are now reduced to be a mere public relations service as it appeared during the meeting held on 12 September 1978. The feeling was that GEPAN wanted to bury their formal undertaking in the arrogance of their scientists boasting of being *professionals* and the sole repository of supposed knowledge and truth (2).

In Italy, the geographical area of the writers, we find that Falco Accame, a Socialist MP, raised a question on UFO phenomena before the Chamber of Deputies. He asked what would be the attitude of the Italian Government towards the mysterious phenomena occurred in late 1978 along the Adriatic Coast, in response to public opinion. By the way it is to be noticed that fishermen were so scared by such unexplained phenomena that they preferred not to leave the shore. Referring to these events, about a dozen of civilian researchers and a score of scientists made an interpellation to the Italian Ministry of Defence. They asked that all the information should be made available to qualified researchers for study on a scientific basis (see this issue, p 314).

Now it seems quite obvious to wonder if it may be worthwhile to request data for study purposes. Do most scientists lack really views and clear thoughts on UFO phenomena?

Well, an *ad hoc* answer emerges from a survey performed in January 1977 by Peter A. Sturrock. This survey concerned the members of the American Astronomical Society (AAS). Among various results, a particularly meaningful one deserves to be highlighted: '*opinions (on UFO phenomena) correlate strongly with time spent reading about the subject*' (3).

As a matter of fact the rate of respondents who believe there is a need for scientific study rises from 29 percent (those who have read

up less than one hour) to 68 percent (those who have spent more than 365 hours for the same purpose).

Here we have data which *must* serve to think over. We are in the presence of figures that even inveterate detractors of UFO problems would find it hard to dispute, especially those scientists such as Antonino Zichichi * who take refuge behind high-sounding academic titles and make use of their authority to deny *a priori* the existence of a genuinely new phenomenon that science has not yet unveiled.

These people lack the faintest acquaintance with the specific literature on UFO phenomena.

The matter is very serious indeed.

Such a wretched habit - replete with quackery and arrogance - must be exposed because it is a hindrance to the diffusion of bias-free information. Moreover, this is apparently antithetic to the most elementary principles of scientific honesty. The ways by which the scientific thought has interpreted reality in the course of centuries should be an established heritage for whatever honest researcher. And if it were not so, it would be certainly worthwhile re-reading a provocative paper by physicist Philip Morrison concerning the nature of scientific evidence (4). Firstly he emphasizes the relative importance of the reproducibility - on request - of a phenomenon under examination (i.e. aurora borealis). Secondly he bases his discourse on those properties which are indispensable for considering any proof as reliable. In conclusion, it is necessary for an aristocratic science to turn eventually into science. Likewise, it is imperative for us to master again the UFO phenomena responsibly, in order to provide an unquestioned clarification to the meaning of UFO phenomena.

Furthermore, we have to decide the degree of importance we should attach to supposed acknowledgments of the cogency of UFO

* Chairman of the European Society of Physics and main founder of the Centre of Scientific Culture "Ettore Majorana", Erice, Italy.

phenomena coming from scientific, political or governmental bodies, in particular when the very definition of 'UFO phenomenon' seems to be controversial.

We cannot continue to play with words. It is high time for us now to find the courage to reiterate the general statements raised in the late Sixties. All of us agree on these statements, which form part of our education on the matter.

However, with the passing of time, we came to the point that we did not even recognize them as pertaining to our heritage due to their continuous changes intended to suit compromises. UFO phenomena are what literature has evidenced and not would-be assumptions.

We should ask ourselves, paraphrasing Eugene Wigner's words (5) with regard to brain events and conscious experiences:

'Have we the right to expect a solution to these fundamental questions when efforts have been trivial compared with the extreme difficulty of the problem? '

F. Farabone

F. Izzo

R. Cabassi

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SCOPE AND PURPOSE

This journal publishes *original* papers concerned with the following fields of research

- 1) PHYSICAL ASPECTS OF UFO PHENOMENA
- 2) GATHERING AND PROCESSING OF DATA CONCERNING UFO PHENOMENA
- 3) THE "CE III" (according to Hynek's terminology) IN THE UFO EXPERIENCE
- 4) PSYCHOLOGICAL AND PERCEPTIVE ASPECTS IN THE UFO EXPERIENCE
- 5) EPISTEMOLOGY OF THE RESEARCH ON UFO PHENOMENA

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The following will be taken into consideration for publication:

- 1) Papers stressing experimental results.
- 2) Papers of theoretical content leading to higher level of understanding of UFO phenomena and stimulating new experimental research.
- 3) Papers of experimental content not directly dealing with UFO phenomena, but having implications in the direction clearly expressed.

Editorial Papers dealing with subjects of general informative interest are published only upon request by the Editor-in-Chief.

Supplements (monographs or congress proceedings) are occasionally published. Announcements of meetings, symposia and workshops in the field will also be considered for publication.

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The submitted manuscript will be sent from UFO PHENOMENA to the qualified referee. A third copy should be retained by the authors for their own use.

Only original papers written in English will be considered. As an exception, papers written in French will be also accepted. But, they will have a full English translation of the title and the abstract.

For the interdisciplinary nature of the journal, which is addressed to the scientific community as a whole, but also to those who are not familiar with the author's discipline, the contributors to UFO PHENOMENA are requested not to use technical terms or jargon.

All accepted manuscripts will be published by a *direct photographic reproduction process*, excluding every possibility of subsequent alterations.

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- C) CASE HISTORIES
- D) BOOK REVIEWS
- E) LETTERS TO THE EDITORS

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TITLE: The title should be chosen so that it conveys to the informed reader the particular nature of the contents he can expect from the paper. The first page of each paper should carry the title (main title underlined), the authors' names and the name of the Department, Institute or Association in which the research work was done.

ABSTRACTS: Each paper must include a summary of 200-300 words, as stated above. Papers in French should have also a full English summary, with an English translation of the title.

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CHAPTERS: ORIGINAL PAPERS (Models and Hypotheses) must be divided into chapters in the following order:

- A) Abstract
- B) Introduction
- C) Material and Methods
- D) Results
- E) Discussion
- F) References

REVIEW ARTICLES and CASE HISTORIES may be divided into Chapters at the authors discretion.

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LINE DRAWINGS: Submit good-quality glossy prints. The inscriptions should be clearly legible. Letters 5 mm. high are recommended.

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CAPTIONS: Each figure should be briefly and clearly described. Remarks like "For explanation, see text" should be strongly avoided. Captions are a part of the text and should be appended to it. Any lettering or annotation should be indicated on a tracing overlay or a photocopy of the original. All figures should be numbered in sequence.

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For example: - Poher C. (1976) - LUMIERES DANS LA NUIT 19, No. 158, 3
(or) - Poher C. (1976) - L.D.L.N. 19, No 158, 3.

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For example - Webb D. (1976) "1973 – YEAR OF THE HUMANOIDS" Center for UFO Studies: Evanston, 33-36.

Responsibility for accuracy of references rests with the author(s).

SYMBOLS AND TERMINOLOGY: With regard to the abbreviations, symbols and technical terms, the authors must use the international rules when they exist, If they do not exist, one may use the terminology of well known authors or treatises.

The editors of UFO PHENOMENA strongly recommend the development of a *uniform terminology* for descriptions and evaluations of UFO reports. Meanwhile, authors should always

mention explicitly the terminology used, e. g. "The terminology followed is that used by...", or "According to the classification of..."

A list of uncommon abbreviations could be placed by the author(s) as a footnote on the first page of the article.

FOOTNOTES: They should be avoided; if essential, they should appear on the first page of the article.

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ABOUT KEY WORDS

As you can see in the Instructions to Authors a list of 5-15 key words is requested to authors for indexing purposes.

Looking at manuscripts so far submitted for publication we must note that most of them do not meet this requirement.

This want is likely due to the fact our contributors did not receive the Miniature Issue of UFO PHENOMENA before writing their articles. On the other hand we think useful to summarize the meaning of this practice, typical of any scientific journal, for those still not familiar with it. Webster defines key word as "a significant word from a title or document that is used as a index to content".

Now through proper key words authors supply jointly to their papers the Subject Index and the information retrieval system as well could be prepared.

Some scientific journals point out the index terms have to be chosen from a **Thesaurus** (i.e.: a list of subject headings with a cross-reference system).

Thus we find the **Index Medicus** which collects the subject headings. All the same the **Chemical Abstracts Service Source Index** (American Chemical Society) is used in chemical and biochemical literatures.

In UFOlogy we lack a **Thesaurus** even if words as "abduction", and "entity", or "teleportation" and so on are by now widespread and therefore potential index terms.

As clearly stated in the Instructions to Authors one of UFO PHENOMENA goals is the foundation of a uniform terminology for descriptions and evaluations of UFO reports. The creation of a **Thesaurus** in UFOlogy is a legitimate part of this schedule. But for the actual accomplishment of this purpose we ask for the close cooperation of our most experienced contributors of the Advisory and Editorial Boards.

Suggestions and outlines in this sense are urged and should be sent to the EDITECS address.

CALL FOR PAPERS

Authors are requested to send as soon as possible their manuscripts to be considered for publication in UFO PHENOMENA.

All manuscripts must be received not later than December 31 of every year.

A careful reading and application of the Instructions to Authors is strongly recommended.

In fact it will be one of *basic* principles used in the final approval of any paper submitted for publication in the journal.

Review articles, original papers (models and hypotheses), analyses of UFO cases, book reviews, letters to the editors, contributions for debates, criticisms and suggestions, are welcomed.

Long and detailed manuscripts will be preferred to short and scarcely significant communications.

ACKNOWLEDGEMENTS

The enterprise of establishing a journal like this calls for the cooperation of friends all over the world. In the initial stages we were too few in number considering the international stature of UFO PHENOMENA. Even though our publication adopts a serious, scientific approach, our hopes of dispelling the mistrust in certain foreign circles of a production "Made in Italy" were at a very low ebb. Today we cannot say that the danger has been entirely overcome. The close association of top-level students has led, however, to a gradual diminution of such a threat.

Ufology is a subject arousing emotion and great expectation in the public mind, but basic research is of the greatest importance before various problems can be solved and expectation fulfilled.

We wish to express our thanks to Vicente-Juan Ballester Olmos for the warm and intelligent interest shown in UFO PHENOMENA, and to the following advisers for their extremely helpful support and comments: - R. F. Haines, Ernst Berger, L. Schönerr, M. Delaval. Special thanks are due to Erika Pauli and Renata Carcano for their skillful revision of many manuscripts, and last but not least to Nancy and Joe Locket for their unselfish and marvelous assistance.

PHYSICAL ASPECTS

ON THE CHANCE OF WITNESSING CELESTIAL OR AERIAL EVENTS

E. J. BETINIS

Mathematical Consulting Service

221 N. La Salle St., Chicago, Illinois 60601, USA

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Abstract

The chances of witnessing celestial or anomalous aerial events are derived by considering the volume of sky available primarily to the ground-based observer as compared to the entire earth's atmosphere at a height of about 15 kilometers. The fraction of time spent observing compared to a twenty-four hour day and the fraction of events in the entire atmosphere occurring in the available volume of sky for observing are also used. Aircraft pilots' and astronomers' chances are also given some consideration. The results are applied to the chances of detecting meteors and anomalous aerial events. The conclusions indicate that the chance of witnessing an anomalous event (UFO) is extremely low and even improbable. Thus reconciliation with data gathered on reports of witnessing anomalous events imply a "selectivity." A further conclusion is that the presence of a few fast-moving anomalies could account for the global scale of the reports of anomalous aerial phenomena.

KEY WORDS

Chance of witnessing
Celestial event
Anomalous aerial event
UFO
Ground-based observer
Astronomer observer
Pilot observer
Selectivity
Global scale of reports

I. Introduction. Oftentimes, a very active observer of celestial or aerial events seems to be confronted by more than his share of witnessing such occurrences. We will be concerned primarily with active observers partaking in such activities as an avocation rather than as a profession. We will also compare the inactive or chance observer with the active observer. In addition, we will touch upon the basic observational problem described above as it relates to professional observers such as, for example, astronomers and aircraft pilots.

A general equation is developed for the chances of observing celestial events as well as anomalous aerial occurrences close to the earth's surface. Applications are made to the observation of astronomical events, such as the chances of seeing a meteor and anomalous aerial occurrences such as the chance witnessing of a UFO. A compilation of formulas for these chances for the various types of witnesses is made for comparison.

II. Maximum Volume of Observable Sky. Fig. 1 shows an observer of height b , standing on the earth's surface, looking up into the sky to an altitude \bar{h} , where an event is detected, and a distance e , to the horizon. If we assume a perfectly smooth surface for the earth of radius R_0 , then we have that

$$(b + R_0)^2 = e^2 + R_0^2. \quad (1)$$

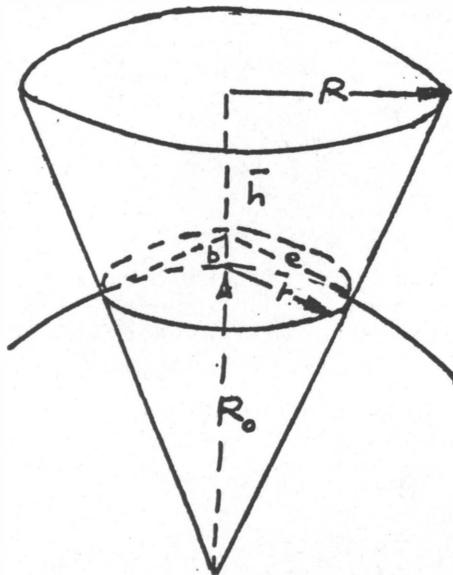


Fig. 1. Maximum Volume of Observable Sky at Altitude \bar{h} .

Expanding equation (1), we simply have

$$b^2 + 2bR_0 + R_0^2 = e^2 + R_0^2 \quad (2)$$

and since $b \ll R_0$, equation (2) yields for the distance to the horizon

$$e = \sqrt{2bR_0}. \quad (3)$$

If we assume that the eye-level of the observer is b , with $b \sim 1.5 \times 10^{-3}$ km. (1.5 m.), typically, and $R_0 \sim 5 \times 10^3$ km., we find that the horizon for an observer of average height is

$$e \approx 4 \text{ km.} \quad (4)$$

However, in general, at some height b km, with $b \ll R_0$ the distance to the horizon is

$$e \approx 100\sqrt{b} \text{ km.} \quad (5)$$

We also have from Fig. 1. that

$$e^2 = b^2 + r^2, \quad (6)$$

where r is the radius of a circle perpendicular to the observer's eye-level. From equations (3) and (6), we have, in turn that

$$r^2 = 2bR_0 - b^2 \quad (7)$$

but since $b \ll R_0$, equation (7) yields that

$$r \approx \sqrt{2bR_0}. \quad (8)$$

Now from Fig. 1,

$$\frac{R}{R_0 + \bar{h}} = \frac{r}{R_0}, \quad (9)$$

where R is the radius of a circle perpendicular to the altitude \bar{h} at height \bar{h} above the earth's surface. Substituting equation (8) into equation (9), we find that

$$R \approx [(R_0 + \bar{h})/R_0] \sqrt{2bR_0}. \quad (10)$$

The maximum volume of observable sky where an event may be detected is then given by

$$V_{\text{MAX}}^{\text{SKY}} \approx \frac{1}{3} \pi R^2 (R_0 + \bar{h}) - \frac{1}{3} \pi r^2 R_0. \quad (11)$$

Substituting equation (8) into equation (11), we find that

$$V_{\text{MAX}}^{\text{SKY}} \approx \frac{1}{3} \pi \left[(R_0 + \bar{h})^3 / R_0^2 - R_0 \right] (2bR_0). \quad (12)$$

The altitude \bar{h} is assumed to be such that $\bar{h} \ll R_0$. This assumption is made primarily for earth-bound observers who may witness an event occurring at an altitude \bar{h} as seen with the naked eye. In this case, equation (12) becomes

$$V_{\text{MAX}}^{\text{SKY}} \approx 6b\bar{h}R_0. \quad (13)$$

For astronomers and aircraft pilots, we have, respectively (see Appendix) that

$$\text{MAX } V_{\text{ASTRN}}^{\text{SKY}} \approx \tan^2 \varphi_a \bar{h}^3 \quad (13a)$$

and

$$\text{MAX } V_{\text{PILOT}}^{\text{SKY}} \approx \frac{10^8 (hp)^{3/2} \sin^2 \varphi_p \cos \varphi_p}{2} \quad (13b)$$

where $2\varphi_a$ is the viewing angle of a telescope, $2\varphi_p$ is the viewing angle from the pilot's cockpit, v is the aircraft velocity in k.p.h., and h_p is the pilot's altitude.

III. Volume of Sky Seen by the Inactive Observer.

Fig. 2. depicts the volume of sky that an average person viewing the horizon from an eye-level b , would see if he would view additionally to an angle α above the horizon and sweep through 360° of the horizon. This volume of sky is simply the volume of a cylinder less the volume of a cone, namely,

$$V_{AVG}^{SKY} = \pi r^2(b + r \tan \alpha) - \frac{1}{3} \pi r^3 \tan \alpha, \quad (14)$$

or

$$V_{AVG}^{SKY} = \frac{2\pi r^3}{3} \tan \alpha + \pi r^2 b. \quad (14a)$$

Substituting equation (8) into equation (14a), we obtain that

$$V_{AVG}^{SKY} = \frac{2\pi}{3} (2bR_0)^{3/2} \tan \alpha + 2\pi b^2 R_0. \quad (15)$$

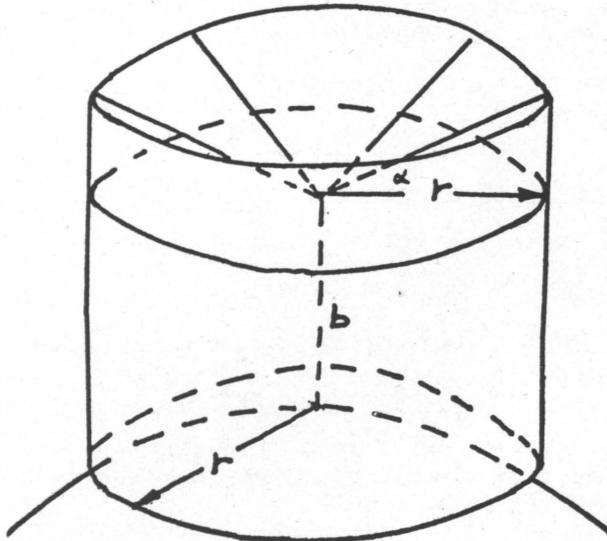


Fig. 2. Volume of Sky Seen by "Average" Observer

If we assume that the average observer does not move his head unduly, then he may view the sky at an angle $15.2 \alpha \approx 30^\circ$. Such a limited angle then yields that $.268 \approx \tan \alpha \approx .577$. Depending on his location, the average observer's view may be obstructed by trees, hills, mountains, buildings and the like. City dwellers, for example, would have their views severely restricted by tall buildings. Since city dwellers essentially have the majority of their view restricted and people living on a flat plain have no obstructions to their views, we will make the very approximate assumption that half of the average observer's view is obstructed. Next we assume that weather conditions are only favorable for observing half of the time. We assume further that a person walking or riding only scans through not much more than 36° , that is, $1/10$ of the total azimuthal angle.

It is at this juncture in the discussion that we must note the approximate methods employed in deriving our results. Our estimates are crude, but they can be no better, at this point in time, as data is lacking on these topics. This is the justification and rationale for using approximations of quantities; it would be inappropriate to do more, given the conditions and assumptions of this paper.

Incorporating these assumptions into equation (15), neglecting the term $2\pi b^2 R_0$, and with $\pi \sim 3$, we obtain

$$V_{AVG}^{SKY} \approx \frac{(2bR_0)^{3/2} \tan \alpha}{20} \quad (16)$$

IV. Fraction of Sky for Various Observers

For an altitude h_a of the earth's atmosphere, we easily find that the total volume of the earth's atmosphere is

$$V_{TOTAL}^{ATM} = \frac{4\pi}{3} [(R_0 + h_a)^3 - R_0^3] \quad (17)$$

Expansion of $(R_0 + h_a)^3$ with $h_a \ll R_0$, then yields from equation (17) that

$$V_{TOTAL}^{ATM} \approx 12 R_0^2 h_a \quad (18)$$

The various fractions of available sky for various observers are found by dividing the maximum observable volumes found in III. by equation (18).

For the active observer scanning the maximum sky available, we have the fraction

$$F^{ACT} \approx b\bar{h}/2R_0 h_a \quad (19)$$

Correspondingly, the fraction of sky available to the average or inactive observer is

$$P^{AVG} \cong R_0(b/R_0)^{3/2} \frac{\tan \alpha}{100 h a}. \quad (20)$$

For astronomers, this fraction is by use of (13a) found to be

$$P^{ASTRON} \cong \frac{\tan^2 \alpha a h^{-3}}{12 R_0^3 h a}. \quad (20a)$$

For aircraft pilots,

$$P^{PILOT} \cong \frac{10^8 (h_p)^{5/2} \sin^2 \alpha_p \cos \alpha_p}{12 \cdot 2 R_0^3 h a}. \quad (20b)$$

V. Chance of Witnessing Celestial or Anomalous Event.

In order that a particular event may "catch the observer's eye", it would have to subtend a non-negligible arc in the sky. The experience of witnessing a dramatic event in the sky, in principle, would require the consideration of the relative brightness of the object in the sky, the physical properties of the eye, and possibly a theory of human perception. However, these last considerations would be perhaps unnecessary refinements to an event which we would consider only as dramatic or strange enough to "catch the observer's eye." Since we are looking at this chance viewing in terms of the various assumptions already specified above, additional refinements would not alter materially the order-of-magnitude chances that we seek, particularly for anomalous aerial phenomena, whose easy-to-observe characteristic has been well-documented.

In view of these arguments, we are only going to consider the problem of getting the witness's attention by those events which have a noticeable subtended arc-length. This arc-length would depend on the actual size of the event and its altitude or distance from the observer.

Therefore we are going to assume that the event is sufficiently dramatic to subtend an arc-length of .65 cm. as viewed through the thumb and forefinger of an outstretched arm of length 65 cm. For an altitude of \bar{h} km. and an object of length S_a m., we find that

$$S_a = \left(\frac{.65}{65} \right) \bar{h} (1000) \text{ m.} \quad (21)$$

From equation (21), we find that \bar{h} satisfies the equation

$$\bar{h} = \frac{S_a}{10} \text{ km.} \quad (21a)$$

Next we consider the number of minutes per day spent in observing compared to the total number of minutes

available in a 24 hour day. If we let T min./day be the total observation time, then the fraction spent is

$$\tau = \frac{T}{1440} \quad (22)$$

The number of events occurring per 24 hour day, that is, over a span of 1440 minutes must be considered. This frequency density is designated as

$$f = \frac{N}{\text{DAY}} \quad (22a)$$

where N is the total number of events per day obtained from yearly, daily, or hourly data. For example, daily data for meteors may be obtained from the yearly estimates of events/year. In the case of anomalous phenomena, N will actually be calculated in terms of the theory developed.

Employing equations (21a), (22), and (22a) in the fraction equations for the various observers, we find the chance of observing a given event for these observers as follows:

(i) "active" observer

$$P_c^{\text{ACT}} = \frac{b S_a T_{\text{ACT}} N}{2.2 \cdot 2 \cdot 10 \cdot 1440 R_0^2 h_a} \quad (23)$$

(ii) "average" observer

$$P_c^{\text{AVG}} = R_0 \left(\frac{b}{R_0} \right)^{3/2} S_a T_{\text{AVG}} N \quad (24)$$

with $\tan \alpha \approx \frac{h}{r} = \frac{S_a}{10(2bR_0)^{1/2}}$

$$P_c^{\text{AVG}} = \frac{100 \cdot 10(2bR_0)^{1/2} h_a \cdot 1440}{100 \cdot 10(2bR_0)^{1/2} h_a \cdot 1440} \quad (24)$$

(iii) astronomer

$$P_c^{\text{ASTRN}} = \frac{S_a^3 \tan^2 \varphi_a T_{\text{ASTRN}} N}{12 \cdot 10^3 \cdot 1440 \cdot R_0^2 h_a} \quad (25)$$

and

(iv) pilot

$$P_c^{\text{PILOT}} = \frac{10^{5/2} (h_p) \sin^2 \varphi_p \cos \varphi_p T_{\text{PILOT}} N}{12 R_0^2 h_a \cdot 1440} \quad (25a)$$

where T_{ACT} , T_{AVG} , T_{ASTRN} , and T_{PILOT} are the observing times of the four classes, respectively. Additionally, we have substituted the quantity τf in equations (23) - (25a), which represents the total number of events observable in a given day for an observation time of T min./day for any given observer.

In order to see clearly the respective differences in the chances of the four classes of observers, we substi-

tute into equations (23) - (25a), the values of the parameters $R_0 = 6.37 \times 10^3 \text{ km}$, $b \sim 1.5 \times 10^{-3} \text{ km}$, $h_a = 15 \text{ km}$, $\tan \phi_a \sim .1$, and $\tan \phi_p \sim .3$. We therefore obtain from equations (23) - (25a), the following good approximations:

$$P_c^{\text{ACT}} \sim 1.3 \times 10^{-13} S_a T_{\text{ACT}} N, \quad (26)$$

$$P_c^{\text{AVG}} \sim 4 \times 10^{-15} S_a T_{\text{AVG}} N, \quad (27)$$

$$P_c^{\text{ASTAN}} \sim 1 \times 10^{-17} S_a^3 T_{\text{ASTAN}} N, \quad (28)$$

and

$$P_c^{\text{PILOT}} \sim (3 \times 10^{-10}) (S_a)^{\frac{5}{2}} \frac{T_{\text{PILOT}} N}{v}, \quad (28a)$$

where we assume $h_p \sim S_a / 10$ by use of equation (21a).

We note that for a "typical" event of say $S_a = 30 \text{ m}$, that

$$P_c^{\text{ACT}} \sim 4 \times 10^{-12} T_{\text{ACT}} N, \quad (29)$$

$$P_c^{\text{AVG}} \sim 1 \times 10^{-13} T_{\text{AVG}} N, \quad (30)$$

$$P_c^{\text{ASTAN}} \sim 3 \times 10^{-13} T_{\text{ASTAN}} N, \quad (31)$$

$$P_c^{\text{PILOT}} \sim 1.5 \times 10^{-7} \frac{T_{\text{PILOT}} N}{v}. \quad (31a)$$

We see from these last estimates that for equal viewing times that surprisingly, the astronomer's chances are not as good as the active observer's or the pilot's. The pilot has, as can be seen, the best chance. The astronomer may override his disadvantage because T_{ASTAN} is larger normally than the other observing times by quite a large margin.

V. Applications. We would like to point out that the volumes of sky available to the various observers are essentially very narrow right circular cylinders. Therefore any event that "catches the eye" at a distance somewhere in these volumes from the observer will always be close to \bar{h} . We have an $h_a = 15 \text{ km}$. and objects of size, say, $30 \text{ m} \leq S_a \leq 60 \text{ m}$, will thus be a distance or height \bar{h} such that $5 \text{ km} \leq \bar{h} \leq 11 \text{ km}$. and so are somewhere in the volume of height $h_a = 15 \text{ km}$. We are thus restricting our events to be of size $S_a \sim 30 \text{ m}$. or so.

1. Detection of Meteors Entering the Earth's Atmosphere. For meteors entering the earth's atmosphere, we have a slightly different problem. If we consider a cross-section through the earth's diameter and its atmosphere, then the annulus consisting of atmosphere only, would have an area

$$A_{\text{atm}} = \pi [(R_0 + h_a)^2 - R_0^2] \approx 6 R_0 h_a, \quad (32)$$

for $h_a \ll R_0$. If the annulus is one kilometer thick then its volume is simply $V_{\text{annulus}} = A \cdot 1 \text{ km}^3$.

If the velocity of the meteor is $v \text{ km/min.}$ and we assume there is one meteor per cubic kilometer moving in this annulus along the circumference of the earth, then $6 R_0 h_a v$ is the number of cubic kilometers swept out by the meteor per minute. If n meteors are entering the earth's total atmosphere per day, then the total number of such events per day is

$$N = \frac{6 R_0 h_a v n (1440)}{12 R_0 h_a} \approx .1 n v. \quad (33)$$

Using equation (26), we have that for the active observer, the chance of witnessing such a high-velocity event as an entering meteor, to be

$$P_c^{\text{ACT}} \approx 5.5 \times 10^{-14} S_a T_{\text{ACT}} n v. \quad (34)$$

If we assume that meteors travel at approximately 1500 km/min., that $S_a \sim 1500 \text{ m}$ and $T_{\text{ACT}} \sim 100 \text{ min.}$, and that there are n meteors then the chance of seeing a meteor is

$$P_c^{\text{ACT}} \approx 10^{-6} n. \quad (35)$$

It is known that about 10^7 meteors/day enter the earth's atmosphere. If we take a conservative 5×10^5 meteors/day as able to "catch the eye", then $P_c^{\text{ACT}} \approx .5$ or in two days of watching for $T_{\text{ACT}} = 100 \text{ min.}$, one meteor will be seen.

2. Anomalous Aerial Phenomena. According to a USAF study from 1947-1955, the average number of unidentifiable "objects" was roughly about 20/year. However, this figure pertained primarily to sightings in the U.S.A. and a few foreign USAF bases. Moreover, this figure is quite unreliable in itself, since the investigations would not have been carried out in a quantitative enough way so as to be used in the work presented here.

In a private communication from Mark Rodeghier of the Center for UFO Studies (CUFOS) of Evanston, Illinois, U.S.A., their computer data bank (UFOCAT) of UFO sightings from around the world contains some 65,000 entries. We will now demonstrate that there are truly anomalous events occurring by use of these entries and equations (26) and (27).

The great majority of these reports in UFOCAT, about 90%, come from the period 1947-1977. Thus using 60,000 or so as a base, we can say that during the time period noted above, 2,000 reports were, on average, made each year. This figure yields about 6 reports per day.

In equations (26) and (27), N is not known. We now solve for N , using the above number of reports plus world population data. For 1962, the midpoint of the 30-year interval, we use the world population at that time of $\sim 2.0 \times 10^9$. This is done to find the average number of available observers in this interval. No more than 5% of this population can be considered to be an active observer in the sense used in this paper. That then yields $\sim .1 \times 10^9$ active observers. Then the total number of anomalous events N satisfies the equation

$$4 \times 10^{15} S_a T_{ave} N (1.9 \times 10^9) + 1.3 \times 10^{13} S_a T_{act} N (1.1 \times 10^8) \sim 10. \quad (36)$$

If we assume $S_a \sim 30 \text{ m.}$, $T_{ave} = T_{act} \sim 100 \text{ min.}$, then from equation (36) we find that N satisfies the equation

$$.063 N \sim (5-10) \quad (38)$$

or that $N \sim 100$. The very important consequence of this value of N is that the number of truly anomalous reports are generated by very few anomalous events world-wide!

In other words, we have that on a yearly basis anomalous events are occurring. However, on a daily basis, since $N \sim 100$ or so and these "objects" are seen at random throughout the world, then they have to be moving at very high velocities. Since the earth's circumference is about $4 \times 10^4 \text{ km.}$ and if we assume that the "objects" are traversing along great circles in a maximum time of 24 hours, then their average velocities are $\sim 1600 \text{ km/hr.}$ Such objects' speeds would be a bare minimum as their motion would be more random and so they would appear in different parts of the world in very short times. High velocities on the order of 16,000 km/hr. can easily be shown to cause a 30 meter object to appear to "vanish" in a viewing time interval of about .5 seconds.

Since equation (26) indicates that at random, say for a viewing time of $T_{act} = 100 \text{ min.}$, $S_a = 30 \text{ m.}$, and $N = 100$ yielding

$$P_c^{act} \sim 1 \times 10^{-7} \quad (39)$$

then the chance of even the active observer seeing an anomalous event is very remote. Further, if we assume these events are independent, then for a so-called "repeater" who has witnessed say 2 such events, we have that

$$P_{e_1}^{act} \cdot P_{e_2}^{act} \sim 10^{-14} \quad (40)$$

In other words, a "repeater" completely seems to defy his chances of witnessing these anomalous phenomena even a very few times.

VI. Discussion. According to the analysis developed, we have shown that only very few "objects" moving at very high velocities could generate the reports of anomalous phenomena gathered to date. We notice that $N \sim 50$ roughly corresponds to the different "types" reported, (we consider a discoid seen from various angles as the same object, for example). The velocities, although seemingly high, at first, may be made somewhat plausible if such "objects" are in earth orbit ($v_{orbit} \approx 27,000 \text{ km/hr}$). So that if the objects are even fewer in number and moving very randomly, their velocities may be such that they are actually in earth orbit. In this way, they re-enter the atmosphere to carry out sorties of unknown intent at very high velocities near the earth's surface.

The other important point drawn from this analysis is that a "selectivity" appears to be occurring especially when the chances of witnessing an event more than once at random is, in terms of our understanding, a zero probability for all practical purposes. A possible corollary here is that a certain select "few" will continue to witness such events. The difficult question regarding this "selection process" is whether the witness has something in his psychological and physiological systems that makes him sensitive to the "presence" of these phenomena and he turns "just to the right spot" or the phenomena somehow "tunes in".

We may conclude in view of the above calculations and comments that the phenomena is truly anomalous in its behavior pattern as well as to what might be its intent, if we can use such a word.

Acknowledgement

I would like to thank Mr. Mark Rodeghier of CUFOS, Evanston, Illinois, U.S.A., for his very valuable discussion and help in amplifying the considerations employing UFOCAT in developing the section on anomalous phenomena. Further his assistance in checking over the various equations along with his constant encouragement was most instrumental in carrying this work to completion.

Appendix
Maximum Volumes of Observable Sky for
Astronomers and Pilots

I. Astronomers. We assume that maximum viewing is accomplished if the telescope is pointed vertically and thus avoids considerations concerning the angle of elevation. For occurrences within \bar{h} then the volume seen by the astronomer is simply

$$\max V_{ASTRON}^{SKY} = \frac{1}{3} \pi (\bar{h} \tan \varphi_a)^2 \bar{h}, \quad (1A)$$

where $2\varphi_a$ is the viewing angle of the telescope. Since $\pi \sim 3$, then equation (1A) is simply

$$\max V_{ASTRON}^{SKY} \cong \tan^2 \varphi_a \bar{h}^3. \quad (2A)$$

II. Pilots. If we allow the pilot to detect objects of size $S_a = 30$ meters as far as the horizon from an altitude \bar{h}_p then from Fig. 1a, we see that

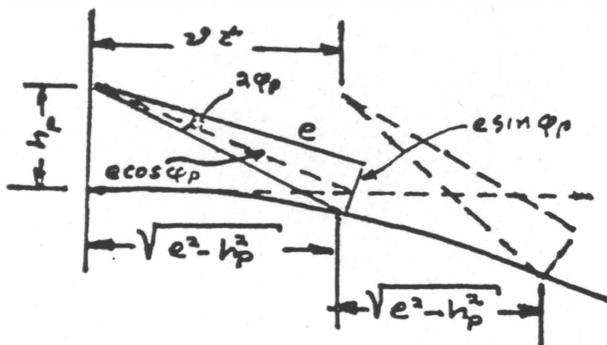


Fig. 1a. Volumes Seen By Pilot

the volume seen by the pilot per unit time is

$$\max V_{PILOT/hr}^{SKY} = \frac{1}{3} \pi (e \sin \varphi_p)^2 (e \cos \varphi_p) / hr, \quad (3A)$$

where $e = 100 \sqrt{h_p}$ from equation (5), h_p is the altitude of the aircraft, and $2\varphi_p$ is the viewing angle from the cockpit. If we assume that the pilot's work

schedule allows him to see through the cockpit window a distance $v t = \sqrt{e^2 - h_p^2}$, where v is the velocity of the aircraft and t is the time of viewing, then every

$$t = \sqrt{e^2 - h_p^2} / v \quad (4A)$$

hours, he will see a total maximum volume of sky

$$\text{max } V_{\text{PILOT}}^{\text{sky}} = \frac{1}{3} \pi e^3 \frac{\sin^2 \varphi_p \cos \varphi_p \sqrt{e^2 - h_p^2}}{v} \quad (5A)$$

By use of equation (5), we then have, since $\pi \sim 3$

$$\text{max } V_{\text{PILOT}}^{\text{sky}} \approx 10^8 (h_p)^{5/2} \frac{\sin^2 \varphi_p \cos \varphi_p}{v} \quad (6A)$$

where v is in km/hr.

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ANOMALOUS LIGHTS IN THE DAYLIGHT SKY

B. S. MACCABEE

10706 Meadowhill Rd., Silver Spring, MD 20901, USA

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ABSTRACT: Several observers, one of them a technically competent employee of a military installation, observed two very bright lights or luminous objects in a clear, midday, summer sky. The lights were observed to remain apparently stationary and also to approach and recede along different trajectories. The duration of the observation was from three to five minutes. Despite an intensive investigation the objects remain unidentified.

KEYWORDS: Luminous; Circular Lights; Dark Rings; Daylight Observation; Zig-zag Path

I. SUMMARY

On Sunday, July 27, 1975, Mr. Y. (name withheld at the request of the witness) had been relaxing on a chaise-longue and reading the paper for about twenty minutes on his front porch while his eight year old daughter played in the front yard. About 12:15 P.M. Eastern Daylight Time (1615 Universal Time) she called his attention to a bright object "falling" from the sky. He looked in the direction she pointed (upwards to the northeast) and was able to see a whitish, apparently glowing, circular object descending with a uniform angular motion against the clear blue sky. The object suddenly stopped its descent, oscillated and/or moved sideways slightly, and then remained motionless. Mr. Y. then became aware of a second glowing object, of the same apparent size and brightness as the first, which seemed to have moved rapidly from some place in the upper left of his circle of vision to a place at the same angular height as the first and slightly to the left (north) of the first object.

The two objects appeared to remain motionless for a period of time estimated to be a minute or more, during which Mr. Y. noticed that each one had a dark ring, almost like a faint shadow, around it. The diameter of each ring was about twice the diameter of the object it surrounded.

He called his wife out of the house , and she arrived in time to see the objects. She and his daughter agreed that there was a faint ring around each object. His wife returned to the house to get some dark glasses for better viewing against the bright sky. Shortly after she left the object which had appeared after the first object suddenly departed by making a left-right zig-zag motion and then a uniform, rapid, apparently vertical ascent. As soon as the second-appearing object had departed, the first object descended slightly and then began a uniform ascent. Mr. Y., his daughter, and his wife (who had returned by this time) watched until the first-appearing object became indistinguishable from the sky background nearly directly overhead. He said the object shrank in apparent size as it ascended, and he estimated that it took about seven seconds to "disappear". He also stated that the first object had been in sight for from three to five minutes. Mr. y. thought that the objects must have been very bright to have been visible from a long distance against the bright sky. He apparently had the feeling that the objects were distant because he was unable to discern any features of the objects other than the faint dark ring. His feeling that the objects were distant apparently led him to believe that they had moved at a tremendous rate.

After the objects disappeared he tried to figure out what he must have seen and was unable to think of a logical explanation based on his experience as an observer of planes, balloons, and rocket launches. He was sufficiently puzzled by the apparent brightnesses of the objects, the "serrated" (i.e. zig-zag) departure of the second-appearing object, and the apparent speed of the first object as it went upward during its departure that he (1) called Andrews Air Force base east of Washington, D.C. (but got no help), (2) called the Baltimore-Washington Airport north of Washington (and got no help), and (3) called a local TV station (but they had no reports). He commented to this investigator that he had never seen anything sufficiently unusual to make him take any extraordinary actions such as calling airports, etc., yet these objects impressed him sufficiently so that he could not just "do nothing". On the next day (Monday) he mentioned the sighting to several of his co-workers at the Naval Surface Weapons Center. One of these co-workers, as a result of fortuitous circumstances, happened to mention the sighting to this investigator.

Mr. Y.'s own statements about the sighting are contained in Appendix A (his personal account),

II. INVESTIGATION

July 29, 1975 - I made the initial contact by phone and took the following notes:

The sighting was made from Cheverly, Maryland, just ENE of Washington, D.C., about noon on Sunday; the sky was blue, no clouds ; little girl out in front yard said "Daddy, what's up there?" ; Mr. Y. looked where his daughter pointed and could "vaguely" see something in the sky; (the object then appeared to descend and come closer); (when stationary at its closest) it was a bright shining light like a fireball at a distance; smaller than an aspirin tablet held at arms length; between due north and due east; (when he first saw it) it appeared to be descending; then another one appeared and travelled (downward ?) parallel to the first; each light was encircled by a thin dark line like a fine pencil line ; the second light did something and then moved away fast; it was strange because of the strange angles of motion (refers to zig-zag departure); they watched the other one (i.e. the first-appearing light) and saw it descend and then ascend very rapidly; they watched it until it was out of sight; he sat down and tried to figure out what he had seen; the objects were of constant brightness as long as they were seen; no blinking, fading, etc.; convinced they were not airplanes

(Note: he reported that there were no airplanes in the area during or before the sighting); the objects were very bright (he has seen rockets take off); circular lights, each bigger than a "dot"; watched by wife also (he called her out after the second had arrived); object would have to be very bright to be seen against the sky (Note: this would be true only if the object were very distant; a highly reflective surface could be seen against the sky if it were sufficiently close and the sun-observer angle were correct); called Andrews AFB--got no information; called BWI Airport ---got no information; called TV station--they said they had not received any calls; he felt the objects must have moved very fast; when first seen, it looked as if the object descended and oscillated (or something) and started to move in a horizontal plane (i.e., at the same angular altitude) and then both became "fixed" and "parallel" to each other (i.e., same apparent altitude) ; the second-appearing object left in a "serrated" (i.e., zig-zag) motion followed by a continual rapid motion out of sight; bigger than the sharpened point of a pencil at arm's length; although the objects were easily visible against the sky background once they were seen, they probably would not have been noticed in just a casual glance at the sky.

July 30, 1975 - I visited the witness at work and gave him forms to fill out. He was convinced that he had seen something unusual. He had seen rockets take off at Cape Canaveral, observed balloons, etc., and is familiar with the airplane patterns over his house. We made arrangements for me to visit his home on July 31.

July 31, 1975 - I visited his house about 8:00P.M. The sky was clear, as it had been at the time of the sighting. I had a home-made transit for measuring azimuth and altitude angles and had Mr. Y. sight along it in the directions he had been looking. The azimuth angles with respect to true north are shown on Figure 1. The altitude angle is shown on Figure 2. Mr. Y. recounted his sighting as stated in his written history (see Appendix A). I also spoke to his daughter and wife. His wife stated that she had gone out and had seen the two objects, but that the sky was too bright for comfortable viewing, so she had gone back into the house for dark glasses. When she returned only one object was visible and it was becoming very difficult to see "way up in the sky". She said that with dark glasses on it looked just as it had before, but both it and the sky were not as bright. In my opinion the observers have a high degree of credibility (see Appendix B).

August 5, 1975 - From the National Weather Center in Ashville, North Carolina I found that the weather conditions in the Washington area at noon on the sighting date were as follows: visibility - 20 miles (32 km); sky - clear; wind - 4 knots (7.4 km/hr) at 160° (wind from the south-southeast). I also learned that weather balloons are launched one at a time, not in pairs. From a local newspaper I learned that the air temperature at noon was around 80° F (27° C) . The humidity was high but not uncomfortable, and there was some noticeable smog (air quality index for photochemical oxidants was about 75).

From the control tower at Washington National Airport (see the map) I learned that they had no notation of unusual objects in their log for that date and time period. Their radar covers a fifty-five mile radius with a five second revolution period. Pilots within the control volume of the airport , a cylindrical volume seventeen miles (27 km) in radius and 7,000 feet (2130 m) high, would report anything unusual in the sky to National Airport .

August 6, 1975 - According to the Baltimore-Washington Airport Control Tower, which is about 35 miles (56 km) north northeast of Washington National, no pilot made a report, and there was nothing unusual in the log. They cover a con-

trol area which does not reach Cheverly , Maryland, but their radar reaches sixty miles, which does cover the sighting area. The rotation rate of the radar is four seconds per revolution.

According to the Air Traffic Control Center (an installation of the Federal Aeronautics Administration) in Leesburg, Virginia, about 30 miles (48 km) west northwest of National Airport, there were no pilot reports. The FAA radar has a 200 mile ^(320 km) range and displays objects at altitudes up to 60,000 feet (18,300 m.). It is both a primary and a secondary radar (i.e., it displays objects both with and without transponders). The radar antenna is located in Suitland, Maryland. One rotation of the radar beam requires 12 seconds . The sensitivity and angular resolution of the radar are such that it could detect a small plane or even a bird at the distance of Cheverly, Maryland, providing that the object were high enough and providing that there were no anomalous atmospheric effects and no ground clutter . However, short-lived radar returns are generally regarded as "noise" and are therefore ignored. Something would probably have to appear as a clear, large target for many seconds to minutes before it would be recognized as a real object as opposed to an "angel" (i.e., an anomalous target). Moreover, unless an object was

located in a place which could prove hazardous to scheduled aircraft, it would probably be ignored.

Andrews Air Force Base had no pilot reports and no log notations of unusual objects. The radar at Andrews covers thirty miles and sweeps at a rate of three seconds per revolution.

No estimates of the number of planes which might have been in the area at the time of the sighting were obtained.

August 27, 1975 - I tried to determine what planes might have been in the area by calling Andrews Airport and National Airport. I discovered, to my disappointment, that airports are only required to keep records for fifteen days. Therefore National and Andrews had no records of takeoffs and landings for that particular day. However, the Base Operations Division at Andrews did have a record which listed two C-130's which took off going west at 1:00 P.M. There was nothing before noon.

From National Airport I found that the traffic pattern, a "south" operation, was such that planes coming from the north and east would circle so that they came in from the northwest of the airport. Therefore planes arriving from the east would pass to the north of Washington as part of their landing pattern, and in doing so, would cross the line of sight from the observers to the objects. Planes arriving from

other directions and planes leaving the airport would not have been in the area of the sighting. The control tower log showed the flight patterns based on the tower weather records which showed that the wind was about 10 knots (18 km/hr) at 160-175°. A flight controller was able to determine from a standard flight schedule that there could have been three to four landings in the period 12:00 to 12:30 P.M., but these were from the west. He also found that two jets and a twin engine plane were scheduled to depart during that time period.

According to the controller, the radar would have been operating in the Moving Target Indicator (MTI) mode to avoid the problems of ground clutter. He claimed that without MTI the radar would show vehicles moving on various roads in the area. Based on his experience with only occasional appearances of ground vehicles, he believed that the MTI was set to ignore objects moving more slowly than, say, fifty to sixty miles per hour (80-96 km/hr). He further pointed out that MTI is range-gated so that it is effective for only 15 to 20 miles (24-32 km) from the airport. Beyond 20 miles the MTI is no longer effective and "anything" can be seen. Since Cheverly is about eight miles (13 km) from the airport, stationary objects as far as seven to twelve (12-19 km) from
miles

Cheverly in the direction of the sighting would not have been recorded on the radar scope.

September 3, 1975 - I talked on the telephone to Mr. Y. and made the following notes: no airplanes;

"all was quiet on the eastern front" (i.e., no airplanes); familiar with aircraft flight patterns; he was positive that there were no aircraft in the area before or after the sighting (i.e., twenty minutes before to several minutes after the sighting when he went inside to call the airports and TV station); certainly there were no airplanes during the sighting (Note: this should probably be restricted to mean that there were no airplanes in view northeast of him in the direction of the objects. Whether or not he would have been aware of distant planes in any other direction is unknown. In any case, his horizon was determined by surrounding houses and trees to be at angles of elevation of 20 degrees or more, so he probably could not have seen landing planes within the Washington control area if they had been further than about four miles_A in horizontal distance from him. Planes passing through the area at altitudes around 35,000 feet (10.6 km) could have been seen if they were closer than about 6 miles (9.6 km)). .

I called the Goddard Space Flight Center (see map) and

found that essentially zero activity is typical for a Sunday noon. The gate attendant recalled no reports of unusual objects.

I checked with the National Investigations Committee on Aerial Phenomena (NICAP) and found that they had no UFO reports from the Washington area for that day.

Sept. 13, 1975 - I received from Philip J. Klass a list of possible aircraft arrivals and departures from local airports. The times given are scheduled times; actual times may have been different. Aircraft depart on or behind schedule, but not before schedule. Aircraft arrive before schedule occasionally, but usually on or behind schedule.

-TWA flight #227: departs Baltimore-Washington (BW) at noon
-Eastern #173 : departs BW at 11:50 A.M. for Miami, Florida
(Both of these probably took off to the southeast ; Eastern #173 might have crossed through the line of sight to the objects, but it probably would have been ten or more miles away.)

- Delta #325 : arrive from Boston, Massachusetts at National Airport (NA) at 11:59 A.M.

-Eastern Shuttle from New York: arrive at NA at noon

-American #463 from New York: arrive at NA at noon

(These arriving planes would have passed northeast of the

sighting area during their approaches to NA , but they presumably would have passed through that area about one-half an hour before the sighting was made. Of course planes passing through on route to other airports and small planes could have been in the sighting area . No information on such planes is available.)

September 29, 1975 - The witness stated that he wears glasses. I checked to see if he had them on at the time of the sighting. He claimed that he always wears glasses (monofocals) and that he had them on (he was reading at the time the sighting began). He further claimed that with glasses his vision is 20/20 in each eye. Thus I expect that his angular resolution under bright sky conditions was about one minute of arc (0.3 milliradians).

October 15, 1975 - Upon the suggestion of Mr. Klass I gave the witness a collection of twenty-three daytime color (Ektachrome) photos of small planes and large jets in bright sky backgrounds. The pictures had been taken by Mr. Klass and myself on clear days during the preceding two weeks. The pictures were all taken during the time period (local Eastern Daylight Time) noon to 2:00 P.M. in northeasterly directions with the objects being photographed at angular altitudes from about 20° to about 90° . Some of the

pictures were taken with telephoto lenses. The pictures showed basically the same scene: a plane appearing as a bright image against the blue sky. I asked Mr. Y. to pay particular attention to the brightnesses of the images with respect to the sky background.

October 29, 1975 - Mr. Y. returned the slides with the emphatic statement that nothing in the pictures resembled what he had seen. Particularly with respect to brightness, he said that the objects were much brighter than any of the planes he had seen on the slides. He referred to the brilliance of burning phosphorous. He said they were the brightest things he had ever seen in the sky except the sun . However, he felt that one would probably not have seen the objects during a casual look at the whole sky since the objects were so small, unless one looked in the correct direction. (Note: in bright light the visual acuity of the human eye drops off rapidly as the angular distance from the center of the line of sight increases. For example, the acuity 20° from the line of sight is about 10 % of the acuity with 1° of the line of sight. This means that it is difficult to detect objects of small angular size when they are silhouetted against a bright background and are at considerable angular distances from the line of sight.)

III. ANALYSIS OF THE SIGHTING

The lack of confirmatory reports by pilots, motorists, etc., suggests that the objects may have been quite small and close to the witnesses. Unfortunately strange objects, unless they are really spectacular, are rarely reported by observers to persons other than relatives and close friends. Thus motorists passing by might have observed the objects for a short period of time, but may also have been sufficiently unimpressed by what they saw so that they did nothing which would have brought their sightings to the attention of the police or other authorities who might have kept a record. Indeed, it was only by a rare coincidence that I found out about this case through close acquaintances of Mr. Y. Therefore the lack of confirmatory reports does not prove that the objects were small. Further evidence that the objects may have been small may be the lack of radar reports. It is somewhat difficult to imagine that the objects could have avoided detection by all of the radar sets in the area. Of course the radar sets using range-gated MTI would not have displayed the objects during the time they were (apparently) stationary as long as the objects were within the range gated distance (e.g., Washington National Airport Radar, Andrews Airport, FAA radar in Suitland, Maryland). On the other hand, outside the range gated distance the

sets display ground clutter (moving vehicles, buildings) as well as objects in the sky, so if the bright objects had been detected by such radar (e.g., BW Airport) they might not have been distinguishable from ground clutter. Also, if they occurred in a region far from normal air routes, the air traffic controller(s) upon whose radar screen(s) the objects might appear would probably ignore the objects as "angels" or unimportant radar targets. Only if the objects had unusually large radar returns or if they were in radar areas where they might be hazardous to normal aircraft would the air traffic controllers take special note of them.

During the time when the objects were definitely moving they could have been detected by the National and Andrews airport radars. However, their periods of motion during arrival and departure may have had durations of only tens of seconds. Thus they would have made perhaps two to five "paints" on the radar sets and then they would have "disappeared" . Under these conditions, when no clear threat to aircraft is apparent, any air traffic controller who might have noticed the objects would probably have attributed the radar returns to anomalous propagations or "angels" and would have ignored them. Since there were no records of unusual radar targets we can conclude that at the

very most the objects were unimpressive radar targets that might have been detected by the radar but were not recognized as true objects by the radar operators. On the other hand, the lack of reports is also consistent with an alternative hypothesis which is that the objects were not radar-reflective.

Figure 1 is a map of the Washington, D.C. area with the local area of Cheverly, Maryland shown as an insert.

The map shows the positions of National and Andrews Airports. Baltimore-Washington International Airport is about 15 miles (24 km) north-northeast of the upper corner of the map, almost exactly in line with the sighting direction (21 miles -34 km.- from Cheverly). The sighting directions to the two objects when they were apparently motionless are also shown.

The angular altitude of the objects when hovering and the observer's sighting horizon are illustrated in Figure 2. Figure 3 illustrates the approximate maximum and minimum diameters of the bright areas of the objects for various distances based on Mr. Y's statements that the objects were (a) smaller than the size of an aspirin tablet at arm's length (about 20 milliradians - 20 mr.) ; (b) about the size of or smaller than a pea at arm's length or about 10 mr. ;

and (c) certainly bigger than the point of a pencil (1/2 mm.) at arm's length or about 1 mr. It is important to note that Mr. Y. stated that the first-appearing object definitely shrank in apparent angular size when it departed upward into the sky. Since his vision (with glasses) is normal and he was viewing against a bright background, any object with sufficient brightness contrast to be seen but of an angular size smaller than about 0.3 mr. would appear to be just a "point" of light that could shrink no farther in apparent size (0.3 mr. is the "critical visual angle" for bright daylight). The object must have had an angular size somewhat larger than 0,3 mr. during the time that it was stationary. This suggests that the objects probably had angular sizes equal to or larger than 1 mr. The diameter-distance relations for 1 mr. and 10 mr. are given in Figure 3. These are simply graphs of the mathematical relations $D = 0.001 x$ and $D = 0.01 x$, where D is the diameter of an object, 0.001 is 1 mr., 0.01 is 10 mr., and x is the distance from the observer. Figure 3 also illustrates the height-distance relation based on a 25° angular elevation while the objects were apparently motionless.

Mr. Y. estimated that the total sighting duration was from three to five minutes. From several conversations with

him I have concluded that the various "segments" of the sighting may have had the following durations, based upon my estimates of how long it would have taken for the witnesses to accomplish the activities in the report:

(a) From the time that his daughter called him until he was standing on his front lawn---15 seconds.

(b) From the time when he first saw the first object to the time when he called his wife after the second object had appeared---30 to 60 seconds.

(c) From the time when his wife came out of the house to the time when she went back in to get dark glasses --- 30 to 60 seconds.

(d) From the time she entered the house to the time when she returned with the glasses (during this time the second-appearing object departed with a zig-zag motion and then the first appearing object began its ascent) --30 to 60 seconds.

(e) From the time when his wife again arrived outside to the time of complete disappearance of the first-appearing object--- 5 to 10 seconds.

The summation of these estimated times is 110 seconds (minimum) to 205 seconds (maximum) or somewhere between two and three and one-half minutes. Thus it appears that his lower estimate of time is probably more correct.

In view of the data available and of the analysis presented thus far, I would like to suggest that the objects probably were not any of the following:

1. Balloons: the overall motions (downward and then upward) are not characteristic of balloons; the reported static and dynamic characteristics of the trajectories are not consistent with balloons in gentle winds ; the reported differential motions would require excessive wind shears if the objects were carried by the winds; balloons

do not have dark rings around them; balloons are not excessively bright against a bright sky.

2. Airplanes: there was no observable structure so , if planes, they must have been far away, in which case they would have appeared to move slowly ; planes typically travel horizontally; planes do not execute rapid zig-zag maneuvers; planes do not have dark rings around them.
3. Helicopters: since there was no observable structure they must have been distant; the only way that they could have appeared excessively bright would have been if optimal solar reflections (glints) had

occurred--- however, such glints are not generally maintained at constant intensity over the large variations in sighting angles (nearly overhead to 25° altitude); helicopters can travel vertically, but at distances large enough for the helicopters to be unresolved by the observers, 2 - 3 miles (3 - 5 km), the angular rates of climb during the departure (about 60° in 10 seconds for an average angular velocity of about $6^{\circ}/\text{sec.}$) would have implied speeds impossible for a helicopter ($6^{\circ}/\text{sec.}$ tangential velocity and a distance of 10,000 feet corresponds to a climb velocity of about 1050 ft/sec or about 717 miles/hr or 1153 km/hr); helicopters do not have rings around them (note: the rotating blades might look like a circular ring, but only when the helicopter was viewed from directly below---or above.)

4. Birds: birds could meet the requirements of being small and close, undetected by radar, and not reported by pilots, but they would not have a constant brightness because of the flapping of the wings, and, in any case, would not be referred to as "the brightest thing I have ever seen in the daytime sky except the sun"; soaring birds would not flap

their wings, but neither would they remain apparently motionless for a minute or more; a bird that was far enough away to be unresolved visually by the witnesses could not fly fast enough to produce the angular rates of motion reported by the witnesses; birds do not have dark rings around themselves.

5. Kites: typical kite motions are up and then down, not down and then up; kites do not have dark rings around them; kites are not excessively bright.
6. Aircraft Vortices: the suggestion that the bright objects might have been remnants of aircraft vortices was made by P.J. Klass, despite the fact that such vortices, which are horizontal circulations of the air - "horizontal hurricanes" produced by passing aircraft - are normally invisible, even near airports. Under laboratory conditions these horizontal cylinders of revolving air can be made "visible" by the injection of dye or fog into the circulating air. Under unusual circumstances the vapor contrail of a high-flying aircraft may make the vortices of which there are always two with each one centered on a wingtip, appear to be

visible. At the suggestion of Mr. Klass I obtained in late 1977 copies of photos of vorticies made visible by a condensation trail at high altitude (31,000 feet - 9450 m.). These photos were obtained by the Royal Aircraft Establishment in 1976. The vorticies naturally appeared no brighter than the condensation trails. Although the vorticies do eventually, after several minutes, tend to break up, they do not produce individual bright round regions of vapor that could be described as "the brightest things I have seen in the daytime sky except the sun ". The dynamical aspects of such vorticies have been studied. They have been found to move slowly downward until they either dissipate or reach the ground. They have not been reported to accelerate upwards, as the bright objects apparently did. The final argument against such vorticies giving rise to this report is that they are not encircled by dark rings.

Aside from the characteristics cited above which prevent the objects from being identified as certain ordinary phenomena, two other characteristics, which were pointed out by

Mr. Klass, are of interest. First, Mr. Y. specifically pointed out that the apparent brightnesses of the objects were constant. However, if the object surfaces were made of reflective material and were curved (e.g., spherical) one would expect that at some period of time during the descent and at some period of time during the departure of the first-appearing object the witness would have noticed a brightness increase caused by a glint (an optimal reflection of the sun). Since no such increase was noted one could argue that the objects were basically non-reflective and therefore perhaps not metallic. However, to have been extraordinarily bright in appearance over a wide range of viewing angles the objects must have been self-luminous whether or not they were reflective. This self-luminosity may have been sufficiently great , and their surfaces sufficiently non-reflective so that a glint would have caused only a slight increase in the apparent brightness. and such a small increase would not have been noticed.

The second interesting feature of the sighting that was pointed out by Mr. Klass is the absence of any noise despite the apparently great speeds of the objects. In particular, during the departure of the first-appearing object an average angular rate of speed of 6° /sec. or more

may have been achieved. If one assumes that this was a vertical rise from some altitude one can estimate the corresponding vertical velocity. If we assume the object was one mile (1.6 km) away when stationary (it would then have been between 5 ft and 50 ft in diameter depending upon its actual angular size -- probably closer to 5 ft or 1.5 m. in diameter) at an angular altitude of 25° , and we assume that it "disappeared" into the blue sky at an angular altitude of 85° about ten seconds after it started to rise, and we assume it accelerated in such a fashion that it maintained a constant angular velocity, we can estimate that during the first second its altitude above the earth increased from 2462 ft. to 3172 ft corresponding to a 6° increase in angular altitude. The average velocity during this interval would have been 710 ft/sec (216 m/sec) or 484 miles/hr. (779 km/hr). During the next second it would have risen from a 31° angular altitude to 37° , corresponding to a height increase of $3979-3172 = 807$ ft , with an average velocity of 807 ft/sec. (246 m/sec) or 550 miles/hr (885 km./hr) during the one second interval. During the following seconds its average velocity would have increased as follows: 3rd sec. -945 ft/sec; 4th sec. -1150 ft./sec; 5th sec.--

1466 ft/sec.; 6th sec. - 1985 ft/sec., etc. The main point about this calculation is that by the end of the 4th second the object would have been exceeding the speed of sound (about 1100 ft/sec or 332 m/sec in the lower atmosphere). One would expect that some sort of "sonic boom" would be heard if the shock wave generated by such a fast moving object travelled toward a listener. The shockwave that might have been generated during the departure of either object would have travelled upward and thus would not have been heard. However, when the objects first appeared they travelled downward and thus any shock waves should have been heard by listeners on the ground if they were close enough. The absence of any reported noise during the arrivals of the objects may be evidence that the objects themselves do not generate such shock waves even when travelling at high speeds through our atmosphere. Such a lack of shock waves seems to be characteristic of many reports of rapidly travelling UFOs . However, the lack of shock wave noise in this case may also have been due to lower speeds during the descents of the objects or to the production of very weak shocks (because of the (assumed) small sizes of the objects) that were not noticed by the witnesses.

IV. DISCUSSION

It is disappointing to realize that , whereas it is possible to make arguments about what the "objects" were not, it does not seem to be possible to construct any convincing arguements about what the objects may have been based on the available observational data.

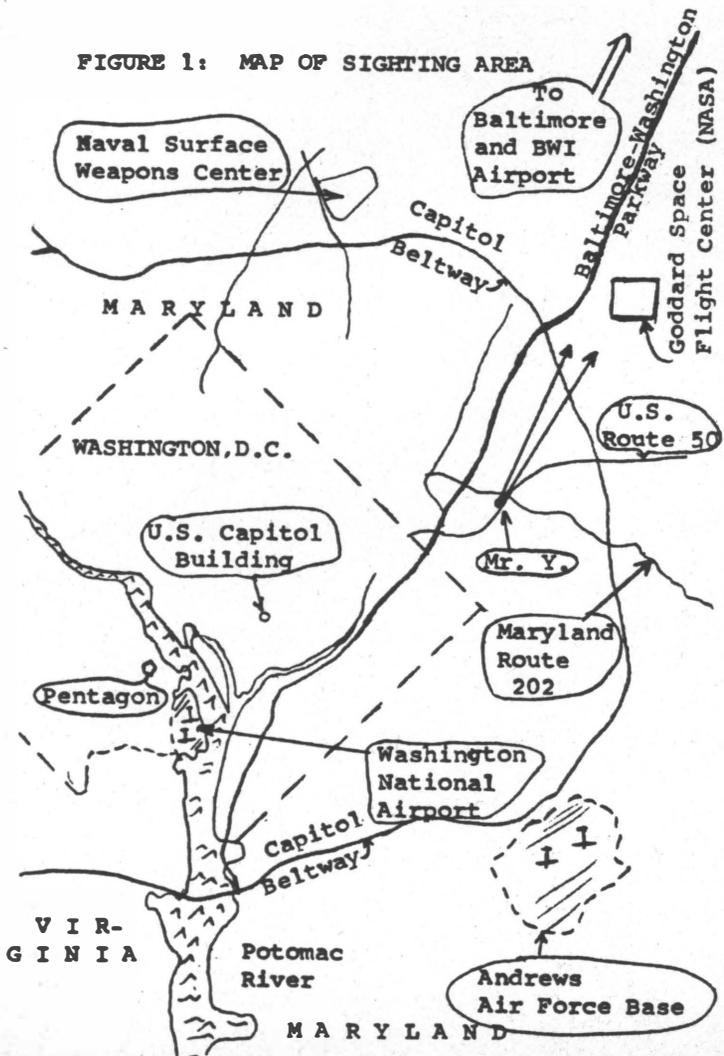
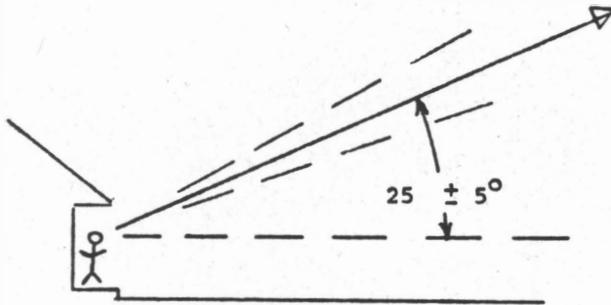
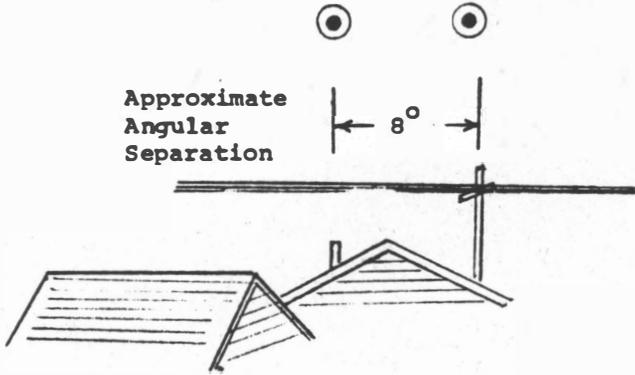
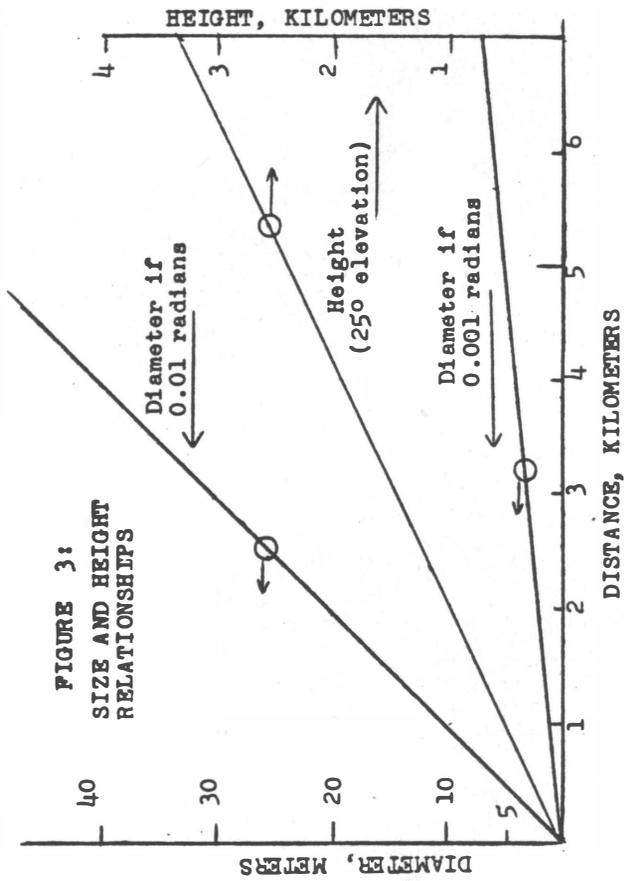


FIGURE 2: The Observer's Horizon



**Angular Elevation of Objects
When Stationary**



APPENDIX A

Personal Account of Mr. Y. written July 29, 1975 :

On 27 July 1975 at about 12:15 P.M. I was sitting on my front porch reading a newspaper. My eight year old daughter was also present. Suddenly she saw an object descending in the sky and shouted to me to look up as she pointed in the direction of the object. Immediately I responded and when I looked up into the sky I saw what appeared to be a very bright light. It was descending in a very smooth and fluid motion similar to that of an object dropped by parachute. I was at once fascinated at this sight and began to observe the object with great interest. The sky was clear and the object was clearly visible against the field of blue sky. The brilliance of this object remained constant and in a few moments the object appeared to remain still in the sky. As my eyes were fixed on this object , I was surprised and puzzled when I looked to the left of it and saw another object identical to the first. Both objects appeared to be parallel to each other, and they seemed to remain in a stable position for a few moments. The second object suddenly ascended in what appeared to be a left-to-right, right-to-left motion and then assumed a more direct vertical ascent and disappeared from sight in a few

moments. Almost simultaneously, the first object began to ascend upward into the sky, and I watched it until it too disappeared from sight.

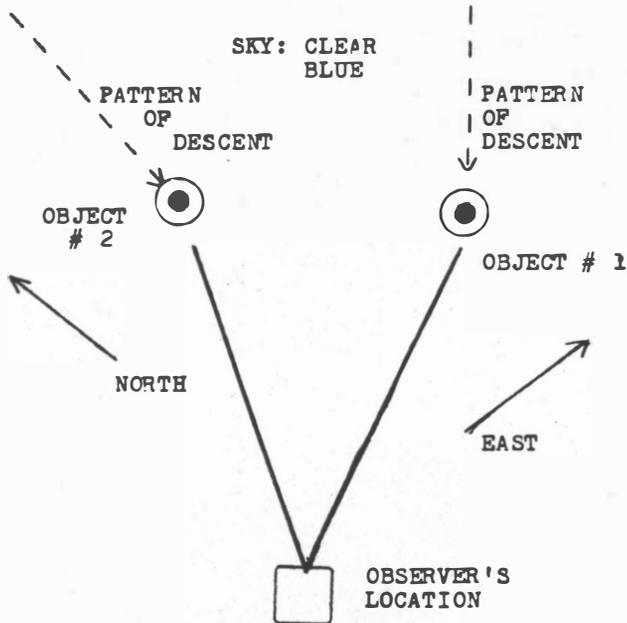
I have witnessed rockets being launched into space at Cape Canaveral and have observed these types of vehicles in the sky. I also have experience and familiarity with many types of military and commercial aircraft as well as balloons of different varieties. I must state that these objects did not appear as any of the above. My immediate reaction after seeing these objects was one of puzzlement which basically stemmed from their brightness in the sky and their motion and speed. When the two objects appeared to be parallel to one another it seemed that a very fine circle as if sketched with a pencil or pen encompassed each object. I was not aware of this until I observed the objects more closely while they remained in what appeared to be a stable position.

This sighting was witnessed by three persons--my daughter, my wife, and myself.

Please keep my name confidential.

(Note: name on file with NICAP, MJFON, and CUFOS.)

FIGURE A - 1

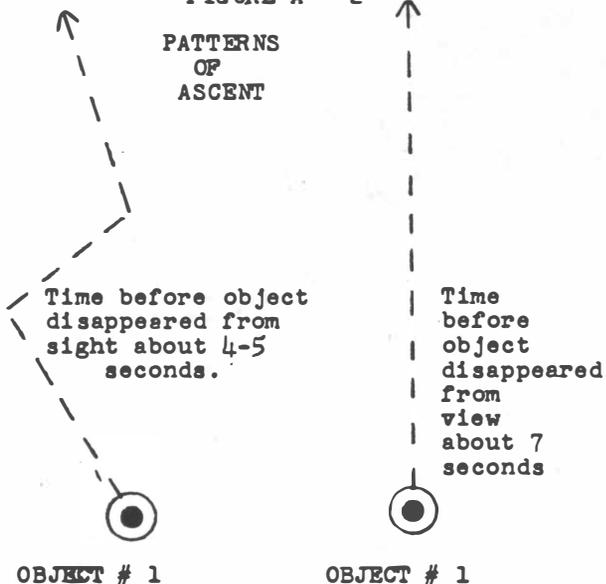


Number of witnesses: 3
Weather: Clear and sunny
Visibility: Excellent
Date of sighting: 27 July 1975
Place: Town of Cheverly, Maryland
Time: About 12:15 P.M.

(copy of figure drawn
by Mr. Y.)

FIGURE A - 2

PATTERNS
OF
ASCENT



COLOR OF OBJECTS: Brilliant bright white light. Appeared to be a solid glowing object.

(copy of figure drawn by Mr. Y)

APPENDIX B

Evaluation of the Witnesses by This Investigator:

Mr. Y. took a very empirical approach to his sighting in that he emphasized the observational data involved but did not theorize on what could have caused the observations. The testimonies of his wife and daughter were not as detailed as his, and, therefore, the evaluation will be of Mr. Y. alone. However, the testimonies of his wife and daughter are important in that they support and do not conflict with his testimony.

Mr. Y. works in the publications division of the Naval Surface Weapons Center. In June 1975 he was awarded a certificate of merit by the Department of the Navy for his work. When I visited his home it appeared neat, clean, and nicely furnished in a modern style. As mentioned above, he was very unwilling to speculate about what he might have seen. However, he was nevertheless convinced of what he had not seen (bird, plane, Superman, etc.). After finishing our discussion of his report, our conversation turned to such topics as UFOs in general, religion, cosmology, etc. It turned out that he is quite well read and has even done

some translations of ancient religious writings. He claimed that he is a "philosopher" and not a confirmed skeptic about unusual phenomena. In other words, on the UFO situation in particular, he was not against the possibility, or even the probability, that UFO reports represent true anecdotal data about actual happenings. However, again taking a more empirical than theoretical approach, he was unwilling to commit himself to any particular explanation for such reports. Rather, as a "philosopher", he was willing to admit as possible explanations extraterrestrial visitation, time travelling, psychic phenomena, etc. My guess is that he was unwilling to believe that all UFO reports could be explained away as misidentifications, psychological effects, or hoaxes. I got the impression that he had read at least several articles on UFOs and perhaps had more than just a passing interest, but he certainly had not studied the subject with any fervor. As for his own report, he was willing to let the objects be classified as "UFOs" as long as they could not be explained, but he would have been willing to accept any reasonable explanation for them (i.e., he was not committed to the hypothesis that the objects could not be explained in mundane terms).

In conclusion, I find it highly unlikely that this

witness (and his family) would have made up this sighting as a hoax or to convince someone that UFOs exist, or that this witness (and his family) suffered from some sort of delusion or hallucination. Rather, it appears that the witness has presented an accurate history of an occurrence without modifying that history in any way by any biases he may have about such unusual occurrences.

GATHERING and PROCESSING of DATA

DRAMATIC CHASE IN SPAIN

W. SMITH¹, M. GUASP², V. J. BALLESTER OLMOS³

Received March 18, 1978

ABSTRACT

A family of five, returning home at night by back roads, was followed by a bright light which chased the car persistently over a distance of about 40 Km for almost one hour.

When approaching the village of Cheste (near Valencia, Spain), the UFO, now at close range, moved ahead and above the car, and extended legs. The incident was terminated by the approach of another vehicle, moving in the opposite direction on that usually deserted road. One of the witnesses (age 15) was violently ill during the incident, and indisposed for some time afterwards. Damage to the battery of the automobile was attributed to the incident, and it had to be replaced the following day.

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- (1) Professor of Physics, Department of Astronomy-Physics, Lycoming College, Williamsport, Pa, U.S.A., 17701.
 - (2) Licenciado en Ciencias Físicas. Address: Dr. Vila Barberá #8, 10, Valencia 7, Spain.
 - (3) Ingeniero Técnico Industrial, Diplomado en programación IBM. Address: Guardia Civil #9, D-16, Valencia 10, Spain.

KEY WORDS: Battery failure
 Chase of car by UFO
 Close encounter of the first kind
 Electromagnetic effects
 Multiple witnesses
 Physiological effects

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 near Valencia, Spain.
- Fig.2 View of the area.
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- Fig.6 Antonia (age 10) and Paquita (age 9).
- Fig.7 Carmen's drawing.
- Fig.8 Antonia's drawing.

INTRODUCTION

We first heard about the incident approximately six weeks after its occurrence, and the initial contact with the witnesses by two of us (WS and MG) did not take place until a few additional weeks had elapsed. In spite of this, as is the usual case for this kind of event, the participants retained vivid mental images and clear memories of the details of the experience.

The credibility of the information is considered to be enhanced by the fact that a whole family was involved in a lengthy observation of a UFO characterized by three fundamental elements:

- 1) the directionality of the phenomenon, as the UFO was apparently vectored toward the car in which the witnesses were traveling,
- ii) the presence of electromagnetic effects that affected the ignition as well as the headlights of the vehicle,
- iii) physiological effects appearing during and after the incident in at least one of the young girls.

This report represents the final distillation of the information gathered by the investigators in several meetings with the participants, information that was duly recorded on magnetic tape and meticulously evaluated in the light of present-day knowledge of the UFO phenomenon. The overall impression is that we have here a genuine close encounter of the first kind; and that in relating their impressions, the witnesses were truthful and coherent, as no internal inconsistencies were detected.

THE WITNESSES

The evaluation of an important UFO case like the one related here demands, as a necessary step, the assessment of the witnesses in order to judge their credibility. The field investigator usually finds, contrary to the beliefs of armchair investigators, that UFO witnesses do not belong to a particular subgroup of the population; neither are they characterized by their proclivity to fantasies, mystifications or hallucinations. On the contrary, they tend to be average persons, showing no outstanding features that would justify calling them anything but normal.

The participants in this incident are no exception. We have a blue-collar family of modest, but not humble, means, and with only elementary education. The father, Mr. Antonio Serena (see Fig.4), is about forty-five years old and is a bus driver on the suburban line that services the route Buñol-Valencia. His wife, Mrs. Francisca Castellanos (Fig.4), is fortyish and a typical housewife. Born in Andalucía, she has the typical loquacity of her place of birth, to the extent that she dominated the conversation that we had with the couple.

There are three daughters: Carmen, age fifteen (Fig.5), works in a textile factory where she is in charge of operating machinery; Antonia, age ten, and Paquita, age nine (Fig.6), attend elementary school. The family resides in the village of Chiva, Province of Valencia, Spain.

The actual interrogation was carried out in this order: we first discussed the incident with the parents, and then the oldest daughter was brought into the room and questioned. The parents, although present, did not interfere or prompt the replies in any way. Later the two younger girls returned from school and were also questioned separately, although in the presence of the parents. All along, the impression of the investigators was that the replies were both spontaneous and quite honest, an impression that was fortified as the added details fell into place and made the whole story self-contained and plausible.

We determined that the family's previous knowledge of the UFO topic was minimal; in fact, reduced to whatever could be obtained from casual reading of illustrated magazines. The parents firmly stated their previous lack of belief in "those things". The witnesses could not recall the exact date of the incident, but were able to bring forth details of the program being broadcast that night by Spanish television, namely, the appearance of the singer Lola Flores on the popular show *Esta noche...Fiesta*. By referring to the listing of TV programs provided by *Teleprograma*, we were able to determine the date of the sighting with certainty.

THE INCIDENT

The sighting took place on the night of Tuesday, February 22, 1977. The weather was good and the sky clear. On that date, the Serenas had accepted an invitation to spend the afternoon and have dinner with friends in the locality of Villar del Arzobispo; and driving a SEAT 1430, they arrived at their friends' house about three o'clock in the afternoon. About nine thirty in the evening they decided to start the return trip, with the idea in mind of being home before the time of the TV program indicated above.

Villar del Arzobispo¹ is located northeast of Chiva, about 40 Km along the regional highway. There is another route, perhaps shorter, following secondary roads, but the decreased distance does not compensate for the fact that those

secondary roads are not well kept. This consideration, plus the fact that it was already night, was decisive in determining that Mr. Serena, a professional driver, opted for the route through Casinos, then taking the regional highway through Liria.

The three daughters were on the back seat and rather sleepy, as Carmen, the eldest, usually gets up at five o'clock in the morning to go to work at the textile factory. Shortly after the beginning of the trip, the attention of the mother was directed toward a light in the sky, which she pointed out to her husband. Their first thought was that they were observing a plane, but they soon realized this assumption was not satisfactory, since the light had a white color and was too intense compared to the normal navigation lights of planes. One of the young girls demanded to know what it was; and the father, in order not to alarm them, replied: "*It is the evening star.*" However, this was not the opinion of the parents.

It must be pointed out, though, that on that date Venus was approaching its maximum brilliancy (on March 1st) and had a setting time of about 9:30 PM. In view of the subsequent developments, we do not believe that the object observed by the Serenas was actually the planet Venus; and besides, the timetable does not allow for it. As is well known, dinner in Spain is served rather late, and considering that the trip was started *after* dinner, the estimated time of departure was very possibly in error. Most certainly, it was approaching 10 PM when the Serenas started the return home, and even if it was 9:30, Venus was already setting and could not have been observed for the next 40 or 45 minutes. In order for this to be true, the Serenas would have had to start the trip at about 8:45 PM, which in Spain is a time too early for even sitting down at the table.

The uneasiness of the Serena family increased as the trip progressed and the light persisted. When they entered the village of Liria², the light disappeared, and they felt relieved. This did not last long, for as soon as they left the urban

(1) See map, figure 1, (a).

(2) See map, figure 1, (b).

area they noted the light again, but now larger in size, possibly indicating a greater proximity. While traveling the 5 Km from Liria to Villamarchante¹, the Serenas acquired the conviction that the light was following them.

On arriving at Villamarchante, Mrs. Serena begged her husband to stop the car at the Rural Police² headquarters and report the incident, but Mr. Serena thought it better to continue the trip and get home as soon as possible. Had he imagined what was in store for them, he would have proceeded otherwise, for it was in the kilometers between Villamarchante and Chiva³ that the incident culminated with dramatic impact for all the members of this family.

Shortly after leaving Villamarchante the object suddenly increased its size to show an apparent angular dimension equivalent to three full moons. An oval shape was perceived, in the words of the wife, like an extremely large tray. The intensity of the light did not allow the detection of details, and it was so strong that it made the highway and adjacent areas quite brilliant. Again in the words of Mrs. Serena, it was like the lights of a hospital operating room. The object displayed, in fact, two kinds of lights: a nondirectional white one when moving away, and a yellow one, projected down, when it was nearby. The witnesses were unable to determine if there were really two lights, or if it was a unique source changing its characteristics with distance.

The area where the incident took place is rather desolate, with cultivated fields and small groves, which even in the daytime when we visited the site showed few signs of human presence (see Figs.2 and 3). One can easily imagine how foreboding and isolated this road might be at night.

As the object approached the car, the engine of the vehicle started to fail, increasing the anxiety of the family, who were increasingly aware that they were facing an unusual and potentially dangerous situation. Antonia, the ten-year old girl, sitting next to the left window on the back seat, was the first to notice that the taillights of the car were not visible, either because they had ceased to operate, or because they were masked by the high intensity

(1) See location in map, Fig.1, (c)

(2) Guardia Civil

(3) See position in map, Fig.1, (d).

light produced by the object. The same thing applied to the headlights. The object, which until this point had maintained a position to the right of the vehicle, started now to cross over the road, repeatedly changing from right to left and from left to right. Those crossings above the vehicle affected the functioning of the car; and in the words of Mr. Serena, the car seemed to drag on the ground as the light drained the battery¹. At a given moment during this stage of the incident, Mrs. Serena lowered her window (front right), but felt such a fear that she had to close it immediately.

The three girls were by now frantic, feeling physically ill and crying. They shouted to their father: "*Daddy, it is coming!*", "*Daddy, it is going to get us!*"² prompting him to increase the speed of the car. But it was in vain, as the car did not respond; and in the section of the regional highway between markers 81 Km and 83 Km, the object overtook the car on its right. Mr. Serena's concern was directed toward reaching a nearby curve (Fig.2), preceding an upgrade which would place them in sight of Cheste (Fig.1, arrow). Before this could be achieved, the object interposed itself between the car and the curve, decreasing its altitude rapidly and extending landing gear from its lower part. According to Carmen and Antonia, there were three legs, while Mrs. Serena claims there were only two. This detail was not perceived by Mr. Serena, concentrating on his driving, or by Paquita, the youngest girl.

As the object descended, a cupola was vaguely perceived, as shown in the drawings depicted in Fig.7 and Fig.8. The intensity of the light was such as to prevent the observation of any structural details. However, based on the apparent angular size and an estimate of distance resulting from the crossing of the road from one side to the other, the longest dimension of the object was at least 5 meters.

(1) In Spanish: "*El coche se pegaba al suelo pues la luz se comía la batería*".

Mr. Serena expresses here his belief that the loss of power of the automobile was due to difficulties with the ignition; at the same time, the intensity of the headlights was impaired. It was discovered *a posteriori* that the battery had failed.

(2) In Spanish: "*Papá, que viene!*", "*Papá, que nos coje!*"

At this point Mr. Serena was convinced that nothing would prevent the car from moving under the object and being captured. This was not the case, for the object moved up and allowed the car to take the curve and move up the grade that follows this curve, perhaps due to the coincidental approach of a second car proceeding from Cheste, as detailed below. When the car arrived at the top of the hill, Carmen's stomach disturbances came to a head; and she asked her father to stop, for she had to vomit. The girl intended to get out of the car on the right, but noticing the object just there, actually moved to the left side and opened the left rear door. While doing this, Carmen heard a loud noise, resembling that of machinery, or the rumbling of a distant train. She nonetheless left the car and vomited on the shoulder of the road. For one or two minutes the object remained stationary, perhaps at seven or eight meters above the car, projecting its strong yellow light. At that moment a second automobile with a single occupant appeared, moving in the opposite direction. For a second the thought of asking for assistance was entertained, but before anything could be done, the second car had passed between the distressed Carmen and the Serenas' vehicle stopped on the other side of the road. At the approach of the second car, the UFO had moved away, but reappeared as soon as this car had passed. The whole incident did not last more than a couple of minutes, and a total of five minutes if the time of direct persecution along the straight part of the road is added. By now Mr. Serena was extremely nervous, to the extent that he shouted to his daughter, "*If you don't come, I'll leave you!*"¹ Carmen jumped into the car and the trip was continued, arriving shortly at Cheste and a little later at Chiva where they live, while the object was seen to disappear toward the south.

On arriving home, Mr. Serena climbed to the roof of the apartment house to verify if the object was still visible, but was not able to observe anything. He was not satisfied, and then he went out and visited a bar (called *El Canario*) which is located at the highest point of the village and adjacent to National Highway No.3. Again, no sign of the object. Altogether, one hour had elapsed from the beginning of the incident.

(1) In Spanish: "*O te vienes, o te quedas!*"

ELECTROMAGNETIC EFFECTS

Several anomalous electromagnetic effects were present in this incident. The first is related to a small battery-operated radio, which Mr. Serena had on to follow the events of a football match. The quality of the reception deteriorated rapidly until it became inaudible, at which time the radio was turned off. This took place when the object was still relatively far away, appearing only as an unusual light.

Later, as the approaching object was really close to the car, crossing over it to change from one side of the road to the other, the malfunctioning of the vehicle was characterized by irregular traction (jerks) and by the impression that the car was sticking to the ground. At the same time, all lights seemed to be off.

On the day following the incident, the car showed a definite ignition failure, which was ascribed to a discharged battery. Upon inspection, it was noticed that the cells were completely dry, in spite of Mr. Serena's conscientious upkeep of his car (as expected from a professional driver). The battery was new, but could not be recharged by the car's generator; although later charged in a service station, it did not function as satisfactorily as before and was eventually replaced.

PHYSIOLOGICAL EFFECTS

One of the most significant aspects of this incident is the physiological effects experienced by each one of the witnesses. All members of the family admit to having been extremely afraid and very nervous, fear manifested in the father by an overabundant cold sweat, and in the mother and girls by a feeling of extreme cold. The physiological effects were more marked in the girls and were characterized by upset stomachs and a general feeling of distress and illness. The impact of the incident on the youngest girl, Paquita, was such that when questioned by us several months after the events, her first reaction in evoking the image of the UFO was to start sobbing and crying.

The most affected of the three girls, however, was Carmen, the eldest. Not only was she brought to a vomiting fit during the incident, but in the days to

follow continued to feel ill. She had repeated cramps in the muscles of her feet, which required massage to restore normal sensitivity. Moreover, she was very depressed, suffering headaches and general malaise, as well as loss of appetite. She had to be placed under medical care and was kept in bed for several days. After the incident, all members of the family had sleeping problems, and the younger girls relived it in their dreams.

OTHER POSSIBLE WITNESSES

Some fragments of the conversations with the Serenas seem to indicate the possibility of the existence of some independent witnesses. However, the information elicited was so fragmentary that the localization of those presumed witnesses became impossible. Thus, we only include here for completeness the few details that were obtained from the Serenas. In particular, we learned that Mrs. Serena had commented on the incident to a lieutenant of the Rural Police, known to her on a friendship basis. This man, whose first name seems to be Adolfo, indicated that on the same night he and two of his subalterns had observed a luminous phenomenon at a location near the village of Chiva. A druggist who has since left the area apparently also had made an observation from a place named Vista Alegre, which is, relative to Chiva, in the direction of approach of the object we are concerned here.

DISCUSSION AND CONCLUSIONS

The characteristics of this sighting are such that the conventional explanations usually expounded to cast UFOs into the realm of natural occurrences must fail. There is no alternative but to consider the incident as totally false or totally true. We have concluded the latter to be the case, based on the following considerations:

- 1) The Serenas are a typical lower middle class family, of limited education. It is very unlikely that they would have the motivation or the persistence to fabricate and rehearse a complex yarn, particularly when they could not expect any financial gain, and in fact, they could not even be sure that their story

would be investigated.

ii) After talking several hours with the different members of the family, we cannot believe that they have the capacity for forging a self-consistent story and delivering it under the pressure of the interrogation at an unexpected moment while reflecting the appropriate emotions and sounding totally honest.

iii) Moreover, there is an important circumstance that leads the investigators to rule out the possibility of a fabrication. The interrogation, which was recorded totally on magnetic tape, was started with the version presented by the parents. Instead of delivering a coherent, well ordered and detailed chain of events, the Serenas rumbled through a rather disorganized and disjointed narrative, in which the chronology and the geographical location of the events were mixed. This is, of course, to be expected, in view of the social status and educational background of the witnesses, who in reliving the episode got excited and attempted to inform the investigators of the details as they came to their minds, not necessarily in an orderly fashion. In fact, the investigators had difficulty in reconstructing the chain of events until they traveled the route followed by the Serenas on the night of the incident. However, later replays of the tapes showed that --although not presented in order-- all the details fit neatly into place. This enhances the truthfulness of the Serenas, as a fabricated story would have been presented almost of necessity in an orderly manner and would have been impossible to scramble, as the Serenas did, without introducing fatal discrepancies and inconsistencies easy to detect. Nothing of the kind occurred here, and hours of listening to the tapes revealed only the small discrepancies of detail (as for example, the number of legs) to be expected due to the imperfections of the memory or to the distinct perceptions of five different persons. On the other hand, a prepared version would have been totally free of discrepancies.

iv) The investigators were particularly impressed by an incident already mentioned. The youngest daughter (Paquita) was the last one to return home from school, having no inkling that the investigators were in the house at that time. When informed of the purpose of our visit, and directly asked about the UFO incident, now many weeks in the past, the girl's fear was dramatically revived, and she instantly burst into tears. This very realistic reaction on her part, in the opinion of the investigators, virtually eliminates the possibility of a conspiracy to deceive by part of this family, as

the girl was only nine years old at the time, and her behavior in front of the investigators was quite spontaneous.

v) Further research into the psychological profiles of the witnesses, although perhaps desirable, is beyond the professional competence of the investigators, and would add, in our opinion, very little to the credibility of the case. There is no doubt in our minds that the percipients are telling the truth, within their cultural and educational limitations.

To conclude, we want to emphasize two aspects of the sighting:

- (1) the vectoring of the UFO toward this particular automobile, through a distance of many kilometers and a time interval of about one hour,
- (2) the deliberate behavior of the UFO, particularly when moving away upon the approach of the second car, points to an intelligent control.

Thus, the evidence seems sufficient for this case to be included under the label *UNEXPLAINED*.

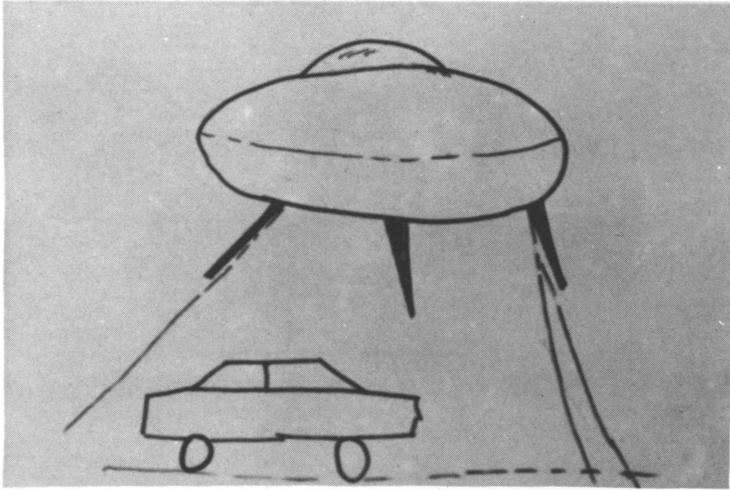


Fig.7 Drawing executed by Carmen

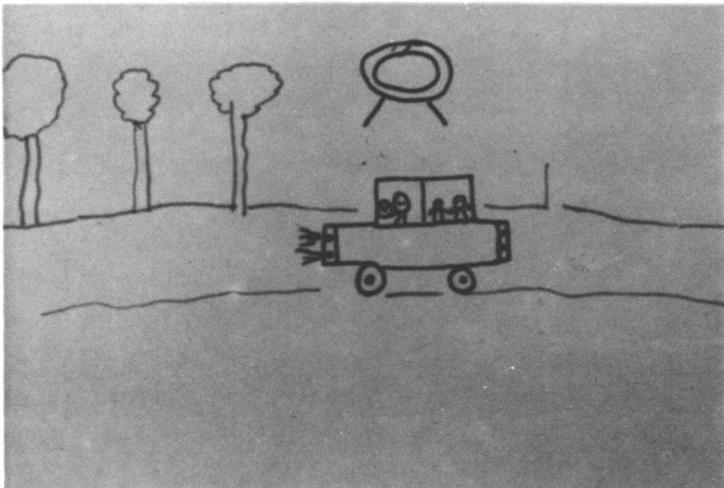


Fig.8 Drawing executed by Antonia



Fig.4. Mr and Mrs Serena

Fig.5 Carmen Serena, age 15

Fig.6 Antonia (age 10) and Paquita (age 9)



Fig.2 and Fig.3. Two views of the area

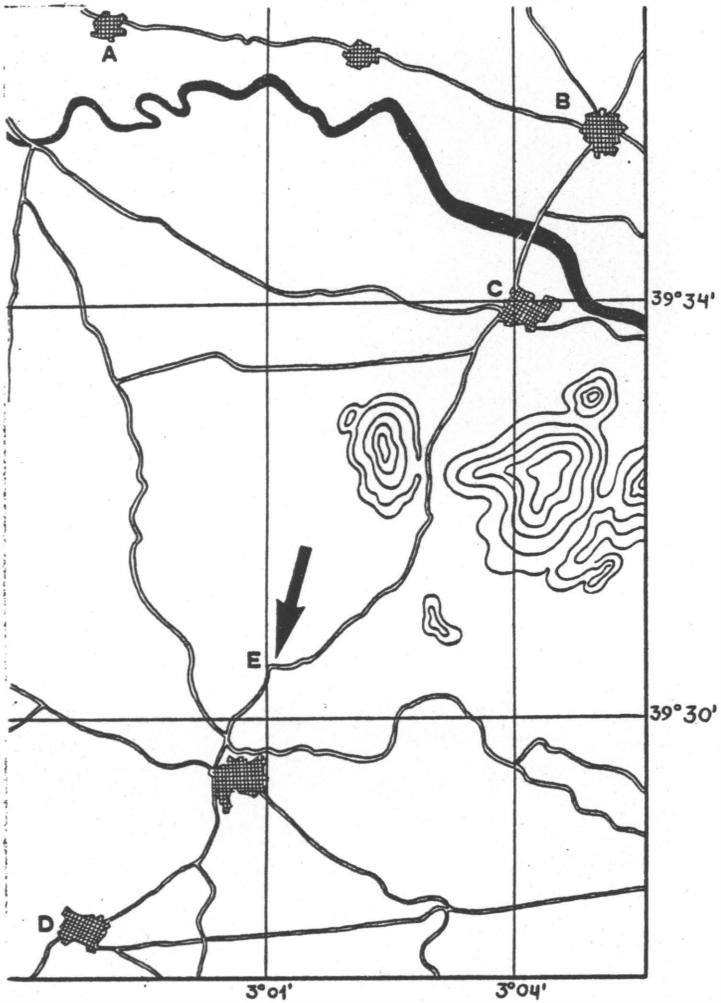


Fig. 1. Map showing the location of the sighting near Valencia, Spain. The arrow indicates the point of closest approach (figures 2 and 3), near Cheste. Scale is 1:50,000. Lambert projection. (Prepared by A. Moya).

1954/55 - THE AUSTRIAN SHARE

E. BERGER

*MUFON Representative for Austria
Nussdorferstrasse 7, P. A. 1094, Wien, Austria
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Abstract

Masses of UFO experiences were reported at Austria in the 1954/55 period 99 of which have remained unidentified. The hard core of the material consists of gendarmerie/police reports collected by the Austrian government and for the first time released to Ernst Berger in 1973. 28 case histories, the most interesting part of the material, are presented in detail. By means of a full statistical analysis methodically equal to an earlier study by BERGER on 1972-77 Austrian report patterns structures of the 1954/55 flap are extracted and compared with results of VALLES, BERGER and others.

Key words: Austria; UFO patterns; 1954 "global wave"; Austrian 1954/55 flap; gendarmerie/police reports; time of day; duration; shapes; colors; motion; dusk/dawn peaks; time coincidences; UFO mountain affinity; Tyrol daylight bloc; HYNEX classification; Austrian 1972-77 data.

INTRODUCTION

"...the list of reports we have given suggests that a little research would discover a similar density of sightings in any European country..", was assumed under "The global wave of 1954" by VALLEE (7). His assumption is true with regard to Austrian sightings. Four fragmentary reports known internationally through publications of HALL (5), MICHEL (6) and VALLEE (7) are not representative for the interval July 1954 to February 1955 which was Austria's "classical" period with a wealth of data on record.

For an Austrian researcher, it was high priority work to analyze the 1954/55 cases as this has never been attempted before. The analysis follows the same scientific guidelines which were used for the evaluation of Austrian data from 1972 to 1977 by BERGER (2) and is presented in analogue systematic form.

MATERIAL AND METHODS

CREIGHTON (4) has described the interesting case of Juan José Benítez who was handed a 78 page folio on 12 cases investigated by the Spanish Government on October 20, 1976. This is rated as kind of an unprecedented event.

However, preceded it was. On July 26, 1973, Ernst Berger had an extended discussion with a high Austrian government official MUFON-Austria promised not to identify in this context. The result of this contact was a pack of 111 case reports, approximately 200 pages, on the 1954/55 UFO observations over Austrian territory that had been carefully monitored by Austrian gendarmerie and police authorities. Ernst Berger was officially authorized to

use the material (1) - without names of active officials - for a scientific analysis. Due to other time-consuming MUFON-Austria activities (e.g. the Traunstein flap) it was not possible to evaluate the material statistically before 1977. Meanwhile, by careful searches through Austrian newspapers of the 1954/55 period, the silhouette of an impressive flap has come to light and we are in a position now to provide the scientific community with the first in-depth review of the "Austrian share" so long forgotten. A total of 99 reports, 96 from the flap period, has remained unidentified and the 28 most interesting of them are presented in detail together with some comments on official and press reactions.

All times given in the reports are Central European Time (CET), which is Greenwich Mean Time (GMT,Z) plus one hour. A 24-hour classification scheme has been used instead of A.M. and P.M., thus e.g. 0345 may be converted into 3:45 A.M. by the reader. All Italics are of the author. For a better understanding of the geographical context, see the map of Western Austria (Figure 1) as well as the photograph and panoramic views.

28 selected cases and comments

In summer 1954, less than 10 years after the end of World War II, Austria was occupied Allied territory. Northern Tyrol and Vorarlberg were under French, Salzburg and most of Upper Austria under American, Styria, Carinthia and Eastern Tyrol under British and Lower as well as parts of Upper Austria and Burgenland under Russian military control. The capital Vienna had been divided into Allied sectors similarly and the "four in a jeep" patrol cars of the occupation army were still active. Austria remained occupied until 1955, when the Austrian State Treaty was signed on May 15 and the last foreign soldier left on October 25.

Austria was not allowed to conduct any civil or military air operations during the occupation years.

It has to be added that Austria's police forces were (and still are) divided into municipal and rural police. As in France, the latter is called gendarmerie.

The very first report of 1954/55 appeared in the paper "Weltpresse" of May 3, 1954:

"As the gendarmerie post Andorf bei Schärding (Upper Austria, 48°22'N 13°55'E -EB) did not announce before now, on April 28 two inhabitants reported to have seen a comet-like body flying southeast-west at 1200. The "comet" had the appearance of a luminous globe with a radial tail. The observers allegedly heard a faint metallic tinkling in the air. About 10 minutes later an aircraft appeared from the same direction, again in great altitude, which flew a loop then continued to the northwest. From the plane three bodies, probably balloons, detached themselves and hovered in mid-air. Similar observations...were not forthcoming so far."

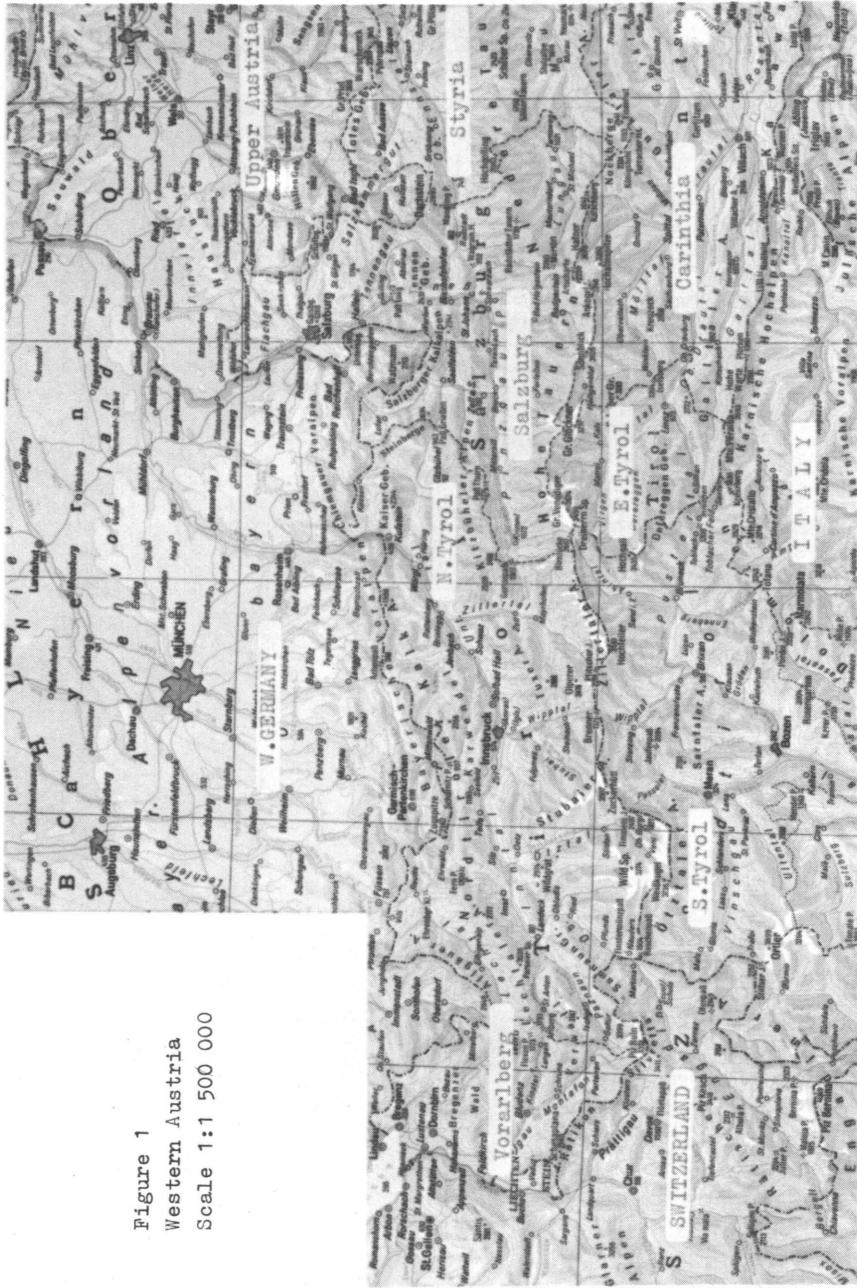
On May 14, the Austrian Press Agency (APA) correspondent at Klagenfurt, Carinthia, sent out a teletyped message:

"Five persons including two children said they had seen on Monday evening (May 10, 1954 -EB) about 20 minutes past eight while standing at the southern end of Hollenburg bridge (over river Drau south of Klagenfurt, 46°32'N 14°16'E -EB) three dark, round discs approaching from the direction of Würther Lake flying extremely rapid and in wedge formation to the southeast behind Mt. Singerberg (1589 m -EB). The discs allegedly expelled fire and thus were easy to be seen in the nearly cloudless twilight sky. From the fire garbs fiery drops fell down. The phenomenon happened totally soundless and was observable for 10 seconds. It has been declared by the adults that it was by no means a meteor."

First censorship activities set in - the conservative Vienna paper "Presse" omitted nothing from the wire report except that the discs were dark and soundless.

Other scattered reports followed in May, July and August 1954. After July 25, 1954, the sightings followed almost weekly, after August 31 almost daily. We have arbitrarily chosen July 25 as the onset of the flap. This was over a month before the flap grew strong in France and therefore not a contagion effect. Until the end of August, cases

Figure 1
Western Austria
Scale 1:1 500 000



from 6 of the 9 Federal Provinces were forthcoming. Three showed marked trajectory discontinuities which was also a characteristic of the first high quality flap case circulated by Dornbirn reporter Josef Mattner via teletype on September 1 under the headline "Headmaster watches flying saucers" (see Fig.2):

"Professor Friederike Edelmüller, pensioned Vienna headmaster who has been living at Andelsbuch in the Bregenzer Woods (47° 25'N 09° 54'E -EB) for years and is described as a sober and objective person, observed on August 31 at about 2200 a pale reddish disc to the south (or rather SW -EB) over Mt. Hangspitze (1746 m -EB). She stood on the balcony of her Andelsbuch home and first thought - Professor Edelmüller is familiar with the stars - she had discovered a comet... She fetched her field glass and noticed to her astonishment that the disc consisted of six individual discs which shone bluish at their edges. Professor Edelmüller began to think of "flying saucers" then. She stayed where she was and could see that the discs came down from a considerable altitude maintaining an u-shaped flight formation. Such, they flew several great circles in the night sky then disappeared into it vertically. Professor Edelmüller claims to have seen the saucers for 25 minutes..."

In a press article of "Vorarlberger Nachrichten" a day later the witness estimated the discs' height as about 4000 meters and also stated they moved regularly and steadily as if under remote control.

"Saucer observation over Lingenau" was the title of a "Vorarlberger Nachrichten" report on September 8, 1954:

"...Customs officer Werner Dünser from Hittisau and Miss Brunhilde Fehr were riding on a motorcycle from Hittisau to Lingenau (4 km NNE of Andelsbuch -EB) on September 3. Passing the inn "Hirschen" at 2025 he saw a reddish, slightly vibrating disc in the sky...and pointed the "flying saucer" out to his companion. He stopped the cycle and they watched. They had seen the disc, which resembled a radiant discus, from their point of view left of Mt. Schwarzenberg (to the SW -EB) at 1000-1500 meters altitude. After a short horizontal flight the disc opened like a shell and vibrated even more strongly. Then, the upper half of the disc detached itself from the horizontally lying one and positioned itself vertically above it. Finally, both flew into the direction of Mt. Karren (W of Andelsbuch - EB) at moderate speed. Before moving behind it around 2045, the observer drove to the "Adler" inn at Lingenau and alarmed

the guests there who ran outside to see still one of the two disc parts..."

In a letter to us 20 years later the witness confirmed his sighting and said he had even had a radio interview with a Dornbirn ORF reporter. The tape, of course, has been destroyed meanwhile.

Saturday, September 4, 1954, brought reports from the Graz area. A misprinted teletype version of the story is quoted by VALLEE in his 'Challenge to Science' (7).

According to police and newspapers,

"at 0135 seven workers of the Graz-Arland paper mill watched from the factory yard a greenish, oval shape, luminous at the edges but dark in the center with two bright dots positioned directly diametral at the rim which moved with growing speed from east to the west... At the same time (0130) a sky phenomenon to the west was independently sighted by two policemen on patrol. It looked like a red disc of full moon size and moved with meteor speed from NE to SW within several seconds. At about 0800 in the morning a Strassgang policeman reported a similar phenomenon over Graz. The Meteorological Institute of Graz University has so far provided no statement."

A police report from Hallein, Salzburg (47°52'N 13°06'E - EB) gave the account of porter Franz Wallner, 42:

"I was on duty in the night Friday/Saturday September 3/4, 1954. At about 0130 (note time coincidence with Graz -EB) ...I observed from my box (it was a clear, starlit night without moon) three globular things, one of them bigger than the two others, moving through the sky for a half minute. The bodies were a bright shining red in the middle, but changed to other colors, like blue-violet, towards the edges. They moved at aircraft speed without noticeable motor sound. One could only hear a weak rush. Before they left the field of view, the bodies seemed to break up into pieces. The bodies came from the north, from Salzburg (city -EB), and flew to the southeast...I saw it with the naked eye, without aids."

The witness credibility of Mr. Wallner cannot be questioned, officials added.

A "Tiroler Tageszeitung" article of September 8 copied a letter of Mr. Otto Turker from Innsbruck-Pradl:

"...concerning my observation on Saturday, September 4. It was 1915, when I casually glanced through the window to the west where a very bright star rapidly changing its

position over the city caught my attention. I found it peculiar to see such a bright star at dusk and observed more closely with 6x30 binoculars. I had to climb to a dormer window as it had moved to the west at an obtuse zig-zag course... It was then that I could make out it was kind of a disc, very small, but radiating bright yellowish light with reddish edges and at times a peaked cone 4 or 5 times as long as the disc's diameter. The cone shone greenish and pointed up or downwards when visible. As it was cloudless I could follow the peculiar sky phenomenon 'til it disappeared behind the southwestern mountain horizon...at 1935. I watched the sky again on Sunday at the same time, 1915, but did not see a single star. They only appeared gradually around 1925..."

The three days and nights of September 3, 4 and 5 produced 20 unidentified sightings and started a first wave of publicity with headlines all over Austria. This was still before the onset of the great French flap.

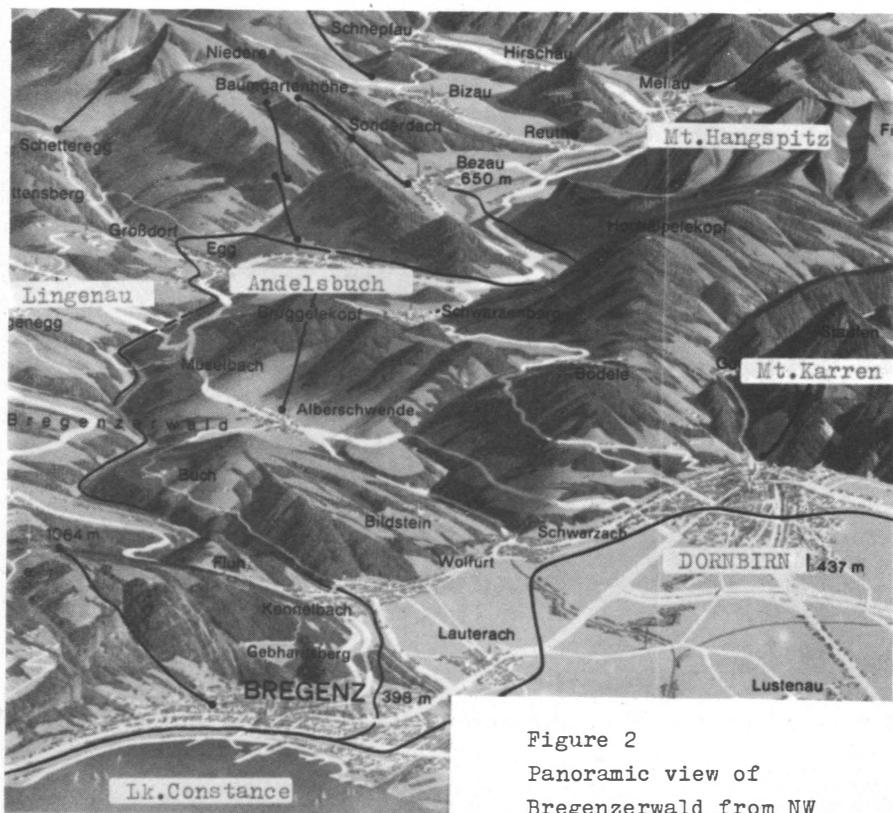


Figure 2
Panoramic view of
Bregenzerwald from NW

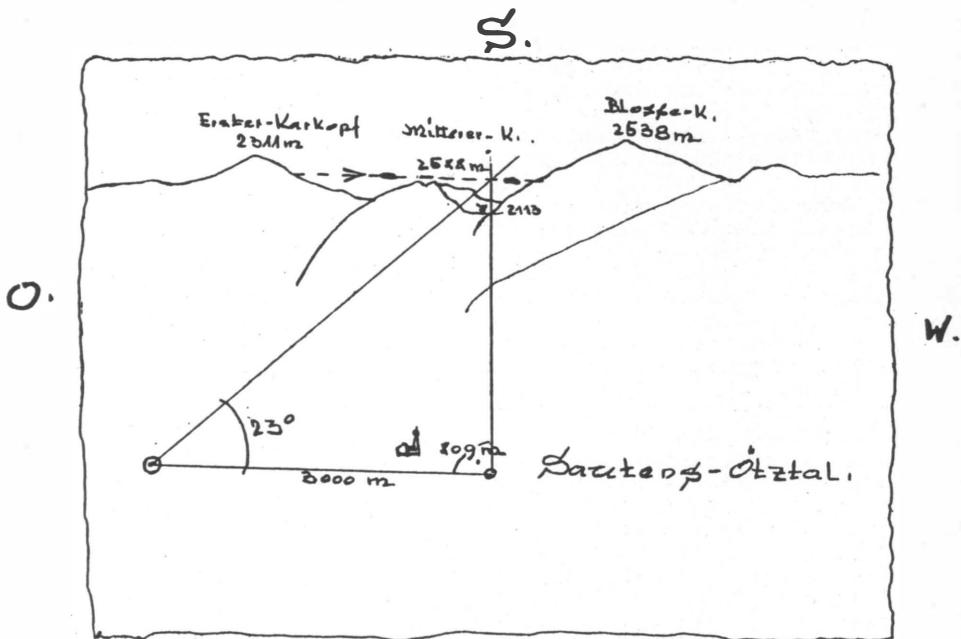


Figure 3 Original sketch of Neururer case

Our next gendarmerie report is reproduced in unabridged form:

"Concerns: "Flying saucer" observation

Location of sighting: Sautens, Imst district
(Tyrol, 47°13'N 10°72'E -EB)

Time of sighting: September 16, 1954, 0745 - 0815

Weather: Bright, cold weather with morning fogs in the mountains

Eye-witness: Master mason Heinrich Neururer, born at Ötz, Imst district, on April 15, 1913, living at Sautens No.22

The eye-witness gave the following statement on his observation:

'South of the village Sautens, at the entry of Ötz Valley, a Swiss has the shooting at the time. The game-keeper is absent, so I am doing the deer watch for him. In the morning of the specified day I took the 10x field glass of the Swiss to do so. West of the Ötz Valley entry is first Mt. Piburger (2511m), next to the west Mt.Mitterkarkopf (2583m) and then Mt.Blosse Karkopf (2538m)(all south,

about 3 km ground distance from Sautens which lies 4 km south of river Inn - EB). I looked with the glass from my house to the southwest. Chamois or red deer were not visible at that time, but instead I discovered a flying object in the blue sky west of the three peaks. It would not have been noticed with the naked eye. According to my estimation it did fly pretty far behind the mountains.

"I saw a silvery gleaming disc in the shape of a discus. It was somewhat tilted to the left, thus not lying horizontally. In the middle part it had protrusions on both sides (-a double-convex domed disc-EB) and it looked as if it consisted of polished aluminium. The flight direction was east-west. After about 4 minutes it appeared again at the westward horizon and now slowly drifted towards Mt.Mitterkarkopf. It was then that between this peak and the next one (Blosse Karkopf) a cloud of morning fog rose up from the valley and covered the disc so I had to give up further observations. The objective lens diameter of the used glass is 80 mm, thus the fine details.'

Great importance has to be attached to the eye-witness' account. Neururer is a highly esteemed man in his community, was vice captain of the fire brigade, member of the village council, hunter, skier and served for 4 years in a Flak brigade at Köln, directly at the platoon. Besides he has been one of the observers of Professor Piccard's nacelle over the Ötz Valley. Neururer claims because of his experience that the flying body he watched could not have been a conventional aircraft."

In a field investigation at the spot on August 5, 1974, further details modifying the original report were obtained from Mr. Neururer:

"I phoned the local gendarms during the sighting but there was no one on duty before 0800... My wife did see the object, too, and I showed it to some more people (then being visible with the naked eye -EB)... It was like aluminium shining in the morning sun. It just moved into one direction from left to right silently...and very slowly without a stop... I can't imagine any aircraft that would fly at that speed. And it was no balloon." Elevation remained 25-26° during the sighting although it seemed the object moved away growing smaller. A "hump" was clearly visible on the upper side, curving out over the backside rim. The witness could not say whether he saw a second dome at the other side, too. The angle of tilt or inclination was a constant 10°. For the object's trajectory, see Figure 3, a 1974 original sketch drawn by the witness. The object was noticed in azimuth 170° right of Erster Karkopf, moved behind the timber-line of Mitterkarkopf (180° az.), reappeared to the right of it and was lost in a cloud at 190°. 20° of azimuth in 30 minutes is definitely too slow for an aircraft. Neururer served at a Flak battalion, but in the signal section, not on a

platoon .

"Tiroler Tageszeitung" was again the medium for a report on September 20, 1954:

"Officials of the meteorological station, of flight control, policemen and several other witnesses on Saturday (September 18 -EB) observed a brightly shining flying body between 1630 and 1730 from Innsbruck airport. It was visible in pinpoint size over Stubai Valley in the direction of Mt.Schrankogel and stood motionless in its place for an hour..

"It could have been a balloon, but at the observation time western winds of 60 km/hour force were blowing up to several thousand meters altitude certainly able to move a balloon. At 1730 the thing suddenly - and strangely enough - started to move to the west (against the wind -EB) where it disappeared."

On September 24, 1954, "Tiroler Tageszeitung" printed its first laconic page two headline "Daily saucer report". The night of September 24 was exciting for many Upper Austrian citizens. A Russian anti aircraft searchlight platoon performed manoeuvres from a position near Hellmondsödt north of Linz. The circling light reflections were seen and misinterpreted by many. A more outstanding report printed by "Linzer Volksblatt" came from estate manager Johann Rachbauer of Ebelsberg (a community 4 km south of Linz city):

"On Friday, September 24, at 1900 I went from Ebelsberg to the village of Schweigau which I reached at 1945. I walked to the right bank of Mittelwasser (an old branch of river Danube -EB). It was a perfectly clear starry sky, no wind... I heard a commercial plane and could see it move in the night towards Vienna with its flashing lights. Suddenly I saw two searchlights circling over Steyregg (NE -EB) and inside their cones at times three circular, white luminous discs which moved over Mt.Pfenningberg (616 m -EB) and looked somewhat smaller than the full moon from my position. They moved to the southeast quickly. After a few minutes the phenomenon and the searchlights were no longer visible. I waited for another quarter of an hour without noticing anything unusual among the stars."

"Linzer Volksblatt" of September 27, 1954, carried the headline "Linz police has saucer alarm":

"Police director Privy Councillor Dr. Rupertsberger has issued an order for all Linz policemen on September 25 to report immediately any sighting of flying saucers

over Linz to him."

Under "Daily saucer report" "Tiroler Tageszeitung" said on September 28:

"Last Friday (September 24, 1954 -EB) Mr. Daniel Thoman of Innsbruck, Roseggerstrasse, was hunting in Schmirn Valley (a side-valley of Sill Valley between Mt. Olperer and Mt. Sonnenspitze -EB) when at 1416 a 3000-4000 meter high-flying object caught his attention by its very intense - about blue-violet - luminosity. He looked through his glass immediately and noticed it was a q u a d r a t i c object with 90°-bent-up edges. It flew perfectly soundless from southeast to northwest and disappeared all of a sudden."

The Udmath observations make up the third well-documented "formation flight case" of the period. Udmath (46°36'N 13°59'E) is a tiny village at the banks of river Drau, southwest of Velden, Carinthia. In the early morning hours of Thursday, September 30, 1954, pensioned official Josef Rudl, farmer Johann Fugger and his wife Maria as well as country woman Olga Katholnig witnessed the flight of 5 or 6 objects from the farm Udmath No.4. Detailed accounts were collected by the gendarmerie and one of them later published by a local paper. The following is condensed from all sources.

Josef Rudl, 70: "I woke up at 0430 because the room was brightly illuminated. Looking for the cause of this through the window, I spotted 6 grey-red, bright discs of full moon size at the horizon. They were in a half arc with equal spacing... I watched them for 3 to 5 minutes. After about a minute one disc broke off from the formation and flew to the south in a zig-zag course... The other five discs moved away in a northeastern direction. I heard no sound. The phenomenon had an awful beauty..."

Johann Fugger, 43: "Mrs. Olga Katholnig woke me up at 0430. ... She said she had noticed several 'flying saucers' above Udmath. I..went outdoors... where I saw 5 luminous things in the sky moving to the east slowly... They were all round ...brighter than a star...and had a tail of the same color. .. I did not notice any sound.. One of those things flew southwards and into a light fog. It moved up and down several times during its flight and then moved on with greater speed. As far as my estimation goes, it approached earth to about 1000 meters...because there was a slight fog over the Drau and I could see the movements of the thing clearly. I have to add that it was starry and the sky somewhat lit-up by early daybreak."

Maria Fugger, 34: "... My husband went into the orchard, but I stayed in the yard. Looking up to the sky I spotted two flying saucers over Udmath which moved southwards very slowly... Behind them a luminous tail was visible. I could hear no sound and after 2-3 minutes in the open went in-doors again... It may be I have not seen the other things because of the house and trees."

Investigating Wernberg gendarmerie officers called the witnesses reliable.

"'Flying saucers' reported during the last days could be radiosonde balloons launched by upper air research stations," Vienna's Central Meteorological Station had announced on September 9. On September 30, 1954, a high Austrian official issued a general order to collect data on all "flying saucer" reports "as it is suspected that radiosondes ... are subject of those observations" and to send them to a central Vienna evaluating authority. All police/gendarmerie reports presented here have only survived because of this order.

A daylight sighting is quoted from "Tiroler Nachrichten" of October 4:

"While 'flying saucers' so far have only been sighted at night (which is not true -EB) now some were seen in bright daylight. ...On Thursday afternoon (September 30, 1954 - EB) at 1400 a 12 1/2 year old boy played on a heap of stones in Reichenauer Strasse (Innsbruck, Pradl district -EB), near Pembaur Bridge. Suddenly the boy heard a peculiar sound he was unable to describe to his father later, although the latter as a gymnasium teacher has some interviewing abilities. The boy looked up and saw a silvery glistening elliptical disc with a, as he said, "blue pile" at the upper edge. It was, he remarked, a deep blue, like blue ink. The "pile" blinked brighter at times. The disc which moved in great height first ascended vertically then flew towards Nordkette horizontally. Answering the question about the approximate size of the disc the boy said about half the moon. He immediately ran home... to tell his story with excitement. Thus, he did not watch where the strange disc went to. The boy is described as absolutely sober and lacking phantasy; and his father said with a smile he was having school troubles with the subject 'German', where his essays are rather meagre..."

Gendarmerie report on another daylight event:

"Sunday, October 3, 1954, at about 1600 ... Dr. Christoph Spiegelfeld, 30, saw with his bare eye and through binoculars from Lüsens im Sellrain (47°07'N 11°09'E, a valley

leading into Stubaier Alps -EB) a flying body over Lüsener Ferner (glacier -EB). It remained in the same position for 20 minutes then moved westwards and disappeared behind Mt. Ferner Kogel (3299m -EB). The body was a round, aluminium-silvery shining disc. Dr.Spiegelfeld is official adviser for police affairs at the Schwaz district authority. His credibility is beyond doubt."

20 years later, Dr.Spiegelfeld added the following details by filling in our questionnaire:

"Observation by chance on a walk... Weather cloudless, Föhn wind (a warm gusty alpine wind flowing from the south to north over the ridges -EB). Object first stationary for 20 minutes, then disappearing to the west within few seconds, great speed. Globular, metallic like an aircraft. Size of an aircraft in 10 000 m height. Elevation 45° south... as if surrounded by strong heat. No sound at all. Corroborating witnesses dead. No field glass... I was pilot in the war. It was certainly no balloon as we had strong Föhn and it would not have kept position for 20 minutes. Also the high speed take-off would be impossible.

"The same goes for an aircraft. As it vanished behind a mountain (4 km ground distance from witness -EB) it had at least 5-10 m diameter in case it flew just behind it. Every greater size is possible."

4 unidentifieds on September 30, 3 on October 3. Complex cases like Schmirntal or Udmath received only local publicity. French cases started to flow into Austrian press offices via AFP and Reuter in late September and were printed in short, often ridiculous form by the major papers, especially in early October. Numerous letters to the editor kept coming in, particularly from Tyrol witnesses.

"What I saw was a machine. The outlines of the phenomenon were distinct and sharp as a material object would show against the deep blue, cloudless eastern evening sky."

The above lines are from a letter to us describing an observation rich in details. The first report in "Tiroler Tageszeitung" dates of October 5, 1954:

"Yesterday a man with unquestionable reputation and observational abilities came to our office - secondary school teacher Anton Plattner of Innsbruck-Pradl, an expert in mathematics and geometry with a special military ground-air-observation training and a "UFO sceptic" until Sunday (October 3, 1954 -EB), when he was on a walk with his wife (and child -EB) in Gumpff Street and saw a "flying saucer" at 1710. It moved in from the south over Mt.Patscherkofel (2246 m -EB) and flew northbound in an altitude of more

than 8000 meters estimated by Plattner veering off somewhat to the northeast until it disappeared behind Karwendel (after 1 minute and 15 seconds -EB). The eastern sky was already turning dark, so one could discern the disc perfectly clear. It appeared cigar-shaped in perspective in the bright sunshine at its flight level. A cupola-shaped body was visible in the middle part and changed color to red and blue at times. The outer radius of the disc Plattner estimated to be 70 meters across whirred like a rapidly rotating bicycle wheel. Mr.Plattner gave a guess on the disc's speed. He had watched (Allied, mostly US -EB) jet fighters often over Innsbruck and said the object made 1200 km/hour. It did not look unearthly, but like an unmanned, very stable flying machine. There were no exhaust traces and no sound."

Enclosed with a 1975 letter to a MUFON collaborator the witness sent us a geometrical reconstruction of what he saw with his naked eyes. According to Figure 4a the blue light reflections occurred at the northern edge of the cupola (in flight direction) and the red ones at the southern (against direction of movement).

This happened while the witness was looking at the structure from the bottom side. The whirring motion was interpreted by him as a number of "tubes" standing out horizontally under the cupola and forming the outer disc shape by rotation. Its cupola-shaped core was seen clearly when seeing the object from the rim shortly before it vanished. A sketch of this perspective, with the tubes only forming a line, is shown as Figure 4b.-

The witness first interpreted the object as a possible Russian secret weapon but gradually changed into a ETH fan and even sent a more detailed, enthusiastic report to a German fringe magazine in 1975 which is not quoted here because of copyright reasons and as we are not sure how much wishful thinking has meanwhile been mixed with the original account presented above.

"Flying saucers again over Tyrol" was page three headline of "Tiroler Nachrichten" on October 12:

"...an absolutely reliable witness of Innsbruck writes us: 'Sunday (October 10, 1954 -EB), shortly after sunset, I just enjoyed the wonderful forms of the western horizon, the good visibility and the yellow tints when I spotted a bigger,

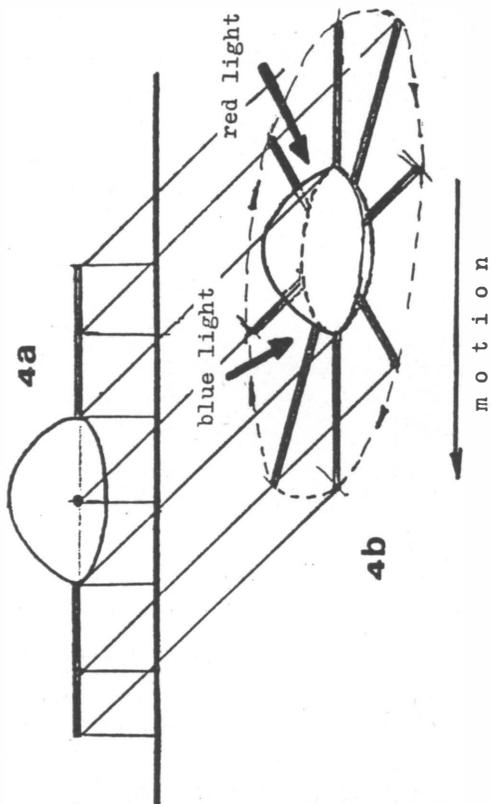


Figure 4 Original sketch of Plattner object

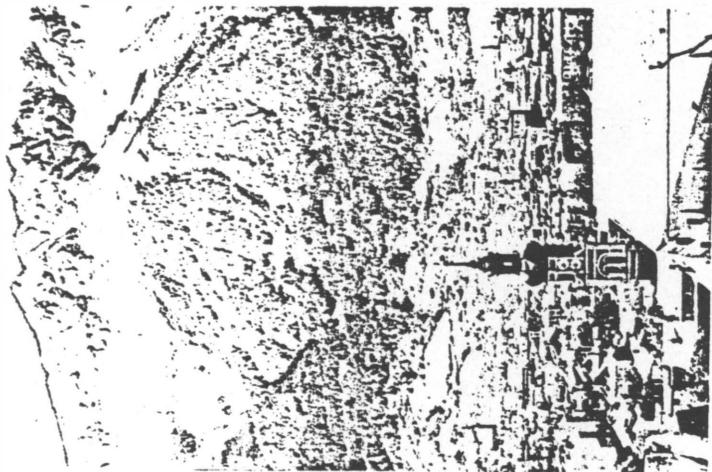


Figure 5 Innsbruck city and Nordkette ridge seen from the south

glistening 'star' somewhat south of Marchreisenspitze ridge. My position was below the gendarmerie project houses near the Absam gravel pits (8 km east of central Innsbruck in the Inn Valley -EB). This startled me as it was still daylight and the horizon sunlit. A glance at my watch: 1747. In the field glass (Habicht 8x30) the star shone like burning magnesium. It had an elliptical shape and stood on end. First I did not believe my eyes when it moved. However, when it descended vertically and stopped then moved up the ridge in an angular path keeping some distance to it, the thought "UFO" flashed through my mind. The constantly bright body bent off below Marchreisenspitze and disappeared behind the mountain at 1752. Although I kept an eye on the western horizon for the rest of my walk expecting to see the phenomenon return nothing was to be seen; it had vanished. Only when the first stars appeared in the night sky I noticed the enormous difference in brightness with regard to the luminous flying object!"

Mt. Marchreisenspitze (2623 m -EB) is at the southeastern ridge of Kalkkögele massif south of Axamer Lizum and 13 km ground distance SW of Innsbruck center.

Dr. Walter Plankensteiner, teacher at the Paulinum gymnasium of Schwaz, Tyrol, contributed an interesting report. It was published by "Tiroler Tageszeitung" on October 16:

"On Wednesday (October 13, 1954 -EB) I had a geographical excursion with my class to Tuxerjoch (47°06'N 11°38'E, in the Tuxer Alps -EB). During a rest near the already closed Tuxerjoch hut one of us and moments later at 1430 our whole 17 man group spotted a suspicious flying object we immediately linked to the much talked-about "flying saucers". The silvery object was first disc-shaped, changed into a "silver arrow" while flying quickly westwards over Mt. Hornspitze (2648 m -EB) and seemed to disappear into the blue sky after few seconds... completely soundless. In our opinion it was neither a conventional aircraft nor a balloon. By the way, we did never look out for "saucers"... It may be of interest, that at our descent to Hintertux an hour later we clearly observed a small bright circle which moved slowly and disappeared behind the mountain horizon only after some minutes. These details can be verified by every pupil of my Graduate class."

"Tiroler Tageszeitung", Saturday, October 16 continued:

"Friday afternoon (October 15, 1954 -EB) two medical students appeared at our office and reported the following: 'We were sitting on the skyscraper terrace (then the highest Innsbruck building at Bismarck Square -EB) when at 1445 our attention was drawn skyward by a passing

light plane. While the latter flew pretty low, we suddenly spotted 4 bright spots at 3000-4000 meters which stood out of the sky like shining soap bubbles with darker cores. Those spots moved southward with very great speed and disappeared over Mt. Serles (2718 m -EB) after no more than a minute, before we were able to point them out to other visitors. They were definitely no aircraft..."

From one of the more remote rural Austrian areas a gendarmerie report tells of another object:

"In the afternoon of October 15, 1954, country woman Rosina Mühlböck, 40, was working in a field north of Zwettl an der Rodl (Upper Austria, 48°28'N 14°16'E -EB). At about 1800...she observed...a phenomenon like a small thundercloud to the south or towards Linz. The hovering body appeared sometimes brighter, sometimes darker and moved slowly earthwards...within 1 minute...to disappear behind the horizon. After 10 minutes the body appeared again in the same direction. It did not move, as at the first time, earthwards, but flew horizontally westwards with great speed. It had a cupolar shape and trailed a tail. The color was grey. A color change -brighter/darker- was again observed...The phenomenon was also seen by her husband, Ignaz Mühlböck, a farmer of 44 years. The body disappeared behind the horizon after 2-3 minutes. At the observation time there was already twilight. To the south...one could see the sunset glow. Visibility was good, the outlines of the Salzkammergut mountains noticeable. The observation was done with the naked eye... Concerning the credibility of the above report there is no doubt."

"Tiroler Tageszeitung" was on October 20 again the forum for a strange report:

"Yesterday evening an Innsbruck employee - as a Ph.D. she seems to have a certain critical power of judgment (of course not surpassing the I.Q. of a crank reporter -EB) - informed us that on Monday (October 18, 1954 -EB) at 1715 she did see from Rennweg (in Innsbruck-city - EB) kind of a 'g l a s s d i s c' in a completely clear, dusky sky which flew quickly south - north towards the Nordkette ridge, Mt. Achselkopf (1563 m -EB). It looked transparent and rose, like "illuminated from inside", had a dark spot in the center, was somewhat smaller than the moon in daytime and suddenly disappeared, almost dissolved over Nordkette. A second similar object followed and also vanished into thin air. The witness said she had often seen various types of aircraft, e.g. jet fighters, but never anything like it, and she would neither call it "saucer" nor aircraft."

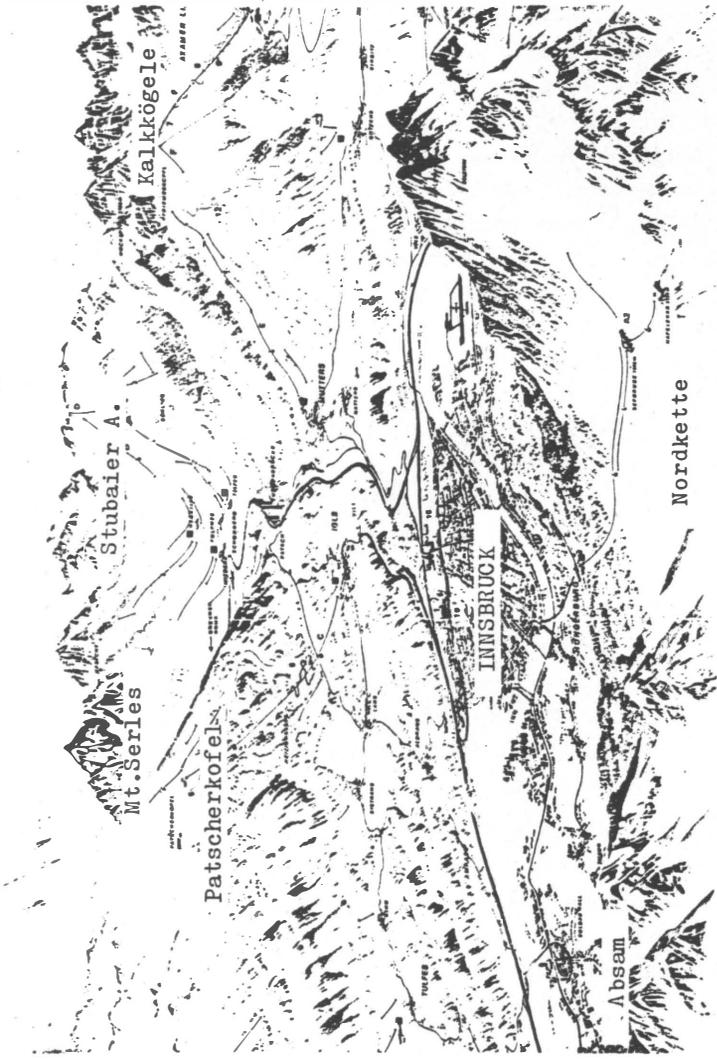


Fig re 6 Panoramic view of Innsbruck area from NNE

In its October 19 issue "Tiroler Tageszeitung" had given two unidentified accounts with the remark "this is only a small fraction of the nearly daily reports..."

The 1900 evening news on October 22 of radio program Wien 1 included a statement "Flying saucer mystery solved now". It was claimed that American propaganda balloons with dangerous material were being released within Austrian state territory. Leaflets distributed by the balloons over the Eastern states would call upon the population in Hungarian and Czech language to overthrow their regimes. According to communist "Wahrheit und Volkswille" of November 3 which also reproduced an UPI-photograph showing a meadow with many round and rhomboedric balloons "the photo shows the launch site of rabble rousing balloons carrying anticommunistic leaflets near the Czechoslovakian border... 200 balloons were yesterday seen over Hallein, Anif and Gröding (Salzburg -EB)." The balloons had dimensions of 2-3 meters, were manufactured in at least 2 shapes and complicated the situation from mid-October until the end of the Austrian period in 1955. However, they were easily recognized by experienced observers because of their whitish, non-metallic color and their drifting with the wind, mostly from west to east. The Ried sighting of "October 3" to be found in VALLEE (7) in reality happened on October 7 and was identified as 20 propaganda balloons drifting over Ried, Schärding and Eberschwang, Upper Austria, in the early afternoon.

After several unidentifieds per day between October 14 and 20, a bright fireball was witnessed by thousands all over Eastern and Southern Austria on October 25, 1954 causing tremendous uproar and police activities among the already sensitized public. Almost every central police quarter sent a teletyped summary to Vienna before the matter could

be cleared up. A Hungarian school teacher from Sopron managed to photograph the desintegrating meteor and the picture still circulated in UFO clubs as "unidentified" when presented by BRILL (3).

On November 8, a wire report came from the Judenburg gendarmerie post in Styria:

"Christian Rainer, a woodcutter living in a hut at Mt.Grössingberg slope near Weißkirchen (the northern end of Packalpe massif, 47°05'N 14°47'E -EB) allegedly saw at the same day and time when the sky phenomenon was witnessed by many on October 25, 1954, three burning small flying objects crash down. According to him they were circular discs of about 15 cm diameter. They came from about 2000 m height and were burning blue-green. Those three flying objects touched the ground in a wood owned by Elygius Frewein of Allersdorf near Weißkirchen, and near to the Kickerloch mountain hut. A moderate fire started, but Christian Rainer was able to extinguish it quickly. The incident was reported to gendarmerie officials only on October 30 and it has been noticed that at the described spot only faint traces of fire existed on the soil. In the vicinity were some oil stains. The Rainer report has been considered phantastic by the gendarms and appears to be a hoax..."

On November 9, 1954, the Graz paper "Südost-Tagespost" gave additional informations:

"..Christian Rainer, a 52 years old woodcutter living in Granitzen hut at the 2000 m high Mt.Grössenberg (misprint -EB) (near Weißkirchen), was on his way to the Kutzgraben (which should read Kothgraben -EB) Valley when he saw 3 small bluegreen, hand palm sized discs slowly descending to earth behind the flying object (the meteor -EB). Continuing on his walk a quarter of an hour later in the wood he discovered at an area of 3-4 m² three bluegreen burning spots. The lumberman succeeded in extinguishing the fire.

"He claims it was burning oil. Christian Rainer has served his military duty throughout the war in a special Flak battery and is described as a quiet, serious man. Weißkirchen gendarms who inspected the location rule out the possibility of arson in the totally lonely area, and at the early hour (0620) with certainty."

A testimonial on Christian Rainer was contributed by Graz officials on November 16.

According to this report, the witness was born in 1902, married, had several convictions (minor physical injuries), had been living at Granitzenhütte since 1949 and liked to drink and play at cards in inns after work, but was not

given a bad testimonial by colleagues. At the time of his sighting he was no longer woodcutter, but working at a paper mill. His employer described him as a slow, but open and honest character.

Further inquiries of our group revealed the following:

The witness Rainer died before 1974. The event is still known at Frewein's office, but details have been forgotten. Mr. Johann D., the gendarm who drove to the landing spot with his motorcycle in 1954, still recalls that it was a 8 m² large, apparently b u r n e d, flat area. Close to it he found a gas-mask of the former German Wehrmacht. Gas-mask and a soil sample were sent to Graz for analysis (and nothing ever heard). D. said Rainer was a drinker and his testimony taken up with caution and scepticism. The landing spot was situated near the Granitzen path to the Kickerloch hut at the so-called Granitzenriegel at the last bend before Hirschboden.

The details MUFON-Austria has collected are not without contradictions but suggest a real event, which would be the only Austrian landing case with traces reported so far.

An equally interesting gendarmerie report came through few days earlier:

"On October 27, 1954, at about 1445 the mayor of Vitis in the Waidhofen/Thaya district, Leopold Wallner, spotted approximately 30 discoidal, silvery objects, which were flying in an easterly direction. The bodies did not make up a formation but a flock and could be watched only 2-3 seconds because of their great speed. The observation was made with the naked eye towards a clear, nearly cloudless sky. The flying object caught Wallner's attention through an aerial sound like a small car motor. Wallner, whose reliability cannot be questioned, stated it is impossible the objects were aircraft as the latter would have caused a much louder noise."

"Several sightings of 'flying saucers' have reached us from Franzensfeste, Schalders, Vintschgau and other locations at Southern Tyrol (Italian territory -EB),"

"Tiroler Tageszeitung" remarked on November 9, 1954.

More cases came from Carinthia, Eastern Tyrol and Upper Austria. In the second November week, the Tyrol flap was on again.

Sections of a detailed report from Gnadewald were published by "Tiroler Tageszeitung" of November 15, 1954:

"In the evening of November 12 unidentified flying objects were sighted and carefully observed over the Gnadewald

mountains (12 km ENE of Innsbruck city -EB) by several persons. The 'Speckbacher' Inn keeper Luis Mair reported the following details: 'It was around 1800, when high over Walderalm (near Mt. Walderjoch, 1666m -EB) a small luminous body detached itself from a big lighted, star-shaped object and went down vertically at great speed. It bent off to the west parabolically and continued its flight at half height of Walderhang (slope -EB), in low altitude. Despite of the falling dusk visibility was still good. Seen from the road it looked as if the body was only flying a few hundred meters over it. It resembled a torpedo of several meters length which caused no sound, glowed red and expelled sparks to the rear. The observation did last only a few seconds, then the body passed towards the west and was no longer visible.'

The same day before midnight Walter Schiestl, son of a Gnadenwald farmer, spotted a flying body which had the shape of a moderately big disc changing colors quickly. It also flew at great speed, causing no sound, in north-south direction over the Inn Valley, doing lots of small turns and moving up and down..."

Luis Mayr (which is his correct name) refused an in-depth interview on August 6, 1974, but the about 70 years old man vividly recalled some more facts before we left.

He saw a "round fire" above Walderalm while standing outdoors on the parking ground of his alpine inn at St. Martin (greater community of Gnadenwald). What happened then was also witnessed by an academic walking past Mayr. Something moved down from the light and probably leaving the watchers unable to decide whether it bent off parabolically or not, dashed along over the eastnortheastbound road towards them. Mayr feared "it might crash into the small house" vis-à-vis of his inn, but the "fiery arrow trailing a tail and spraying sparks" passed between the building and a nearby monastery church flying below street level over a meadow less than 100 meters from them. The expression "torpedo" was due to the doctor and his wife who said the body was cigar-shaped. Mayr also recalls that two Americans, "perhaps military personnel" (of the Allied occupation army) posed questions to local people concerning "sky phenomena" and also visited Walderalm some time later. It seems one of the rare CE I cases attracted special investigators.

Another gendarmerie report was written on the observation of Alois Seelos, 63, of Telfs, Tyrol:

"On November 17, 1954, at 0615, as usual, the eyewitness walked from his house...to the Schindler factory which lies 200-300 m to the north. On his way Seelos spotted a bright, reddish-yellow colored disc in the starry morning sky. It seemed to fly at 5000m altitude. It came from Mösers (north), changed direction over the Inn

Valley to the southwest and disappeared towards Brenner. The disc was visible perfectly clear. It flew soundlessly and had a longer, glowing tail which looked like a shower of sparks. The whole phenomenon was observed for 3-5 seconds. Alois Seelos had heard of saucers before, but never believed in their reality. He is now convinced they are remotely controlled, unmanned flying objects of terrestrial origin. This because he believes no human being would stand the high cruising speeds. The disc he observed flew much faster than a jet fighter. It could not be mixed up with one. Alois Seelos is a respected, honest and very diligent man. He owns a house with a household goods store and a plumber's shop. At present he works as master at a Telfs house construction project ... He enjoys the best reputation..."

Telfs is an Inn Valley village about 30 km W of Innsbruck between Stubai Alps (first peak 2887 m) and Mieminger Mountains (up to 2759 m) at 47°18'N 11°05'E.

"Two Guttaring/St.Veit an der Glan officers on patrol observed a bright, shining disc like a flattened star on November 19, 1954, at 0630 from Guttaringberg (46°54'N 14°30'E -EB) way over the Althofen region (an industrial town of NE Carinthia -EB). After hanging in the air motionless for some seconds it went into motion with great speed, flew a north-south course and disappeared behind an isolated cloud after 5 seconds. The flying body had a noticeably wavy trajectory."

So far the wire message from Carinthia. The flap thinned out to one unidentified case per week after November 19 which was also three days from the end of VALLEE's "global wave" (7).

Meanwhile, two prominent Austrian scientists had spoken out on UFO reports. Lecturer Dr. Ferdinand Cap, nuclear physicist of Innsbruck University gave a public talk on "saucers" and was quoted in "Neues Österreich" of November 6 saying "90-95 % of the phenomena are absolutely identified" and that "he wished to witness a landing of extraterrestrial beings on earth but feared not to have the luck." Dr.Cap apparently missed his chance to get at the core of the UFO question by a combat with ETH.

A similar public lecture took place at a meeting of the Austrian Meteorological Society on December 16, 1954. Professor Hopmann, director of Vienna's University obser-

vatory, concentrated on the October 25 fireball case and "fiercely denied the existence of flying saucers", as was printed by "Neue Wiener Tageszeitung" on December 19. Quoting some nonsense reports on the meteor fall, eye witness accounts were generally debunked. A report in "Wiener Zeitung" by Dr. Heinz Reuter closed with the words "One should try to largely eliminate subjective errors and especially get free of the saucer psychosis which does not fit the high level of technically educated 20th century mankind." It does not seem Professor Hopmann cared for the unexplainable data thus committing a subjective error. By the way, he was also to debunk the US moon landing project as "impossible" more than ten years later.

Another officially unacceptable report was carried by "Tiroler Nachrichten" on December 20:

"...from a serious source. Yesterday (December 19, 1954 -EB), Sunday at 0800...an aeronautical expert...from Innsbruck airport just coming from his night shift sighted a "UFO" hovering at 6000 m altitude over Wipptal Valley. It was remarkable that the object did fly completely against the wind which was blowing from 40° (NE) with 10 knots. At that time a man from the Innsbruck glider team also wanted to show him the object. ...Visibility was good, the sky nearly cloudless... The measured altitude of the cirrus clouds was 7000 meters, thus about 1000 m over the object...which was luminous and had a halo. It moved against the wind for 10 minutes and definitely was no weather balloon..."

A day later the paper published the account of another witness who together with his family had watched a balloon-shaped object of grey-silvery color with a yellow tint drift to the west for 8 minutes, with the first sight of it 20 minutes before 0800. He used binoculars.

The last 1954 report came from Salzburg:

"Josef Schnöll, 28, a Mittersill businessman and cinema owner, was driving from Zell am See to Mittersill on December 30, 1954, at 2200. Between Aufhausen near Zell am See and Fürth-Kaprun near Piesendorf (the latter at 47° 18' N 12° 44' E in Salzach Valley between Hohe Tauern massif, i.e. 25 km N of Mt. Großglockner, 3797m, and Kitzbühler Alps -2000m peaks- EB) he spotted a hemispherical sky object hovering at mountaintop level

"over the valley and shining in an orange-red color. First Schnöll thought it was the moon, but then he found the size was incredible for this as the sky object spanned one eighth of the valley width. Just before Piesendorf the sky body appeared to hover only in rooftop level now as the railway station restaurant which lies in a depression of the valley covered part of the body. Driving on towards Walchen, Schnöll noticed the sky body moved northwards, changed into a triangle ten times larger than the morning star and dashed away to the west shrinking constantly to disappear in the sky. The phenomenon was seen by Schnöll between 2150 and 2200 on a starry evening. It was reported by him to the gendarmerie at Mittersill at 2220 the same evening, and concerning his observational abilities and reliability one can add that he is a serious business man far from phantasms."

Mr. Schnöll died in 1973 at the age of 47 only days after having received an inquiring letter from us, so no further data are available.

After three other cases in the third January week, a strangely shaped object was seen on January 24, 1955, by 55 years old hunter Fritz Gaugg of St. Leonhard im Pitztal (47°04'N 10°52'E -EB) in the parallel valley to Ötztal leading north-south to Mt. Wildspitze. The area lies 15 km south of Sautens, Tyrol. Quoting the police report,

"...between 0930 and 1005 he was on chamois-watch on a steep slope 1 km east of Zaunhof hamlet. He trained his field glass on the 2606m high Mt. Stalkkogel to the southwest. Over the 3000m distant ridge he spotted a silverball, somewhat bigger than the evening star. The globe first drifted horizontally then started to rise gradually. He followed it immediately with his 40x telescope. It was then that he saw first a left half moon with a lower horn enlarging itself by left rotation until it formed a full ring, the sky still shining through the inner part. The outer rim of the ring-disc was not smooth but showed half-round indentations like a turbine blade. The wheel rotated counterclockwise. There was no sound and no tail etc.... It disappeared after about 30 minutes behind the ridge of Stalkkogel to the southwest. The flying body looked like a ring-disc rotating to the left from itself. Height or distance could not be estimated... The object color resembled an aircraft contrail. Gaugg is the son of an old alpine hunter family. His testimony is certainly credible. He also decided to inform the press. He served in both World Wars and is known as a honest and reliable man."

4 days later, on January 28, 1955, his son Alois Gaugg, 26, who is also a hunter, was chamois-observing with a 6x30 field glass and a 35x telescope. At 0930 he saw a white globe over the ridge of Seidlachkogel(2557m). The body had the form of an ellipse standing on end. It was barely visible with the naked eye and disappeared to the south after 10-15 minutes. The hunter saw the phenomenon from Löwis Alpe near St.Leonhard im Pitztal, Tyrol. This is a condensed version of the Gaugg II sighting reported by the gendarmerie.

With a sighting over Salzburg City the Austrian period ended on January 28, 1955, after 6 months.

Newspaper reporters forgot the stack of unidentified cases quickly, plenty of raw data were destroyed, scientists even refused to acknowledge the problem and the government order to report UFO sightings lost its effect after 1956.

The situation and settings "froze" and have remained unaltered until 1973, when our investigations started.

RESULTS

Report interval

The time interval chosen to analyze the flap was July 25, 1954, to January 31, 1955. The flap is terminated by intervals of report frequencies of less than one unidentified per week.

Reliability

A minority of cases was still open for investigations at the time of our study. Consequently, the overall reliability of the material used for statistics is moderate. Analyzed with the RANGLES-DELAIR classification system presented by BERGER (2) the data set 1954/55 consists of 1 A-, 1 B-, 1 C-, 49 D- and 44 E-cases. Gendarmerie/police reports or letters of witnesses reproduced in their original form by newspapers were always ranked D, stories written by journalists E. The only A-case is the Neururer observation at Sautens, Tyrol.

Reports per month

The maximum interval was October 1954 with 32 unidentifieds. Cases were distributed over the flap months with the following absolute frequencies: July 1, August 8, September 29, October 32, November 16, December 4, January 6. Figure 7 compares the relative frequencies for four intervals from August 10 until November 20, 1954, to the VALLEE data (7). Whereas an October peak is evident for the "wave" of VALLEE, the Austrian sample (which equals 8,5% of the VALLEE case sum) has a more even distribution without salient differences between September and October.

Time of day

81 reports included time data on at least the event hour. The peak interval for first observation moments is 18-21 CET, according to Figure 8. A secondary peak lies in the morning hours between 06 and 09 CET. Thus, 38% of the cases with reported time are in the 18-21 interval, 16% in the 21-24 and 11% in the 06-09 sector. A total of 54% occurred between 18 and 24 CET.

A special pattern, the dusk/dawn peaks, will be discussed in the appropriate paragraph under "1954/55 patterns". 68 cases happened between local sunset and sunrise, i.e. at night, 26 during local daytime, 2 were lacking time data in that respect. The percentages of night to daytime cases (94 = 100%) are 72,3% : 27,7%. About every fourth event was seen in daylight.

Another pattern, the "Tyrol daylight bloc" of October 3-15, 1954, will be described later on.

Duration

With the exception of 8 cases, all gave the phenomenon's duration or rather the time it was visible to the witness. Figure 9 superimposes the number of reports per duration class for the 1954/55 data on the curves for sporadic and Traunstein flap data between 1972 and 1977 found out

by BERGER (2). For 1954/55, two peaks are noticeable, one in the seconds and one in the 5-15 minutes scale. Like the 1972-77 sporadics, our 1954/55 data have been carefully cleaned of meteors, airplanes and other conventional things. It seems the latter are showing both the "sporadic seconds-peak" and the "flap minutes" one. A possible interpretation of this for parts of the data is discussed under "mountain affinity and valley flyovers".

End of observations

Table A is based on 40 reports stating the way the objects disappeared. Most of them were seen to fly behind a terrestrial obstacle such as mountains, but 20% of the 40 ended with a sudden "switch-off" of the phenomenon, often puzzling to the observer. One of the instantaneous disappearance category was the quadrangular Schmirntal object on September 24, 1954.

Locations

Austria is a democratic republic with 9 Federal Provinces. A look at Figure 10 shows several things:

The 1954/55 flap cases had the tendency to concentrate on the Western provinces and to thin out towards the east.

Northern Tyrol was the focus of the flap period. Other clusters are situated at northern Vorarlberg and southern Carinthia. The Upper Austrian reports are found only within the northern part of this province.

According to the Austrian census of September 1, 1955, Tyrol (north and east part) formed an area of 12 649 km² with a population of 427 465 (1951 census). The resulting population density of 33,8 inhabitants per square kilometer is the Austrian minimum. Tyrol can be called the most mountainous province including Austria's greatest massif, Ötztaler Alps, southwest of Innsbruck with peaks over 3500 meters. Innsbruck itself, the city with 21 sightings, lies at 574 m between massifs of 2500 m, as

Figures 5 and 6 have demonstrated.

Further discussions on the sighting locations linked to geographic, especially topographic features are given in the pattern section.

Disappearing direction

Table B lists the directions of the object's disappearance for 71 cases. Although it is not likely untrained witnesses will neatly distinguish between north and northeast, the high percentage (41%) of western disappearance directions is remarkable.

Number of witnesses

More than 200 witnesses were present during the 96 flap events. 40 reports (42%) came from single witnesses, 16 (17%) had a corroborating witness, the rest of 41% even more. There were 10 occasions (10%) with definitely more than 5 observers on the scene. A list-up is given in Table C.

Education of witnesses

In most cases the formal education and observational abilities of the witness was unknown. However, a salient amount of details came from alpine hunters, former pilots, ground-air-observers, military personnel and higher councillors. Police/gendarmerie officials we are not allowed to identify were eye-witnesses in 5 cases; a Styrian gendarm investigated the alleged landing site of the only CE II-event. Two phenomena could not be identified by several experts of the Innsbruck-Kranebitten airport who watched them closely. Once, a whole gymnasium class and their teacher witnessed a daylight flight.

Aids

Binoculars enabled the observer(s) to examine the phenomena in detail during 15 events; in 3 of them an additional telescope was available. A fourth case witness had a tele-

scope, but no field glass. In one of the binocular cases more than one instrument was used. Cars did not play any special role during the early fifties episodes. 1954/55 witnesses were stationary ones.

Number of objects

As in the 1972-77 data set, single object cases made up the highest percentage in 1954/55 with 75% or 72 events. Table D shows the sums for all classes. One object split into two parts and on another occasion no less than 30 objects were seen in the air.

Elevations

Reading the more detailed reports one gets the impression that elevation angles over 20° elevation were scarce and most phenomena moved in a zone near the horizon, as has been found out for 1972-77, but there is no chance for a percentual verification. Only the Sautens trajectory could be measured at the site and was $25-26^{\circ}$ high.

Heights and distances

No triangulations were possible with the vague trajectory data. Several Tyrol objects near mountain peaks had between 3 and 20 kilometers distance from the witness when last seen. Estimated true altitudes have to be treated with caution, but all agree with respect to the scale of heights - thousands of meters above ground level. Values from Vorarlberg range from 1000 to 4000 meters, one 1000 m-estimation comes from Carinthia and in the Innsbruck area altitudes between 3000 and 8000 meters have been apparently observed when objects flew over the valleys. The absolute height of phenomena with "mountain affinity" was considerably less. The Gnadewald CE I-torpedo passed at less than 100 meters below treetop height according to our estimation at the site. The CE II-objects at Mt.Grössingberg allegedly touched the ground leaving burned traces and oil behind.

Object sizes

With newspaper reporters and gendarms/policemen investigating it is no surprise that the size data must be called poor. 15 values of different quality exist. Relative size estimations ranged from full moon (5 est.) to half moon (3 est.), smaller than full moon, $\frac{1}{4}$ and $\frac{1}{8}$ of full moon (1 est. each), aircraft size (1 est.), greater than Mars (1 est.); the two absolute size guesses were "5-10 meters minimum" and "30-40 meters across".

Object shapes

29 (31%) of the 93 cases yielding shape descriptions involved ovals, eggs, ellipses or discs, 24 (26%) balls, globes or round objects. For other forms, see Table E. 6 events involved shape variations, 4 a very complex shape.

Object brightness

The data are extremely poor in brightness details, although it was expressed in several accounts the object(s) caught the witness' eye because of striking brightness, at dusk far greater than the first stars.

Object colors

72 cases contained usable color descriptions. It is interesting to notice in Table F that 14 (19% of all) accounts are about "aluminium colored, metallic, silvery" daylight objects. Other 9 (12,5%) were reddish; 8 (11,1%) yellowish, 3 (4,2%) orange, 7 (9,7%) bluish and 6 (8,3%) white. 7 (9,7% of all) cases showed objects with more than one color, 4 (5,5%) color change, in 6 (8,3%) episodes dome/edges were differently colored than the rest of the object. Vivid color changes or "pulsations" as in Traunstein - see BERGER (2) - have not been reported.

Source of light

The objects were mostly luminous as a whole; on some occasions point light sources and/or dark or transparent

objects without light production at the outer surface were described. Typical examples are the Graz-Arland object of September 4, the Hollenburg formation of May 10 and the Innsbruck "glass discs" of October 18, 1954.

Light effects

5 testimonies mention the ejection of fire, flames or sparks by the object(s), 4 report distinct halos. 19 (19,8%) cases involved objects with a tail. A spotlight cone emitted by the object was only noticed once over Innsbruck. Puzzling light phenomena are completely absent.

Object motion

A motion analysis is possible, but will not yield representative results because 48 of the 96 reports, i.e. 50%, give no clue on the object's speed. Looking at the data one can see the proportion of stationary or slow-moving objects to fast ones (above general aircraft speed) is about 1 : 1 (44% : 56%).

Motion discontinuities (hovering and take-off, motion and stand-still, trajectory angles, accelerations or secondary undulatory/pendulum motions) are extractable from 30 of the 96 cases, which is close to one third. Rotation was only mentioned in two events.

Sound

On 5 occasions, one of them before the actual flap, sound was heard and reported. "Faint metallic", "peculiar", "like a small car motor", "faint swoosh" and "rushing" were the descriptions. All objects moved in the distance, whereas the two CE cases happened soundless. So did many other events, as was explicitly stated.

Electromagnetic and other effects

No EM anomalies could be detected in the material available

for our study. One CE-II case has been presented in the selected report section. The lack of phenomena near the soil which is typical for the 1972-77 period in our country was also present in 1954/55, quite contrary to France.

Austrian 1954/55 patterns

From the foregoing evaluations the following details seem to be significant:

The 1954/55 interval had a flat September/October peak period.

Most cases started between 18 and 21 CET; there is also a morning peak.

As we will see later on, the two peaks may be associated with local dusk and dawn.

54 % of all cases lie between 18 and 24 CET.

About every third event occurred in daylight.

Two case duration peaks exist - one at the 1-10 seconds interval and one at the 5-15 minutes one.

A noticeable percentage of objects "switched off" at the end of the observation.

Case locations show a tendency to cluster in Northern Tyrol and Vorarlberg, especially in the area of Innsbruck and its sparsely populated mountain ranges.

A disappearance peak of objects to the west is prominent with 41% of 71 sightings.

Single witness and single object cases were most frequent.

Distances and altitudes generally ranged above 1 kilometer.

Round shapes dominated the descriptions; a few mentioned complex structural details.

Most objects looked self-luminous, red, yellow, orange or bluish at night, silvery-metallic in daylight.

Angular motion, if reported, was either slow or quick with a case proportion around 1 : 1. Motion discontinuities seemed to be present in every third case.

Sound and traces were rare.

In addition to these results several other patterns have been detected during the analysis:

Dusk / dawn peaks

A special evaluation was done to check the onset of evening observations versus local sunset and of morning reports versus local sunrise times. For instance, an evening object in the Innsbruck sky was correlated with the local Innsbruck sunset.

For dusk, the following result was obtained.

30 (47,6%) of the 63 cases between 12 and 00 CET started in the interval ± 2 hours, i.e. between 2 hours before and 2 hours after local sunset. 8 of them set on before, 22 after local sunset. 16 (25,4%) began in the interval $1/2$ hours after sunset.

For dawn, the situation was similar.

11 (61,1%) of the 18 cases between 00 and 12 CET began in the ± 2 hours interval around local sunrise. 9 of them started before, 2 after local sunrise. 6 (33,3%) set on in the interval between 1 hour and just before sunrise.

On the total, 41 (50,6%) of the 81 sightings with precisely given times set on in the ± 2 hours intervals around local sunsets and sunrises throughout the flap period. Every second observation fell into these dusk/dawn peak intervals.

Time coincidences

Another phenomenon evident to the analyst were 8 time coincidences of UFO events. We give five here:

On September 4, 1954, the Graz, Styria, event started at 0130/35, the Hallein, Salzburg, observation (distance to Graz 190 km) at 0130 CET.

On September 5, incidents happened near Velden, Carinthia, at 2044, near Kirchberg, Tyrol, at 2045 and over Linz, Upper Austria, at 2045 CET.

On November 17, 1954, Telfs, Tyrol, had a report at 0625, Zell/Velden, Carinthia, at 0621, and on November 19 Guttaringberg, Carinthia, at 0630 CET.

On January 24, 1955, the first St. Leonhard im Pitztal, Tyrol, phenomenon started at 0930, on January 28, the second one at 0930, and the same day there was a sighting over Salzburg city beginning at 0940 CET.

Unlike the fireball events of July 26, October 25 and November 20, 1954, which have been eliminated from our study and gave rise from dozens to thousands of eye-witness reports, the time coincidence phenomenon concerns only discrete observations, even on different days.

A series of 4 coincidental reports did open the flap interval in July/August. First report Graz-Gleisdorf, Styria, July 26, 2050, second, Otteralm, Tyrol, early August, 2030, third, Kirchberg, Tyrol, August 6, 2030/45, fourth, Hard/Bregenz, Vorarlberg, August 19, 2025 CET.

Mountain affinity and valley flyovers

A close look at the geographical distribution and true trajectories of the objects versus their observed duration over Tyrol, the focus of the flap and Austria's less population-dense Federal Province, suggests the UFO phenomena from September to November 1954 had some "affinity" to mountains even resulting in longer durations.

Nordkette, Karwendel, Kalkkögele, Serles, Habicht, Lüsener Ferner, Olperer, Sonnenspitze, Erster/Blosse Karkopf or Stallkogel, to list a few, are not just landmarks used by local witnesses, but areas the objects moved close to or from where they were often seen coming/going to. Several qualified witnesses said in their accounts the objects moved along ridges then went behind them. For examples, read the Marchreisenspitze observation of October 10 or the second Tuxerjoch episode of October 13, 1954. Some reports deal with a common motion discontinuity - stand-still then rapid departure - in mountainous territory,

e.g. Lüsener Ferner, October 3, or Silberspitze near Zams, October 14, 1954. Tyrol reports with longer durations (several minutes up to an hour) are almost exclusively of objects in mountain proximity, or at least at the distant mountain horizon.

Another class of observations comprises valley-flyovers as of the Inn Valley near Innsbruck city. In the typical Plattner case of October 3, the object travels from one mountain ridge over the valley bottom to disappear behind another ridge. This type of observation did not last longer than some seconds up to a minute. Unfortunately, duration data obtained from the press are not fit for a convincing statistical comparison of mountain affinity and valley flyover cases, so the idea of objects moving slowly over desolate regions and with high speed over more densely populated alpine valleys remains speculation.

A concentration area pointed out by phenomena trajectories seemed to exist at Nordkette north of Innsbruck where 8 objects disappeared during October and November 1954. Figure 11, a topographic classification map of Austrian territory by ARNBERGER distributed by the Austrian Statistical Authority, further illustrates our findings.

Tyrol daylight bloc

The most prominent pattern was encountered by the analyst while listing up reports in daylight versus night observations chronologically.

Interesting is the distribution of daytime/nighttime reports per half months throughout the flap. Between October 1 and 15, or rather 3 and 15, as there are no cases for the 1st and 2nd, there is a sudden rise to 10 daylight versus 1 night events, which is the very opposite of the usual proportions. It may be of further interest that within this period only events from Tyrol have come to light. The last September case came from Carinthia on the 30th, then Tyrol cases followed until October 15, when there was another daylight sighting in Upper Austria.

Because of the two facts we have decided to call the period "Tyrol daylight bloc". It coincides with the "full orchestra" and early "diminuendo" phase of the French "wave" reported by MICHEL (6). As the flap consists of 68 (72,3%) night- and 26 (27,7%) daytime events plus 2 time-uncertain ones, it is remarkable that 10 (38,5%) of the day cases occurred within the "Tyrol daylight bloc".

Phenomenal classification

To use HYNEK's well-known classification system, the flap was built up by 69 nocturnal lights, 25 daylight discs (with some not quite looking like discs), 1 close encounter of the first and 1 of the second kind. According to the VALLEE scheme, there were 2 Type-I, 0 Type-II, 34 Type-III and 60 Type-IV events. Every third case involved a motion-discontinuous object, thus the high Type-III proportion.

DISCUSSION

Comparison with MICHEL

It is difficult to compare our statistical study with the classical book of MICHEL (6) on the French "wave" as the latter is basically a non-statistical presentation of facts combined with "orthoteny". Although one Tyrolean paper once stated in 1954 they were getting more reports than they were able to publish, we may suspect the Austrian flap was of low proportion compared to the French events, particularly concerning CE-I and II, even if we take into account the French "wave" was reported in a country 6,5 times larger than Austria.

Comparison with ZINSSTAG

BERGER has stated in his last paper (2) that reliable statistical studies for any time intervals are still lacking for Western Germany and Switzerland. A small, ETH-orientated booklet has been published by ZINSSTAG-

ALLEMANN (8) and contains 14 sightings for 1954. The months of interest are August, September, November and December, including the observation of a Swiss military lieutenant near Zürich and a probable CE-I between Payerne and Moudon, south of Lake Neuchâtel. The case histories are insufficient for any further conclusions. A search of local Swiss papers would be useful. As was announced by them, a first compilation of Italian events is under way by the staff of "Giornale dei Misteri" of Florence and should throw some light on the situation south of the Tyrol/Carinthia borders in 1954/55. Nothing definite is known about events in communist neighbor countries during the Austrian flap period except of a remark by VALLEE on Yugoslavian sightings (7).

Comparison with VALLEE

In his second book, VALLEE (7) gives a statistical review of French and foreign reports from mid-August to the end of November 1954. Two Austrian cases are also quoted. Figure 7 compares the relative frequencies of VALLEE and Austrian case material between August 10 and November 20, 1954. To test VALLEE's "first negative law" (7) originally found for Type-I cases with our flap data one should compare Figures 10 and 12. The Northern Tyrol and Carinthia report clusters are in areas of less than 80 inhabitants per square kilometer with the exception of Innsbruck (over 200 inh./km²). Population density is higher in the Vorarlberg cluster area. The "first negative law" seems to be valid only for Tyrol objects with "mountain affinity".

Comparison with BERGER 1972-1977 data

Eventually, the similar analysis of 85 Austrian reports of the 1972-77 interval published by BERGER (2) offers the possibility to intercompare 85 "fresh" UFO events with 96 "classical" ones. Although the two data packs have different reliability levels - only 2 1954/55 cases were field-investigated, but 57 1972-77 observations - a limited

comparison was ventured. We first present the parallels, then the differences of the two data sets.

It was surprising how many general features were similar. In the 1954/55 set 38% of the time-certain cases were in the interval 18-21 CET, in the 1972-77 set 37,6%.

In the 1954/55 set 54% of the same events set on between 18 and 24 CET, in the 1972-77 set 64,7%.

Both sets showed a morning peak.

From Figure 9 we know that both duration peaks found in the 1972-77 set are also present in the 1954/55 set.

In 1954/55, 41,7% of all cases involved a single witness, in the 1972-77 set, 44,7%.

The 1954/55 flap was further characterized by having 75% single-object cases, 1972-77 it was 67,1%.

20% of 40 reports dealt with disappearance by "switch-off" in 1954/55, 11,8% of 85 in the 1972-77 set.

57% of all cases involved round objects in 1954/55, 52,8% or 67 of 127 objects had a rotation symmetry 1972-77.

Motion discontinuities were noticed in 31,3% of the 1954/55 cases, in 35% of the 1972-77 observations.

Sound was only heard during 5 sightings in each data set.

The 1954/55 and 1972-77 sets are identical concerning EM effects - none were reported.

The differences were limited to the number of reports per month, case locations, colors and light effects.

The 1954/55 data have a flat September/October maximum, 1972-77 data a December peak.

Whereas the 1954/55 flap thins out to the east on the case location map, quite the opposite is true for the 1972-77 material. It is highly probable that Tyrol was the true focus of the 1954/55 flap, but the east-west gradient in 1972-77 case frequencies is a selection effect due to the location of our investigation center at Vienna.

Of 72 cases with known object colors in 1954/55, 19% reported silvery/aluminium color in contrast to only one silvery object in 85 1972-77 episodes. The group of

yellow-orange-red objects took 27,8% of the 1954/55 total, 38,8% were found for the same group 1972-77. 9,7% of the 1954/55 cases produced blue/bluish objects, 16,5% of the 1972-77 set white color, without parallels between the two sets. Also, the 32,9% of observations with variable-color objects 1972-77 only meet 3 cases with color change, never described as vivid, in the 1954/55 set. Light effects (sparks, flames, beams) are present 6,3% of the 1954/55 cases, but in 11% of the sporadics and in 26% of the Traunstein data collected between 1972 and 1977.

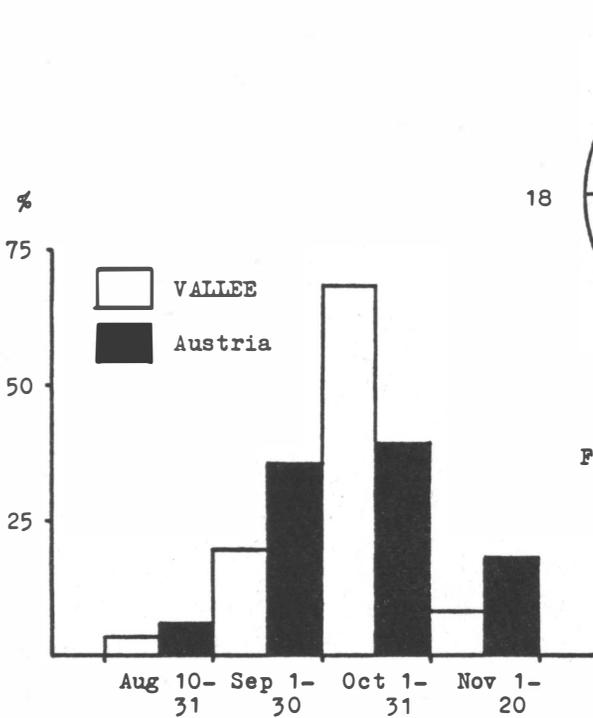


Figure 7 Relative report frequency at Austria compared to VALLEE "wave" intervals, August 10 - November 20, 1954

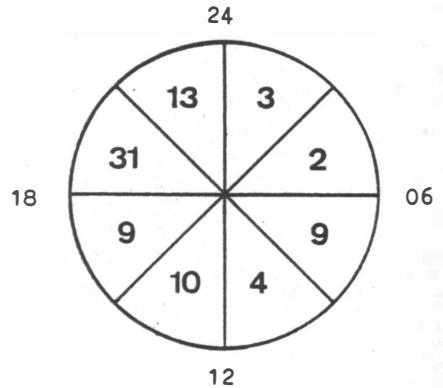


Figure 8 Time of day

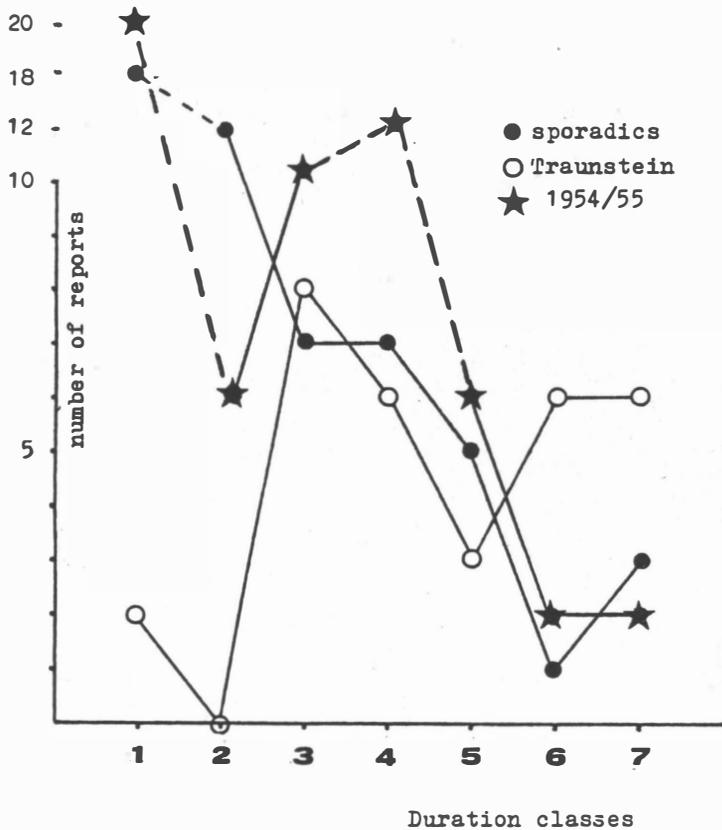


Figure 9 Durations

Class	time interval
1	1 - 10"
2	>10" - 1'
3	> 1' - 5'
4	>5 - 15'
5	>15 - 30'
6	>30' - 1 ^h
7	>1 ^h

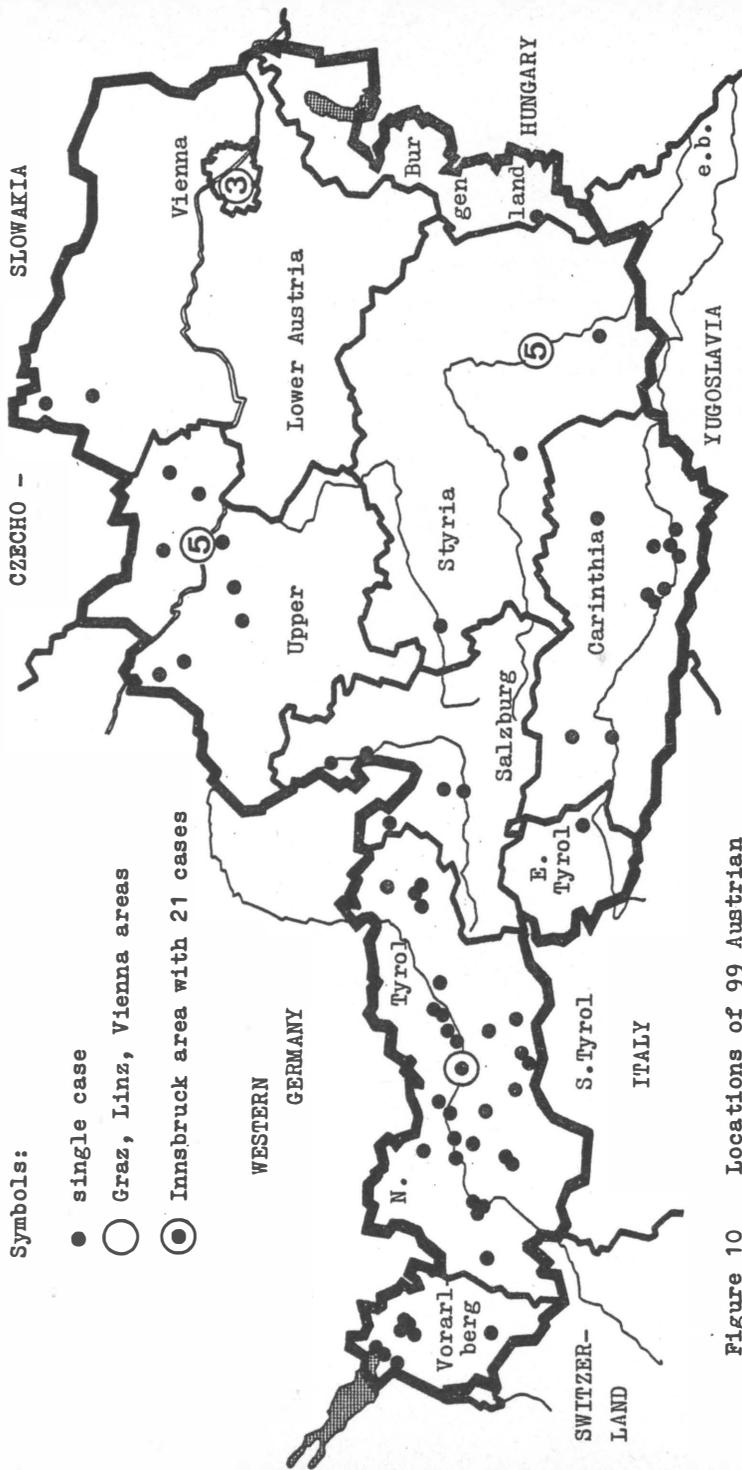


Figure 10 Locations of 99 Austrian UFO observations, 1954/55

	Cases
Object moves behind terrestrial obstacle	22
disappears instantaneously	8
moves away into distance	1
moves behind cloud	7
explodes, desintegrates	1
moves up vertically	1
Unknown, how object disappeared	56
Total	<u>96</u>

Table A End of observations

Direction	Cases	Direction	Cases
N	12	NE	5
E	3	SE	3
S	8	SW	7
W	29	NW	4
unknown	25	Total	<u>96</u>

Table B Disappearing directions

Witnesses per case	Cases	
1	40	
2	16	
3	10	
4	5	
5	1	
6	1	Total
7	2	number
.		of
10	1	witnesses:
17	1	over
20	1	200
several	14	
many	4	
Total	<u>96</u>	

Table C Number of witnesses

Objects per case	Cases
1	72
2	11
3	5
4	1
.	
6	2
.	
30	1
several	2
variable	1
unknown	1
	<hr/>
Total	96

Table D Number of objects

Shape	Cases
Disc, ellipse, oval, egg	29
Globe, ball, round	24
Cigar, torpedo, drop, wedge	10
Complex, variable shape	10
Indefinite, not reported	11
Domed disc	3
"Soap bubble" with dark core	3
Half-moon, hemisphere	2
Point of light	2
Angular shape	1
"Stick"	1
	<hr/>
Total	96

Table E Object shapes

Color	Cases
Indefinite, unknown	24
Metallic, silvery, aluminium	14
Red(dish)	9
Yellow(ish)	8
Blue(bluish)	7
White	6
Burning magnesium, dazzling	4
Green(ish)	4
Rose	3
Blue-green	3
"Fiery"	3
Orange	3
Variable	3
(Blue-)violet	2
Grey, brownish, dark	3
	<hr/>
Total	96

Table F Object colors

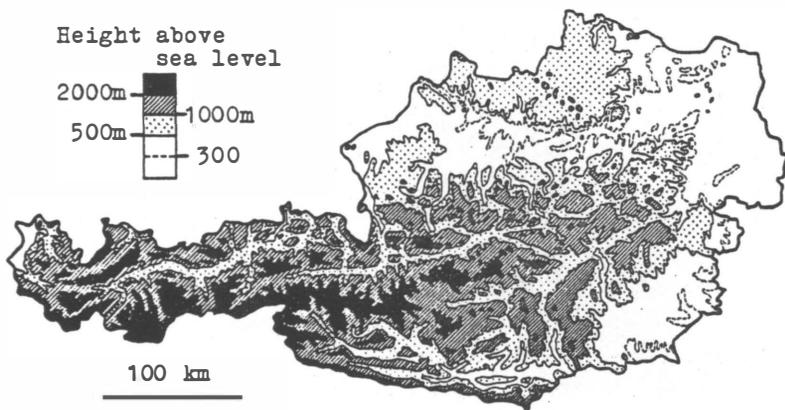


Figure 11 Austrian topography classes
by ARNBERGER (Austrian Statistical Auth.)

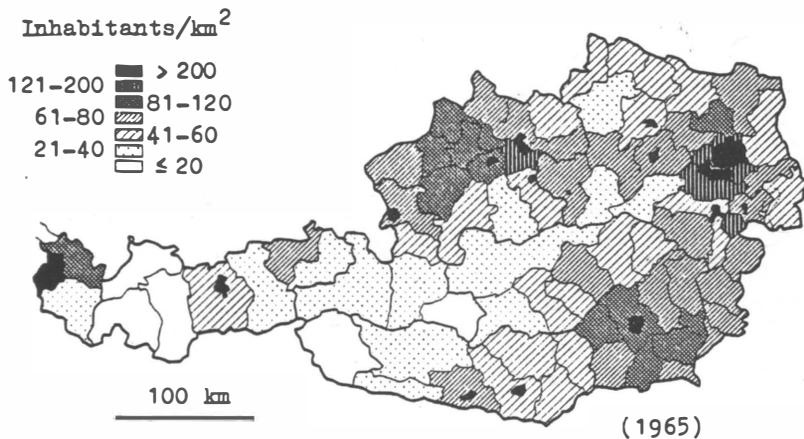


Figure 12 Austrian population density per
district (Austrian Statistical Authority)

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The "CE III"

CONSIDERATIONS ON THE NATURE OF HUMANOIDS**J. SCORNAUX***24 rue du Docteur Germain Sée, 75016 Paris, France**Received February 21, 1978***ABSTRACT**

The nature of humanoids reported by UFO witnesses remains very controversial. Their existence as intelligent extraterrestrial beings meets with much reticence in the human mind. There is undoubtedly a mental block caused by fear, but there are also more elaborate arguments. The resemblance between Man and humanoids is one of these, but the question of the resemblance that other intelligent beings may bear to us remains very open among biologists. I do not think that human imagination can explain the appearance of humanoids. In general, they resemble us both too much and too little. An argument against the material nature of the humanoids is that their morphology is far too variable from one case to another. Several answers are possible to this objection. But a more fundamental argument is based on the instant or on the spot disappearance of humanoids. I now give a few examples of this behaviour, both in the open air and in confined spaces. I propose the explanation that these cases are projections of images, created either by electromagnetic waves or by some parapsychological means. But all the ufonauts are not images, or perhaps only a part of the observation corresponds to a projection because some of them left footprints or had physical contact with

the witnesses. I also give a few examples of such cases. I present several hypotheses about the nature of material humanoids and discuss the concept of a "reassuring" hypothesis. I propose for discussion the hypothesis that part of the humanoids might be human beings captured by the beings governing the UFO phenomenon.

KEY-WORDS

Nature of humanoids; on the spot disappearance of humanoids; projection of images; footprints of ufonauts; physical contact with ufonauts; extraterrestrial hypothesis; problem of non-contact.

The human mind confronted with the humanoid phenomenon

Humanoids undeniably constitute that part of the UFO phenomenon that meets with most reticence in the human mind. The fact that mysterious objects sweep through our skies can still be accepted with relative ease by a good many of our contemporaries. That these objects sometimes land and leave traces that remove any doubt as to the material nature of at least some of them, is already more difficult to believe. But, it is altogether too much to ask of many people to accept the fact that beings of a more or less human appearance indeed disembark from them. A mental block appears at this point amongst most people, including Ufologists. The fact that the Commission Blue Book automatically classified all humanoid cases as "hoaxes" is perhaps not surprising, but it is indeed astonishing to note that a ufological group as reputed as the NICAP was for so long reticent to look into such cases. And indeed, "The UFO Evidence", an authoritative work published by this group, did not even consider humanoids worthy of mention and that was in 1964 !

And still today, there are those who acknowledge the existence of UFOs but consider humanoids to be a "garnish" added by the witnesses themselves. All too often unfortunately, the justification put forward for this refusal is limited to remarks such as : "It's unbelievable", "It's impossible", "It's fantastic", etc. Such opinions are without logical foundation: to begin with, being unbelievable has never been a criterion for untruth, secondly, Man cannot - particularly in this day and age - accurately define the bounds of the possible and, lastly, a word like "fantastic" is simply subjective.

That the principal cause of such a mental block is fear is sufficiently clear to me that I shall not dwell on this point. In effect, even though the intelligent behaviour of UFOs can be denied only with great difficulty, they can still be interpreted as uninhabited probes. But, to acknowledge the reality of humanoids is to accept the physical presence of intelligent non human beings in our environment who also possess a technology superior to ours and one which we cannot be sure will always be put to good use ... The terrific panic caused in 1938 by Orson Welles' over-realistic radio play adaptation of H.G. Well's "War of the Worlds" clearly reveals the existence of Man's latent fear - which awaits only the opportunity to manifest itself. A science fiction programme broadcast on Danish radio in 1964 brought about a similar reaction, which tends to suggest that thoughts on the matter had not evolved much in the meantime (45,49).

Surely, extraterrestrial beings are now a quite classical character in the science fiction novels, but there is an unfathomable depth between the acceptance of a literary convention and the ability to admit the actual presence on Earth of beings from elsewhere. It should not be forgotten that, while the existence of extraterrestrial civilizations is now recognized as probable by a growing part of mankind, the great majority of us argues from the supposed impossibility of interstellar travel for bringing this recognition back to a purely theoretical position that is a little or no more disturbing than a science fiction novel.

The problem of the resemblance between Man and the humanoids

There are however more elaborate arguments against the existence of humanoids as intelligent extraterrestrial beings, although one could wonder if some of them are not also a camouflage for fear,

albeit a more discreet one. One of the main arguments put forward is that the humanoids bear too great a resemblance to Man: could this not indicate that they might be figments of the human imagination? Could they not be deceptive images induced in us by the UFO phenomenon? Or could they not in fact be men themselves? But the question of the resemblance that intelligent extraterrestrial beings bear to us remains very much an open one among biologists.

While some in fact feel that, given the many elements of chance involved in evolution, it is highly improbable that living beings descendant from an independent line have a morphology similar to ours (48), others on the other hand think that the human form has so many advantages that natural selection must have given it prevalence in the entire universe (2). The latter emphasize the very general phenomenon of convergence of the characteristics: groups of living beings from different internal organizations, faced with the same problem, have independently found analogous solutions and sometimes acquired a very similar external appearance.

The bilateral symmetry, the concentration of the brain, mouth and main sensory organs on the same extremity of the body as well as the locomotion by means of a reduced number of limbs (4 or 6) are structures developed by all superior animals (vertebrates and insects).

As for Man himself, the upright position places the brain further away from the dangers on the ground, extends the field of vision and, above all, frees two limbs which can then be used for handling tools. Intelligence is not in fact sufficient to bring about the birth of a technological civilization: it must also have the possibility of taking a concrete form in material realizations and, in

this respect, the human form is perhaps one of the most advantageous. At our present level of biological knowledge, we cannot therefore consider the resemblance argument as being conclusive either one way or the other.

Moreover, I do not feel that it is possible to explain the appearance of humanoids by the intervention of the human imagination, quite the opposite in fact. If the human imagination were really in play, we should have had a number of accounts of many-limbed beings, such as the Hindu gods and goddesses, and tentaculated monsters, with wings or scales, breathing fire and goodness only knows what else ! For in fact, cases of ufonauts of non human form are extremely rare: there are only 9 out of 230 in the excellent catalogue of UFO entity sightings compiled by the Brazilian ufologist Jader U. Pereira (36).

Moreover, a good example of the human imagination is that offered by the comic drawings representing extraterrestrial beings. Now, apart from their generally small size, one can find little resemblance between them and the humanoids that have actually been reported the humanoids virtually never have green or blue skin, blunderbuss-shaped noses or an antenna or two on their heads. One should also mention that there is generally a total contrast between the description of the humanoids observed and the atmosphere of science fiction novels which are another faithful reflection of the human subconsciousness. These novels, when they do not refer to horrible creatures such as giant intelligent insects, describe "spacemen" very similar to us. There are cases of ufonauts totally human in appearance, but one could, in a manner of speaking, say of the majority of them - and this is perhaps what is most disturbing - that they resemble us both too much and too little.

The variability of the morphology of humanoids

One argument specifically against the material nature of ufonauts is that their morphology is far too variable from one case to another. It is certainly true that, apart from the general aspect which is usually humanoid - hence their name - there is a very great diversity. The Brazilian ufologist Jader U. Pereira, in his remarkable study mentioned earlier, distinguishes 12 main types (34), which are then sub-divided into 23 variants. But, apart from the fact that part of this variability could be due to errors in observers' reports or to differently phrased descriptions of the same characteristics, at least two simple interpretations could be given. On the one hand, we might be dealing with a species where there are greater racial and individual differences than in the case of the Homo sapiens. One need only consider the extraordinary polymorphism of the canine species. On the other hand, we could also be in the presence of several species of beings, perhaps of different origins.

Let us at this point refer to the hypothesis of Mr. Maurice de San regarding the origin of UFOs (14,15). According to this researcher, whose reasoning strictly respects the bounds of science, there could be a great number of "artificial worlds" or "world-ships" travelling through our galaxy. He describes them as gigantic hollow cylinders revolving on themselves, a hundred or so kilometres long and perhaps a dozen kilometres in diameter. Entire nations, who might have been compelled to leave their planet of origin under the threat of an imminent cataclysm such as the explosion of a supernova or the transformation of their star into a red giant, or who have perhaps voluntarily chosen to depart in order to explore the galaxy, would thus travel in ideal conditions of comfort. Whenever a group of these worlds passes relatively close to an inhabited planet, it might send out a reconnaissance team. This would

explain the waves of UFO sightings, the absence of contact and the morphological differences between the humanoids.

With regard to the morphology of the ufonauts, it should also be noted that certain peculiarities, though extremely rare, are indeed very perplexing. This is particularly so in the case of cyclops (35): the binocular vision offers such considerable advantages in "the struggle for survival" with the perception of relief it provides, that it is difficult to imagine how beings with only one eye have managed to escape elimination during biological evolution. The very small size of humanoids presents another problem: a height of some 15 to 20 cms (37,40) which is equal to about one tenth of ours, means a brain a thousand times smaller ! It is difficult to conceive that such a brain could house sufficient neurons to allow for any great intelligence

Instant disappearance

An argument more fundamental than the morphological one is sometimes put forward against the material nature of humanoids. It is based on the cases of on the spot or instant disappearance of ufonauts. Cases of this kind are, it is true to say, not very common, and it would be unjustified to claim, as some have done, that this is an invariant of the UFO phenomenon. Nevertheless, this aspect of the problem is impossible to deny and any hypothesis on the nature of UFOs must take it into account. These facts might perhaps not be as rare as books and magazines tend to suggest, because of a higher "hushing up coefficient" than that of other aspects of the UFO phenomenon. Their ultra-fantastic character might result in a certain self-censuring and I know from experience that this inhibition can

unfortunately affect ufologists (field investigators and writers) as well as the witnesses. The following are a few examples of this very particular type of phenomenon.

- Nouâtre (Indre et Loire, France) 30th September 1954

At around 4:30 p.m., Mr. Geogres Gatay, a building site foreman, was standing a short distance away from his colleagues, when he was overtaken by a strange feeling of numbness. Suddenly he noticed, some 10 metres away, a shiny dome-shaped object hovering about 1 metre off the ground. Before it stood a strangely dressed "man" whose face was hidden by a helmet resembling opaque glass. The "man" very suddenly vanished "like an image wiped out in a single stroke" without the witness - who had not taken his eyes of him - seeing him move ... The UFO then took off with a hissing sound before disappearing into a kind of blue haze. Throughout this time, Mr. Gatay was unable to move. He suffered from insomnia and headaches for a week following the incident. His fellow-workers had also seen the craft and the humanoid and been paralysed (50).

- Warneton (Belgium) 6th June 1974

A motorist who had already, on 7th January, seen a UFO landed in a field in the same place and two humanoids wearing space-suits, again saw two ufonauts identical to the ones he had seen previously. They were standing by the roadside like two hitch-hikers. Intrigued, the witness stopped his car and a few minutes later the two beings suddenly disappeared "as if disintegrated". Although the car radio stopped working - only to return to normal a few seconds after the beings had disappeared - and the engine misfired a few times, the witness saw no suspicious objects. On the occasion of the first

sighting, the ufonauts had been moving around in a field and were seen to return to the UFO which then took off (3) .

In cases such as the two I have just cited, there might possibly be a very simple explanation, such as a short moment's inattention on the part of the witness, due either to the natural nervous shock such a "close encounter" would cause or to an influence of the UFO phenomenon, either provoked by a deliberate action of UFO entities or associated to the craft's propulsion system.

In the Warneton case particularly, the two humanoids could have suddenly been lifted by means of individual flying devices to rejoin a UFO which might perhaps have been situated perpendicular to the car and therefore invisible to the witness. This is of course only a supposition on my part.

The Warneton case appears to be a kind of intermediary case (since the two humanoids had been observed the first time in the presence of a UFO) between the "classical" cases where the vision of a humanoid is specifically associated with the sight of a UFO, and the stranger cases of sightings of "UFO-less ufonauts". It seems that the latter cases can be associated to the UFO phenomenon, on the grounds of the resemblance between these entities and those observed in the presence of a UFO, but the question remains very much an open one. The fact remains that these strange entities sometimes also disappear instantly. Here are two such examples.

- Toulx Ste. Croix (Creuse, France) 1930

One evening, the date of which he cannot remember, M.B. was on his way to the village when he suddenly saw, coming out of the ditch

alongside the road some 40 metres ahead of him, a "small man" less than 1.30 metres tall, who climbed over the edge of the road and proceeded to cross it in an oblique line. The being progressed at normal speed, but his legs were not moving and looked as if they were stuck together: he seemed to glide along the ground. Once on the other side of the road, he instantaneously volatilized on the spot. It is interesting to note that this village in central France seems to have had frequent UFO visits since before the last war (13).

- Ibagué (Colombia) 10th August 1973

Four students from the local teachers' training college and a policeman observed, in a dried up river bed, a few kilometres from the town, 4 small beings human in appearance, some 20 cm high, who seemed to be looking for something in the mud. They were dressed in white and wore grey caps. When the witnesses approached, the small beings disappeared into thin air "as if by magic". A series of tiny footprints, which were later photographed, were visible in the mud (12,40).

But here are a few much stranger cases still, where entities resembling ufonauts behaved in a manner befitting of any ghost story: they are cases of humanoids who appeared and disappeared within a confined space.

- Birmingham (England) 1957-1958

On 18th November 1957 around 3:00 p.m., in a working class suburb of Birmingham, Mrs. Cynthia Appleton, aged 27, was at home when she experienced a strange sensation of oppression and saw a human form appear in the room. It was at first blurred but then became

very clear, and she could hear a hissing sound. The man was normal in appearance, had long hair and was wearing a tight-fitting garment which seemed to be made of plastic. Mrs. Appleton was at first terrified by this apparition - as one can well imagine - but was very quickly overcome by a feeling of appeasement which radiated from the "being". She saw his lips moving but heard nothing. Instead, a series of ideas began forming inside her mind and told her that the entity was from another world and had come on Earth looking for a substance which she understood to be titanium. She also received the image of a dome-shaped disc. The man then suddenly vanished into thin air. A few pages of a newspaper which had been lying on the floor where he had stood were scorched ... On 7th January 1958, the being again appeared, this time accompanied by a second individual who appeared to be slightly older. This time they spoke in English but with a foreign accent and articulated very carefully. They informed Mrs. Appleton that they had appeared before her because her brain was suitably "tuned-in" to such contacts and that what she was seeing was a projection of entities she could not touch. Mrs. Appleton, who later received further visits, is the wife of a manual worker and of little cultural background. Those who have interviewed her reported being very impressed by her sincerity (7).

It must be noted however, that during the 1973 Symposium of MUFON (Mutual UFO Network) Brad Steiger, in his report on contactees, expressed grave doubts about the Birmingham case. It would seem that Mrs. Appleton saw these mysterious beings on numerous occasions in her home and that the messages became of the utmost contactee type. Indeed, she even claimed to have become pregnant by one of them ! Even if this last detail undoubtedly deserves to be treated with the utmost scepticism, can one dismiss her entire story for as much? We find ourselves once again faced with

the dilemma of the contactees: given of course that their statements do not correspond to an objective reality, to what extent have they genuinely been influenced by the UFO phenomenon and how much have they invented for themselves? It is most important not to reject anything simply on the grounds that "it is too fantastic". Did Brad Steiger not succumb to this very temptation? The fact nevertheless remains that, had it been an isolated case, one could still reject it without too many scruples. But other highly similar cases have been reported completely independently in other parts of the world.

- Province of Alberta (Canada) 8th August 1961

Around 3:30 a.m., a couple awoke to see in their room two small "men" (1.2 to 1.5 m), one of which was positioned at the head of their bed, the other at the foot. They wore dark coloured garments, and were "beautifully proportioned". The witnesses wanted to get up but were paralysed. They felt no fear, however, when the beings began speaking, more particularly to say that they would return. After about a minute, one of the beings said to the other: "I think they are waking up, we had better go". They then suddenly vanished and a hissing sound "like air escaping from a pipe" could be heard as they did so. The paralysis then left the witnesses and one of them hurried to the window but saw nothing unusual. At about the same time however, a neighbour reported seeing, in front of the house of the first witnesses, a shiny bluish globe about 7 metres in diameter, which took off slowly, began accelerating, headed off in a northerly direction and suddenly vanished a few hundred metres away. What is particularly remarkable about this case is that the humanoids and the UFO were observed by different persons (33).

- Little Lever (near Bolton, England) 1964 to 1968

One night in the spring of 1964, Mrs. Lainohbury was awakened by an intense orange light. When she looked out of her window, she noticed a sphere of light crossing the sky, which suddenly exploded without a sound. She then heard an odd chattering noise coming from outside that resembled frightened and angry voices. The following morning, there were severe burns on the window sash and adjoining door and despite several attempts to repaint them, the paint could not be made to adhere properly. Several months later, when Mrs. Lainohbury was in bed, a figure appeared in her room. He was about 1.50 metres tall and was completely covered with a series of greyish rings about 2.5 cm in diameter. He stated that he had come from the sphere and that there were three "castaways" in all, then disappeared. Several months later, the three beings appeared together and said they they had come because she had not been afraid. As she asked them where they had come from, the letters PLUTO appeared in the air before her and the beings vanished. Then, one day in 1968, "something" willed her to go to the window: as she did so, she again saw an orange sphere floating in the air and she felt convinced that the entities were saying goodbye and returning home ... (19).

- Kursu (Province of Salla, Finland) 15th April 1970

Mr. Kalle Tilhonen, accompanied by his two young sons, noticed from the window of his house, situated in a remote area, a UFO which made a buzzing noise. He suddenly had the feeling that he was being watched and, turning round, saw in his kitchen - the door of which was closed - a small man wearing a shiny garment and a helmet. He was about 1.20 metres tall. A conversation then took place on the Apollo XIII mission, which was under way at the time, on the place

of the universe from whence the humanoid had come and on his coming back. Mr. Tilhonen was not however sure that the words were actually coming out of the being's mouth. He does not exclude the possibility that the ideas were formed directly inside his brain. The entity disappeared through the wall. The witness was unable to sleep for three nights following the incident. This case was reported by the Swedish ufologist K. Gösta Rehn, a jurist by profession (42).

- Santa Isabel (Argentina) 23rd September 1972

At daybreak, on 23rd September, at the Ika-Renault car factory, Mr. Theodoro Merlo opened the cloakroom of which he was keeper, only to find a strange looking figure of about 2.50 m tall standing there, despite the fact that Mr. Merlo had a few hours earlier checked that everyone had gone before locking all the doors. Mr. Merlo approached him but took his eyes off the "being" for a brief second and when he looked again, the "figure" had vanished. Mr. Merlo ran to the door and then rummaged through the cloakroom but could see no one. And yet the stranger had not had the material possibility of leaving unobserved ... This incident was accompanied by a lights failure in the cloakroom and the witness suffered a number of secondary effects. That same evening, Mr. Merlo saw the same face with extraordinary features a second time ... in the rear-view mirror of the bus in which he was travelling back to the factory after a few hours' rest. This lasted approximately three minutes, then the image vanished and Mr. Merlo could again see the inside of the bus quite normally in the mirror. The other passengers saw nothing unusual. The witness suffered from an irritation of the eyes and headaches for 3 days following the incident. This case is one of a series of humanoid sightings reported by different employees at the factory at around the same time, but no UFO was seen (23).

- Blacksod (Ireland) February 1974

An elderly man was awakened one evening by a brilliant white light shining outside. A man dressed in white stood in the room. This vision vanished a few seconds later and, on nearing the window, the witness saw a luminous white object which lit up the surrounding area. It had the shape of a bus, had large wheels and a number of small beings could be seen inside. It rose slowly and disappeared into the clouds without a sound (18).

Possible interpretations of instant disappearances

There seem to be two attitudes amongst ufologists towards accounts of this kind. The first, with rationalist tendencies, when they do not reject such cases as tales of fantasy, consider them at best, as having nothing to do with the UFO phenomenon but rather more with psychopathology. They would be hallucinations, perhaps associated with the consecutive shock of a close encounter with a real UFO.

Without going quite so far, one could ask oneself, from the point of view of research methodology, whether one would not have the right, when a certain type of sightings is as rare as this one, to provisionally leave this category in parentheses. Is it worth looking for an explanation of these cases when, given their small number, one is free to think that all of them could be false or inaccurately reported by the witnesses ?

This attitude, which involves denying outright, or at least leaving aside an entire category of sightings, seems to me to be barely logical. I feel that an interpretative hypothesis of the UFO phenomenon or of a part of it, which would, to be acceptable, have to establish that a certain group of sightings is entirely false would indeed be a very

poor one. It seems to me that there is much to be gained from seeking a hypothesis that accounts for all cases, including the most extraordinary ones. Such a hypothesis would probably remain just as valid even though certain cases are in fact untrue, for "who can the most, can the least". Indeed, if all instant disappearances of humanoids were false, a hypothesis developed to account for these cases would still be useful to explain other strange characteristics of UFOs (gradual appearance or disappearance of UFOs themselves and various physically impossible behaviours).

To put cases of instant apparition and disappearance "on ice" would be all the more unjustified, given that, as I have said, their extreme rarity might perhaps be due to a particularly high "hushing up coefficient". And we must also not forget that the UFO phenomenon is a many-headed hydra : when you cut a few off, others immediately appear. Clearly, whilst one is busy refuting certain cases, others - perhaps more fantastic still - are occurring.

The ufologists who tend to oppose the rationalist view, for their part, speak of parapsychological or spiritual entities that can materialize momentarily, or of the psychic influence of the UFO phenomenon on the close witnesses. They inundate you with expressions such as parallel universes, mental worlds, other levels of conscience or vibration, etc... And it does not take much to get them to confide that, as far as they are concerned, all ufonauts are immaterial ... In other words, although these ufologists clearly acknowledge the existence of a "humanoid phenomenon" as forming an integral part of the UFO phenomenon, they do refute its physical reality. It seems to me to be a kind of "second degree" rejection and this hypothesis inspires in me no more sympathy than the previous one, because of the elements that point to the materiality of the humanoids, as we shall see later.

I would like in fact, at this point, to illustrate that these two classical attitudes are not, according to me, the only possible ones in the face of observations such as the few I have just cited. Let us reason in this way : although for certain cases of instant disappearances in the open air, one could still evoke a sudden acceleration with an individual flying device, that the human eye cannot follow (I refer here to the case of Ibagué, Colombia, where footprints bear witness to the material nature of the small beings), it is on the other hand certain that humanoids which appear and disappear within a confined space, sometimes progressively, sometimes through a wall, cannot be material. But one need not necessarily for as much have recourse to the intricate and gratuitous hypothesis of a "dematerialization" with passage into another dimension or a psychic world : one need only suppose that one is dealing with a projection of images. And the only real question that need therefore be asked is how could this image be transmitted. There are two possible hypotheses.

The first of these invokes electromagnetic waves. The engineer physicist James McCampbell (29) suggested that a beam of modulated microwaves could induce a sound signal in the auditory nerve without passing through the ear. This could explain the impression of "telepathic" perception as experienced by Mrs. Appleton and, to a lesser extent, by the Finnish witness. Gösta Rehn (41) goes further still : he suggests, independently of the works of McCampbell, that a wave beam of this kind could also induce a visual signal either in the optic nerve or directly inside the brain. The subject would thus perceive the image of a scene that is not in fact taking place before his eyes. If the beam could be selectively directed

towards a given person, there would no longer be any mystery surrounding the fact that a witness is the only person amongst several to see a certain image, as was the case of Mr. Merlo in the bus (Santa Isabel case). But this gives rise to the question: is it possible to convey a complex image directly to the brain by

some electromagnetic means ? The problem is considerably more difficult than that of the transmission of a sound message, and there is no guarantee that a solution to it can be found, for we are no longer dealing with radio but with "antenna-less" television ... in colour !

Should the study of the first hypothesis show it to be physically untenable, we must have a second one in reserve which this time invokes truly extrasensorial perception. This does not in any way mean one turns one's back on a rational approach to the problem for, although one does not yet possess a theoretical interpretation of the phenomenon, the existence of extrasensory perception is today an experimentally proven fact and one studied in a number of university laboratories. One is therefore not infringing scientific prudence by supposing that beings technologically or intellectually more evolved have succeeded in reaching a stage where extrasensorial perception might be mastered to perfection, whereas at our level, although undeniable, it has a fugacious character and is only rarely reproducible at will. Indeed, I consider it to be highly probable - and even inevitable - that more evolved beings having elucidated the causes of this phenomenon, have managed to reproduce it by machine, just as we have machines to produce the desired sounds and images.

There is, to my knowledge, at least one case to support my hypothesis: in Brazil, on the night of 27th September 1968, a witness who saw the landing of a conical-shaped UFO was momentarily paralysed and able to converse telepathically for about 10 minutes with a metallic plate which had emerged from the craft by sliding along an inclined plane. The answers to questions asked were brief and stereotyped - no useful information has in fact been obtained from them - and what immediately comes to mind is some sort of "automatic answering device".

One can of course choose to dismiss these details of the witness' account, but by so doing, is one not escaping from a possible disturbing reality, since this sighting was in fact supported by traces on the ground ? An odour of burnt oil prevailed for sometime in the area, and the following day several people saw the traces of the tripod on which the craft had rested. An area of grass 65 cm in diameter inside the triangle had been scorched and three years later, the grass had still not grown again (6).

One should note that in the cases of on the spot or instant disappearance in the open air, it is possible that only a part of the observation corresponds to a projection of images. This could be another explanation of the Ibagué case: the mode of departure actually used by the miniature humanoids might have been masked from the spectators.

Dr. Frank Salisbury pointed out to me that he considered "masking" as an important hypothesis. He wrote that it might be easier to blank out all perception from a witness than to project an image into witness mind. All thought as well as the perception of the passage of time would be blanked, and then switched back on. Such a simplified hypothesis would indeed explain the on the spot disappearances in zero time, but would it suffice for the cases of gradual vanishing or of disappearance through a wall ? In any case, a projection of image is necessary to account for the cases where only part of the witnesses see the vanishing humanoid.

One can of course ponder about the reasons for these projections, which brings us back to the problem of contact between different intelligences. My hypothesis in fact implies that the beings which command the UFOs deliberately deceive us and this would give it an undesirable character of gratuitousness were it not supported by other independent elements, particularly in close encounters

and more especially in conversations with the ufonauts (46). As was in fact stated by Frank Salisbury (43), the UFO phenomenon seems to be putting on a show, a display specifically aimed at the witnesses.

Questioning the motives for the projection of deceptive images therefore brings us back to the more general question of justifying the deceitful behaviour of these strangers to humanity: are these lies perhaps necessary because humanity is not yet ready for the truth? Are they experiments being carried out on us? Are they intended to make us believe certain things or point us in a certain direction? Or is the general idea to condition us or prepare us for something? Whichever way you look at it, there is no shortage of hypotheses, but I shall not go into this now (44).

Let us just say, before concluding this topic, that in four of the ten cases I have cited, there was more than one witness, which, even in this very particular type of sightings, demolishes the legend of "the witness is always alone" which lies so close to the hearts of those who know nothing about the question! I would also point out that in two cases, there were physical traces (footprints at Ibagué and a scorched window sash and door at Little Lever), physiological effects were felt in three cases (insomnia and headaches at Nouâtre, insomnia at Kursu, irritation of the eyes and headaches at Santa Isabel), there were two cases of paralysis (Nouâtre again and Alberta) and, in one case, there was interference with the radio and engine of the car (Warneton).

The materiality of humanoids

One must take care not to indulge in any over generalisation either

one way or the other: arguing the cases I have just discussed to refute the materiality of ufonauts as a whole would again be the same as discounting certain data of the problem. There are in fact two elements which bear witness to the physical reality of humanoids: footprints and physical contact with certain observers.

1. Footprints

Humanoid footprints are rather rare. Here are a few examples :

- Monte Maiz (Province of Cordoba, Argentina) 12th October 1963

A lorry driver was blinded by an intense white light, and his vehicle left the road. When he recovered his senses, he saw before him an enormous metal object from which emerged beings some 4 to 5 metres tall, wearing helmets and tight-fitting shiny garments. They aimed a red light at the observer, which caused a burning sensation. Panic-stricken, the driver fired a few shots at them and ran off in the direction of a nearby village followed by the red light which caused strange modifications in the colour of the street-lighting. This fact was reported by several observers. The following day, a footprint some 45 to 50 cm long was found and photographed (17).

- Hythe (Kent, England) 16th November 1963

Four youths saw an oval-shaped UFO radiating a golden light descend from the sky and disappear behind a wood. A dark shadow, about the size of a man, soon appeared and came towards them "dragging its feet". The apparition seemed to have no head, but had bat-like wings and webbed feet. The youths ran off, understandably panic-stricken. A similar UFO was seen on 21st November and again on 23rd November and an area of flattened fern and 3 giant, well-

defined footprints 2 cm deep, 60 cm long and 18 cm wide were found (8).

- Arc sous Cicon (Doubs, France) 17th July 1967

Several children saw small 1 m tall beings, dressed in black with large heads and which seemed to be wearing diving gear, running around in the fields. The following day, a circular area of burnt grass 3 to 4 m in diameter was discovered and tiny footprints were visible around it (27).

- Trenal (Jura, France) 5th March 1971

Footprints resembling those made by "a shoe with no heel" some 40 cm long were found near the area on the grass where a UFO had landed the previous night. Large, strange looking beings had been seen near the craft, and observers suffered a variety of secondary effects (28).

- We recall at this point that in the Ibagué case (Colombia) cited earlier among on the spot disappearances, tiny footprints were discovered in the area where the tiny humanoids had stood.

- Mañeru (Navarra, Spain) 25th February 1976

At 4:00 p.m., 5 children saw a flat circular UFO with a transparent cupola land in a field. A being some 2.3 metres tall and dressed in black emerged, took a few steps and returned to the craft. 5 footprints 40 cm in length were later found in the field (20).

- Montreal (Canada) 6th January 1977

In the heart of the city, Mrs. Malboeuf saw a very flat silvery

discoidal UFO land on a roof at around 1:15 a.m. Two humanoids, 2 m tall, very slender, with long arms and wearing a white one-piece garment, emerged and bent down over the edge of the roof. They then returned to the craft which immediately took off. During the evening of the same day, a frozen surface some 6 m in diameter was found on the snow-covered roof and, within it, 4 slightly "twisted" footprints some 16 cm long leading to the edge of the roof where the humanoids had been seen (24).

Jader U. Pereira has also reported several other cases, but without the full details (38).

2. Physical contact

Physical contact between the observer and the humanoids is less rare than one might imagine. Here briefly are a few examples which I had no difficulty in finding in specialized literature.

- Nourisras (Corrèze, France) 10th September 1954

This case is very well-known. Mr. Antoine Mazaud, a farmer, was returning home one evening when, on a sunken road, he came across a strangely dressed character wearing a helmet. After a few soothing gestures to the witness, he shook Mr. Mazaud firmly by the hand and clasped him to him ... He then moved into the bushes and a few seconds later a cigar-shaped craft was seen taking off behind the trees (10,30).

- Cénon (Vienne, France) 17th September 1954

Mr. Yves David was cycling along the road around 10:30 p.m. when he was suddenly overcome by a "tingling" sensation and had to

get off his bicycle. He was soon completely paralysed and noticed a dark coloured object landed on the road. A small being approached, touched him on the shoulder, made an incomprehensible sound and then returned to the craft, which took off a few seconds later at high speed. Mr. David immediately regained the use of his limbs (31).

- Cennina (Province of Arezzo, Italy) 1st November 1954

Mrs. Rosa Lotti was walking along a country lane on her way to church around 6:30 p.m. when she noticed, in a small clearing, a spindle-shaped object resting vertically on the ground. Two small beings about one metre tall approached her. They wore helmets and tight-fitting one-piece garments. They had a friendly expression on their faces but snatched the bunch of flowers she was carrying. Mrs. Lotti immediately ran off. A hole in the ground was later found where the UFO had stood. Several other witnesses saw the object shortly before or after it landed and two young boys had actually seen Mrs. Lotti with the humanoids in the distance (11).

- Venezuela - end of 1954

In less than 3 weeks, there were 3 cases of physical contact between men and humanoids which involved violence. On 28th November, at 2 a.m., in a suburb of Caracas, a flat, circular and glowing UFO obstructed the road before a lorry. The driver, Gustavo Gonzales, got out and found himself face to face with a "hairy dwarf" with webbed fingers and claws. He succeeded in catching and even lifting him off the ground. He estimated his weight at around 16 kg. The being broke free immediately and a struggle began. During the fight, Gonzales tried to defend himself against the scratches with his knife, but the blade slid off the being

like off steel ... A beam of light momentarily blinded the witness, during which time the UFO took off.

On the night of 9th December, two youths, Jesus Gomez and Lorenzo Flores who had been out hunting, noticed a luminous object in the bushes along the Transandean road. As they approached, 4 small hairy beings some 90 cm high emerged, grasped Gomez and tried to drag him into the UFO. Flores struck them with his unloaded gun which broke "as if it had struck a rock" but the assailants nevertheless released their captive.

And then, on the evening of 16th December, in San Carlos, a small hairy humanoid scratched and knocked a youth, Jesus Paz, on the head before scurrying back to rejoin a discoidal UFO when other witnesses approached.

In each of these three cases, the observers were given medical treatment for the deep scratches they had received from the claws of these hairy bellicose unonauts (16) .

- Sao Francisco de Sales (Minas Gerais, Brazil) 16th October 1957

The physical contact in the case of Antonio Villas Boas was much closer and considerably less unpleasant. This case is sufficiently well known and I shall not dwell on it (9).

- Indian Head (New Hampshire, USA) 19th September 1961

The case of Betty and Barney Hill is equally well known (22) .

- Pirassununga (Sao Paulo State, Brazil) 12th February 1969

At dawn, Mr. Luiz Flozino, a farm hand, was dragged from his home by two hairy and bearded strange beings about 1.40 metres tall. When he managed to escape, a fight broke out and ended when the aggressors fled. He ran after them, caught them and tied them together by their long hair ! The two humanoids then quickly disappeared into the woods. Several people saw the blows Mr. Flozino had received and the signs of a struggle at the edge of the woods. Mr. Flozino's dog, which had come within 4 metres of the entities, curled up into a ball wailing. He later refused to enter the woods and died one month later (5).

- Pascagoula (Mississippi, USA) 11th October 1973

I shall not go into the details of this well known case where two fishermen were taken aboard a UFO, having been seized by the shoulders and lifted into the craft by two humanoids floating in the air (25).

- Origny en Thiérache (Aisne, France) 28th February 1974

A blacksmith on his way to work on his motoroyole found himself face to face with two figures wearing helmets who seized the handle-bar and urged the witness to swallow a kind of chocolate bar which proved to be tasteless. When he had done so, the beings moved away and he was able to leave. A dark circular object lay in a nearby field where an area of flattened grass was later discovered (4).

I shall leave these examples now, but many more similar cases have also been reported by Jader Pereira (39). Unless one refutes all cases of physical contact outright - which would be no more

logical than refuting all cases of instant disappearance - how can one fail to conclude that certain humanoids are really and truly material ? Some will perhaps ask themselves, since there would seem to be auditory and visual sensations induced directly into the brain, why this should not also be the case for tactile impressions. But, by so doing, would one not be gratuitously introducing an additional complexity to the phenomenon ? The sense of balance is particularly implied in the case of the witness who lifted the humanoid and estimated his weight. Unless one supposes that several cervical centres could, very selectively, be simultaneously influenced, the interpretation can no longer be the same as for sight and sound. One would rather have to consider a hypnotic effect: false sensations of weight and touch can in fact be suggested in a state of hypnosis.

One can of course conceive that the close proximity of a UFO immerses the witnesses in a hypnotic state, be it by a deliberate action or an unintentional secondary effect of the propulsion system. But, this is not enough: to suggest false sensations in fact, the hypnotist orally addresses the subject. So that, if there is no material humanoid, who makes the suggestion ? Earlier on, I envisaged the existence of machines which produce deceptive auditory and visual impressions. It is perhaps not impossible that the combination of a hypnotic state induced by a UFO - by means of an electromagnetic field oscillating at an appropriate frequency for instance - and of a suggestion transmitted by a beam of modulated microwaves or in a parapsychological way could create in the witness the illusion of the extremely complex sensations which physical contact implies.

But, would this not be going too far into speculation and the unknown ? And, in any case, there would have to be some intelligent being to construct and program the hypothetical machine ...

I do however acknowledge that these beings need not necessarily have a humanoid appearance. This form might be suggested to us for instance because the true physical appearance of our visitors might be too much of a shock for our mind .

But, above all, one still has to explain the footprints and the deep scratches received in the three cases of aggressive humanoids in Venezuela in 1954. This is why I feel that a systematic negation of the physical reality of ufonauts is an attitude of mind that serves not to simplify, but rather to complicate the interpretation of the data. This cannot therefore be a good working hypothesis.

Nature of material humanoids

To affirm the materiality of certain humanoids still does not completely solve the problem of their nature - far from it. Several hypotheses are possible. I have discussed them in detail on previous occasions (47) and shall refer only briefly to the main rivals to the classical extra-terrestrial hypothesis.

1. Robots : I find them very unlikely, at least not as far as the great majority of ufonauts are concerned. It would not in fact be rational to give a machine the form of a human body, since its requirements are so completely different to those of a biological being. The "metal man" is nothing more than an accessory for the fairground or horror films and has no practical use whatsoever. One could of course argue that this form is intended to mislead us. But then why not make them all strictly identical to the Homo sapiens, so that they would be undistinguishable from real Earth-men ? The humanoids' gait is fairly often described as "jerky" or "mechanical", but this stiffness could be due to an inadequate adaptation to the Earth's gravity. As for the metal referred to in the case of the Venezuelan lorry driver, the knife might have struck a space-suit or breast-plate.

2. Temporarily material beings : the humanoids that have been touched might have been the momentary "materializations" of "spiritual" or "paraphysical" entities. Certain authors have also evoked the myth of the "Elementals", subtle beings living in the air that can occasionally take on a bodily form by using the substance of the material world (1,26,50).

Such hypotheses obviously render unnecessary the interpretation of on the spot disappearances by a projection of image. These can also explain the diversity of types, for these facetious entities may perhaps take great pleasure in appearing in a number of different guises. However, they have some major disadvantages. First of all, they have no other rationale than the need to explain the characteristics of the humanoids, and are therefore totally gratuitous (this is, I concede, more or less the case of most hypotheses in the UFO field).

And this is not the only flaw in this type of hypotheses, which also happen to be deplorably vague and obscure, and one sees in them what one wishes to see. To evoke "other levels of frequency or vibration" as a possible origin of these entities, is thus the same as using scientific expressions outside their normal context, thereby rendering them devoid of any real meaning. And the concepts of "paraphysical entities" or "parallel universes intermittently interacting with ours" are purely verbose pseudo-explanations that raise more problems than they can possibly claim to resolve. Their underlying complexity no doubt escapes their partisans : to consider a class of beings that do not share our physical nature, or a whole other universe, one must in fact introduce into our concept of the universe a complete new set of laws governing these beings or this universe. By so doing, is one not complicating matters to excess simply to explain a few of the on the spot apparitions and disappearances and needlessly confusing a subject which is already sufficiently complicated in itself ?

3. Parapsychological materializations : humanoids have been likened to ectoplasms, the forms that seem to emanate from the body

of mediums during spiritualistic seances and that sometimes acquire enough substance that they can actually be touched. The source of the humanoid phenomenon would therefore lie in the human mind and partisans of this hypothesis generally extend it to the UFO phenomenon as a whole. I find this analogy between UFOs and the physical phenomena of parapsychology very

inconclusive, and there are several reasons for this: the number of UFOs cannot be compared with the number of genuine ectoplasmic phenomena, the energy in play in the case of UFOs is much greater and, lastly, neither the appearance nor the behaviour of the UFO phenomenon, including the humanoid phenomenon, correspond to any of the usual characteristics of parapsychological phenomena, nor to any pattern familiar to the human mind, which would indeed be surprising were the latter the cause.

Classic materializations (ectoplasms, ghosts) in fact have the form of the human body (of normal constitution, which destroys any analogy with humanoids) or a part of the human body (hands, face) and, less commonly, of that of an animal or familiar object, and they always take place in a confined area, generally in the dark and, in the case of ectoplasms, only in proximity of a medium in a trance.

4. Temporal travellers : UFOs might be "time machines" so that our visitors would in fact be our descendants. This hypothesis would explain their non-intervention very well, but would not at all resolve the question of the diversity of types: the present tendency is rather towards a slow intermingling of races among the human species. What is more, here again the hypothesis is a gratuitous one: the concept of travel through time is totally alien to science, and no indication independent of the UFOs pleads in favour of its being possible. One can indeed affirm that the

recent progress in theoretical physics has shown it to be more inconceivable than ever.

5. Unknown inhabitants of the Earth : this is the well known theme of "secret societies", of "underground peoples" : a group of individuals living aside from humanity in vast caves or submarine bases might long ago have developed an advanced science. But, if one considers the antiquity of the presence of UFOs, one would have to assume that these peoples had acquired, and always maintained, a vast lead over the rest of humanity. How could an inevitably limited group have done so ? This is the first and most serious difficulty raised by this hypothesis. And how is it that their secret has never been penetrated, either by the discovery of objects or documents belonging to them or indeed of one of their haunts, or by the betrayal of one of their members ? This problem is equally difficult to solve.

What is a reassuring hypothesis ?

The last three hypotheses I have just cited have, despite their lack of other qualities, a considerable but perhaps unconscious merit in the eyes of many, for they trace the origin of the UFO phenomenon back to humanity. Isn't it reassuring to think that the occupants are "one of us", be they our contemporaries (hypothesis 5) or descendants (hypothesis 4) ?

And isn't it flattering to our egos to think that the human mind has sufficient hidden resources to give birth to a phenomenon of such a proportion (hypothesis 3) ?

Hypothesis 2, although no longer, properly speaking, anthropocentric, is at least still geocentric: are the "Elementals" after all not

inhabitants of the Earth like us ? Even hypothesis 1 can be qualified as being reassuring: if one convinces oneself that all humanoids are robots, does this not mean that the disturbing extraterrestrials are not in fact present in person ?

Let us complete our thought: it is today good form for certain ufologists to consider the extraterrestrial hypothesis with condescension, for it would be the fruit more of an emotive choice, with its simple and reassuring character, than of a rational one. But when I examine alternative hypotheses, I allow myself to turn the question around: is it not the frantic desire to attribute the UFO phenomenon one way or another to none other than the planet Earth, that most surely bears witness of a desire to be reassured and to escape from the possible implications of a reality which is beyond us (21)?

I concede that the almost religious concept of "saviors" from outer space is very appealing for some people. But the persons who hope an intervention of well-disposed extraterrestrials in our perturbed world are in fact a minority. Moreover, these "cultists", as one names them in ufology, do not place the extraterrestrial hypothesis at its true level, for they consider extraterrestrial beings that have a mind structure very similar to ours, which is highly unlikely. In fact, the extraterrestrial hypothesis, under a more plausible form, is very disturbing, for it is very probable that there would be a great difference of mental level between celestial visitors and us. Beings that can travel from one star to another have almost surely undergone a longer biological evolution than us, and part of their intelligence would transcend ours.

What could in fact be more beyond us than the presence of not only a more developed thought, but also one radically alien to the terrestrial evolutive line of which we are descendants ? Accepting that an intelligent communication with beings too mentally different from us

might be impossible, or at least dangerous - which would explain the absence of contact - seems much more disturbing than acknowledging the existence of certain parapsychological or spiritual powers or of beings of a spiritual nature. The latter, although they do not find favour with the rationalists, can at least be integrated without much difficulty into some of our philosophical systems. None of these, on the other hand, makes the slightest provision for material beings whose intelligence might be such that part of their behaviour would be forever incomprehensible to us...

Return to the problem of resemblance

Are the humanoids then, despite their great physical resemblance to us, extraterrestrial beings of superior intelligence? As far as I know, there is no certainty of this. Let us concede that the resemblance is sometimes marked enough to be disturbing. There is even a type of humanoid that awkwardly reminds one of an unpleasant racial myth: tall, fair-haired, white-skinned, blue eyes, delicate features: the Nazi cult of the pure Aryan is not far off! This type of entity is frequently described in contactee cases, but is also observed outside this particular context. And the large headed, 1 metre tall humanoid is also disturbing, for he represents what, according to some, Man himself might become: an increase in the cerebral faculties might be accompanied by a degeneration of under-used physical aptitudes and therefore the relative decrease in the size of the body to that of the head. The beauty ideal of the white race on the one hand, the caricature of tomorrow's Man on the other: it might be tempting to explain the appearance of both in terms of phantasms of the human mind, but there are two serious objections to this interpretation.

The first is of course the existence of elements that testify

to the materiality of the humanoids (footprints and physical contact), and the second is that, while, on the one hand, there are numerous other types of ufonauts that do not apparently correspond to a prototype of the human subconsciousness, there are, on the other hand, classical representations of the human imagination that do not appear in the humanoid phenomenon. For example, in countries of Christian belief, the angels with two wings on their backs and the horned, cloven-hoofed demons are classical iconographic representations. But, there was nothing angelic about the rare cases of winged ufonauts (see the Hythe case described above, or the "mothman" for example) and no horned, cloven-hoofed humanoid has ever been seen !

One must therefore look for explanations elsewhere. One could, for instance, suppose that the ufonauts more or less resemble us because this appearance is not too disturbing for our minds. This is in fact a supposition common to two totally distinct hypotheses: either our mind filters and unconsciously deforms the images we see that are too troublesome for our balance, or the beings that govern the UFO phenomenon deliberately, in an effort not to disturb our mental balance too much, display a show that is not too alien to our concepts, but nevertheless different enough to what we know to discreetly suggest to us the presence of foreign visitors on Earth.

.A disturbing, but perhaps more realistic hypothesis

Here is yet another possible interpretation of the humanoid phenomenon, one that is clearly less reassuring than the previous ones: certain humanoids - not necessarily all ! - could really and truly be men ... but men who have been captured and forced into subjection by the beings that govern the UFOs. Let us assume

that these beings, for some material or psychological reason, cannot or will not - simply through caution perhaps - manifest themselves on Earth. How then could they go about exploring the planet in detail ? "With the help of remote controlled robots" is the answer that most naturally comes to mind. If the Earth were uninhabited, this would surely be the only possibility, but since Man exists, I do not think that this is the best solution: in the event of unforeseen circumstances, a remote controlled craft will never have as complete and accurate an appreciation of the situation nor as great a wealth of possible reactions as an intelligent, living being who is actually present and has a perfect knowledge of the place ... since he is a native of it.

There would be no problem in acquiring the "human raw material": numerous are those who, for a variety and often the most banal of reasons, disappear without trace, without it even being necessary to resort to the sensationalistic theme of the so-called "mysterious disappearances". Nor would there be any problem, let us assume, in transforming prisoners into perfectly obedient slaves: brain washing as we know it might be no more than a vulgar and outdated technique for more evolved beings. So that, finally, there would be no mystery surrounding the diversity of types of humanoids: apart from the fact that some of them could be genuine extraterrestrials - and they need not necessarily be the ones that resemble us least ! - biological manipulations could produce "pilots" adapted to the various types of missions .. just as we have, by means of multiple cross-breeding and selection, developed one or another aptitude (hunting, racing, combat, etc..) in the various breeds of dogs. The diversification of the canine species has spanned thousands of years, but would beings whose biological science is more advanced not have succeeded in achieving it in a few generations ? This hypothesis we now put forward could also explain the absence of formal contact .

Some twelve years ago, Aimé Michel proposed a similar hypothesis (32) based on the observation that the morphology of humanoids presented nothing to exclude them from the human species, but rather more gave the impression of a modified human body. The originality of Michel's hypothesis is based on the supposition that there are at present no extraterrestrials near the Earth: there would only be an automatic, extraordinarily complex machine, placed in orbit in the solar system perhaps thousands of years ago. The UFOs might constitute one of the means of action of this machine, that would take human samples and genetically manipulate them according to an aim predetermined by its far-off builders. On the subject of humanoids, Aimé Michel concludes : "Although being only human they might no longer be human at all. This would explain the absence of contact: contact with whom ? There is nobody there ."

I should add that, no doubt aware of the shocking nature of his hypothesis, Michel did not follow its possible implications through to the end: could one not assume, for example, that this machine has for some very long time now no longer been controlled by its builders, and that it is "idling", aimlessly and untiringly repeating operations for which it was programmed thousands of years ago ? This would explain the sometimes absurd nature of the behaviour of the ufonauts who, year after year, go on taking the same elementary mineral and plant samples.

I must of course stress that this is no more than a hypothesis. As Aimé Michel was himself eager to make clear, the true explanation might well lie elsewhere. The absurdity of certain humanoid acts is perhaps only a semblance associated to our incomprehension of their true significance, and the repetition of the same investigations could be interpreted according to a hypothesis such as that

put forward by Mr. Maurice de San (14,15) .

Nevertheless, I feel that the hypothesis I have just put forward, with Aimé Michel's variant, at least merits being looked at attentively. I readily concede that it is fairly disturbing, but, in the selection of a working hypothesis, it is not a subjective criterion of this kind that must guide us, but rather the adequation of the hypothesis to the observed facts. Now, it seems to me that one cannot deny that the present interpretation takes into account many of the characteristics of the humanoid phenomenon, without it being necessary to introduce new gratuitous concepts or concepts alien to science.

I shall at this point conclude my considerations on the nature of humanoids, very aware of course that I have nowhere near exhausted the subject. Nor were the subjects covered intended to exhaust the question, the intention was only - and this I think is important in itself - to stimulate further consideration.

It in any case seems probable to me that the two classical interpretations of humanoids as material beings on the one hand, and as immaterial images on the other, are both inadequate to explain all the observed facts, if one wishes to avoid arbitrarily rejecting some of them. A combination of the two hypotheses is probably nearer the truth.

Before concluding, I should very much like to stress the importance and need for any theory regarding the field of UFOs to remain open, that is to say, ready to accommodate any new aspects of the phenomenon which come to light. This is particularly essential with regard to humanoids since the data regarding them are relatively inadequate. To consider here and now the various possible hypotheses nevertheless seems to be justifiable and indeed advisable as an exercise for both our critical sense and openness of mind.

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PSYCHOLOGICAL and PERCEPTIVE ASPECTS

USING THE PENDULUM TECHNIQUE IN THE INVESTIGATION OF UFO EXPERIENCES

R. L. SPRINKLE

*University of Wyoming, Division Counseling and Testing
Box 3708, University Station, Laramie, Wyoming 82071, USA*

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Abstract

The purpose of this paper is to provide information about a technique for uncovering subconscious memories, so that UFO field investigators may consider the technique for possible use in investigations. The pendulum technique is described, with references to historical development and contemporary usage. Procedures are presented for learning the use of the pendulum technique, including illustrations to guide the interested reader. A brief review is presented of the literature on field investigation of UFO experiences; an emphasis is given to the reports of Close Encounters of the Third Kind (CE III), including reports of "loss of time", or partial amnesia, which may occur during UFO sightings. Results of using the pendulum technique are described in two UFO cases: one case obtained preliminary information about a possible "loss of time" experience during a UFO sighting; the second case obtained preliminary information about a possible "hidden"

UFO experience. The UFO cases are presented as examples for preliminary investigation of CE III experiences. When field investigators obtain information about CE III cases, then they are encouraged to consider possible arrangements for a consultant in hypnosis to assist UFO witnesses in exploring and evaluating their subconscious memories of their UFO experiences.

Key Words

Close Encounters of the Third Kind; "Hidden" UFO experiences; Hypnotic procedures; Ideomotor responses; "Loss of time" experiences; Pendulum technique; Subconscious memories; Subconscious processes; UFO field investigations.

Introduction

The purpose of this paper is to provide information about a technique for uncovering subconscious memories, so that field investigators may consider the technique for possible use in their investigations of reports of Unidentified Flying Objects (UFOs). The technique may be useful in obtaining preliminary information about apparent cases of Close Encounters of the Third Kind (CE III), according to the classification system of Hynek (9).

The "pendulum technique" is one of several techniques, e.g., finger and thumb movements, hand levitation, etc., which are employed by practitioners of hypnotic procedures in order to utilize "ideomotor responses." The term "ideo-motor action" was defined by William James,

an American Psychologist, who used the term to describe the following observation: if an idea of some action is before the mind, without any conflicting idea, then that idea will express itself in action (8).

The pendulum technique is based upon the "Chevreul pendulum demonstration" (30). The techniques of ideomotor responses are used by many professional practitioners of hypnosis, including the renowned psychiatrist and hypnotherapist, Milton H. Erickson (5); however, authorities agree that these techniques should be regarded as a method for exploring subconscious information--not as a conclusive test of validity of obtained information.

Some hypnotherapeutic uses of ideomotor responses, including the pendulum technique, have been described by Cheek & LeCron (2); these procedures can be used to obtain information about many subconscious conditions, e.g., attitudes about conditions which may be related to psychosomatic illnesses, obesity, phobias, etc.

Material and Methods

In his book on self-hypnotism, LeCron (14) provided a description of several methods for exploring and communicating with subconscious processes, or the "inner mind." He described the pendulum method as follows:

"The pendulum method. The pendulum may be any small light object such as a finger ring or an iron washer. A thread about eight or ten inches (20-25 cm) long is tied to this object. A ball made of (plastic) lucite with a short chain attached can be purchased and makes an ideal pendulum....

"The pendulum has been used for hundreds of years as an

attempt to foretell the future. Our use of it has nothing to do with prognosticating. It is merely a device for gaining information from the subconscious mind. It is by far the easiest and quickest way of learning the causes of emotional illnesses and other conditions.

"This technique has been taught to several thousand physicians by a small group of physicians, dentists, and psychologists known as Hypnosis Symposiums. It has been used in thousands of cases to great advantage, its users including a number of psychiatrists.

"In using the pendulum you should hold the thread or chain between the thumb and forefinger, with your elbow resting on the arm of your chair, or on a desk, or perhaps on your knee. The weight then dangles freely.

"Four basic directions of movement of the pendulum are possible. These are a clockwise circle, counter-clockwise circle, back and forth across in front of you or in and out away from you. The inner mind can be asked to make its own selection of movements. One is to signify yes, another no. A third should mean I don't know, and the fourth I do not want to answer the question. This last may indicate resistance and is therefore important.

"You may specify the meaning of each movement, but it is better to let the subconscious make its own selections. This seems to bring better cooperation on its part. It also shows you that the subconscious does think and reason.

"Holding the pendulum, you should voluntarily move it in each of the four directions, then hold it motionless and ask which is to mean yes. In doing this no words are usually necessary. You merely think the request. The subconscious is asked to select any of the four motions which is then to represent an affirmative reply. You might work your request this way--'My subconscious is to select one of these four motions of this pendulum to mean yes in answer to questions.' The pendulum will work better if you watch it.

"Usually it will start to move within a few seconds, but sometimes it may take a moment or so to 'warm up the motor.' If it does not start to swing very quickly, think the word yes to yourself several times. Be sure you do not move the pendulum voluntarily. Try to hold it still, but you will find it will move of its own accord. If you still find there is no movement, have someone else ask the questions to establish the four movements for reply.

"When your affirmative response has been set up, ask for selection of another motion to mean no, then for one of the two remaining ones to mean I don't know. The fourth will then represent not wanting to answer.

"Probably you will find this very interesting. Many people exclaim in surprise as the pendulum swings in answering. Movements may be somewhat slight, but usually the arc of the swing is long and very definite.

"There is nothing magical in this. It merely shows to the

most skeptical that the inner mind does think and reason, and also that it is able to control muscular movements. The subconscious continually controls such movements. As you read this it is controlling your breathing muscles. When you walk you do not think of all the movements involved and the necessary coordination, although you had to learn these as a child. After you had practiced a bit, had fallen many times, you set up a conditioned reflex and your subconscious took over control of all the muscles involved. Your movements in walking then became involuntary. The same is true in learning to typewrite. Your typing would be very slow if you had to think consciously of the typewriter keys and how to strike them.

"Almost everyone will find that the pendulum will move for them. If it does not for you, it is almost certainly a sign of resistance. Your subconscious may feel that you wish to learn something from it which it is not ready to let you know."

LeCron described two major limitations of the pendulum technique:

1. An ideomotor response may occur because an individual is so highly motivated that he or she affects the movement of the pendulum.

For example, LeCron (13) (14) described a study which was conducted with 402 pregnant women who were asked by their physicians to use ideomotor responses to indicate the sex of the unborn child; 360 or 90% correct responses were given, including three sets of twins; of the 42 who gave

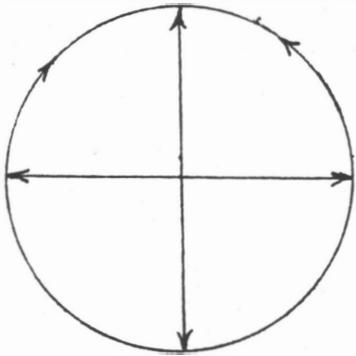


Figure 1

Practice the four responses: "In and out from elbow;" "Back and forth in front of elbow;" "Clockwise;" and "Counter-clockwise."

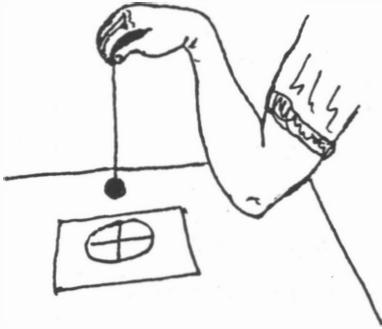


Figure 2

Position of arm and hand for conducting the Pendulum Technique.

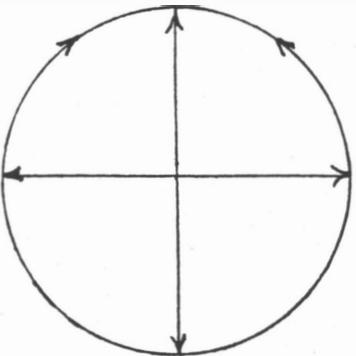


Figure 3

Allow subconscious choice of the four responses to indicate the four signals: "Yes;" "No;" "I don't know;" "I don't wish to say."

incorrect responses, 28 had been asked to state their preference; 26 of these 28 women responded in such a way that the sex of the unborn child was indicated as that of the preferred sex. LeCron concluded that the majority of incorrect responses may have resulted from the conscious preference of the participants.

2. The subconscious processes of the "inner mind" respond in a literal manner to mental questions. For example, an UFO observer might ask: "Can I find out if I saw fingers on the hands of the UFO occupants?" The pendulum response might indicate the answer: "Yes." This response would be interpreted as follows: "Yes, I can find out." It does not necessarily mean: "Yes, I saw fingers on the hands of the UFO occupants." Further questioning and responding would be necessary in order to obtain information which would indicate whether the UFO observer believes (at the "subconscious" level of awareness) that he or she saw fingers on the hands of UFO occupants.

If an UFO investigator has played "Twenty Questions," or similar parlor games, he or she would be aware that general topics should be approached initially; then, after internal consistency of general answers is checked by varying the questions, more specific topics could be pursued. The usual guidelines apply for conducting an investigative interview (22), including the suggestion that ample opportunity be given to UFO witnesses to rest their arms and hands!

UFO Investigation. If a field investigator were to explore the possible use of the pendulum technique in UFO investigation, then he/she could follow these procedures, using himself or herself as the subject or participant:

- A. Construct a pendulum of string and an iron washer or ring.
(A plastic lucite ball, with chain, can be purchased from the Wilshire Book Company, Div. X, 8721 Sunset Blvd., Hollywood, CA 90028, USA.)
- B. Practice the pendulum technique, using the four voluntary movements of the pendulum: clock-wise circle; counter-clock-wise circle; in and out from the elbow; and back and forth in front of the elbow.
- C. Allow the subconscious processes to "select" the signals, or responses, to the four questions:
- What is my response for "Yes"?
 - What is my response for "No"?
 - What is my response for "I don't know"?
 - What is my response for "I don't wish to say"?
- D. Record all questions and responses; check occasionally to confirm the reliability or consistency of the signals.
- E. If there is a change in the pendulum movements and corresponding signals, recheck the responses until reliability or consistency of the signals is established. Signals can be checked by asking oneself general questions which have "known" answers, e.g., "Do I have brown eyes?" "Am I 40 years of age?" "Do I live at 321 Concourse Avenue?"
- F. When the reliability of signals is established, questions can be asked to explore the possibility of "hidden" UFO experiences (17). For example:

Sample Pendulum Responses

	<u>Signals</u>	<u>1st Response</u>	<u>2nd Response</u>	<u>3rd Response</u>
(Y)	Yes			
(N)	No	—	—	—
(DK)	Don't Know	↘	↘	↘
(DWTs)	Don't wish to say	↗	↗	↗

Sample Questions about "Hidden" UFO Experiences

<u>Signal</u>	<u>Response</u>	<u>Questions</u>
Y		1. Do I have a subconscious memory of an event which is important to me, but which I cannot recall consciously? (If <u>No</u> , try again.)
Y		2. Is there a memory of that important event which will be available to me in the near future? (If <u>No</u> , try again.) (If consistently <u>Yes</u> to #1 and <u>No</u> to #2, go on to #2A.)
		2A. Is there some method which I can follow so that I can obtain a memory of that important event? (If <u>Yes</u> , continue to ask questions about the method for gaining information.)
N	—	3. Did this important event occur to me when I was 20-25 years of age? (Continue until age is indicated.)
N	—	15-20 years of age?
N	—	10-15 years of age?

<u>Signal</u>	<u>Response</u>	<u>Questions</u>
Y		5-10 years of age?
Y		8-10 years of age?
Y		9-10 years of age?
N	—	4. Do I know subconsciously if there were other unusual events? (If <u>Yes</u> , explore the dates of those events.)
Y		5. Do I have a subconscious memory of this event in connection with a strange looking person or persons?
Y		6. Do I have a subconscious memory of an UFO experience?
Y		7. Is it alright for my subconscious mind to provide more information about any UFO experience?
		8. Etc.

If the field investigator obtained "Yes" to the questions about "strange looking person or persons", or "subconscious memory of an UFO experience", then he/she may wish to participate in a research study by writing to Dr. James A. Harder (2808 Hilgard Street, Berkeley, CA, 94709, USA.) Harder, and Jim and Coral Lorenzen (Aerial Phenomena Research Organization, 3910 E. Kleindale Rd., Tucson, AZ, 85712, USA), have encouraged APRO field investigators to consider the use of the pendulum technique to explore "hidden" UFO experiences (17).

These researchers have found that there may be many UFO abduction experiences which are repressed, or "hidden", from the conscious memories of UFO witnesses; these subconscious memories often can be recovered through hypnotic time regression procedures.

Of course, any experienced UFO investigator recognizes that there are risks of biasing or giving inappropriate suggestions to an UFO witness through the efforts of an inexperienced practitioner of hypnotic procedures; these same risks are inherent in the inappropriate use of the pendulum technique.

However, if careful procedures are followed in using the pendulum technique, then preliminary information may be obtained about possible CE III experiences. For many witnesses, the experiences of encounters with UFO occupants are frightening experiences (15) (16); if field investigators obtain information which indicates that encounters and/or "abductions" have occurred, then they may wish to consider arrangements for a consultant in hypnosis to assist the UFO witnesses to explore and evaluate their subconscious memories of the UFO experiences.

Any interested field investigator can obtain a copy of a paper, "Hypnotic Time Regression Procedures in the Investigation of UFO Experiences", by writing to the author. The paper appeared as an appendix in the book by Lorenzen & Lorenzen, Abducted! (25) and can be used as a guide for field investigators, UFO witnesses, and consultants in hypnosis who investigate UFO experiences.

Results

This section provides two cases of UFO investigation in which the pendulum technique was used as an initial method for obtaining preliminary information about apparent CE III experiences.

In Case #1, the pendulum technique was used initially because the UFO witness expressed doubt about continuing with the agreement to participate in hypnotic procedures; the pendulum technique was used to obtain information about subconscious memories of an apparent UFO experience, and as a means of preparing the UFO witness for further use of hypnotic procedures in the interview.

In Case #2, the pendulum technique was used by the participant as a "self test" to determine which responses would occur on items of a questionnaire about "hidden" UFO experiences. The participant was surprised at his responses, and he requested assistance through hypnotic procedures so that he could learn more about the significance of his obtained responses.

These cases are presented as examples of the uses of the pendulum technique in UFO investigation. The cases are used as illustrations for exploring subconscious information about UFO experiences, so that results from other methods of investigation can be compared with the preliminary information obtained from the use of the pendulum technique.

Case #1: Sgt. Herbert Schirmer. The UFO sighting of Herbert L. Schirmer (then serving as a policeman in Ashland, Nebraska, USA) occurred on December 3, 1967; the case was investigated by the "Condon Committee" (UFO Project, University of Colorado - Boulder, directed by the late

Dr. E. U. Condon, Professor of Physics). The Condon Committee had invited the author to a discussion on the possible uses of hypnotic procedures with UFO observers; at that meeting, the decision was made that Sgt. Schirmer would be invited for an interview with the Committee; the interview also would serve as a demonstration of the use of hypnotic procedures with an UFO witness who had experienced a possible "loss of time", or partial amnesia, during a UFO sighting (3). Later, additional information was reported by other investigators (18).

The following report was submitted to the Condon Committee in March 1968. A copy of the report, with related discussion, was presented in a chapter in the book by Lorenzen and Lorenzen, Encounters with UFO Occupants (23).

A Report Presented to
The Condon Committee
UFO Project
University of Colorado
Boulder, Colorado

by
R. Leo Sprinkle, Ph.D.
University of Wyoming
Laramie, Wyoming

March, 1968

IMPRESSIONS OF THE FEBRUARY 13, 1968 INTERVIEW
WITH SERGEANT HERBERT SCHIRMER

Introduction

Impressions of Sgt. Schirmer

Verbal and Non-Verbal Behavior

Relationship with Chief Bill Wlaskin

Description of UFO Sighting

Reaction to Setting and Participants

Reaction to Interview and Interviewer

Impressions of Information Obtained From the Interview

Information From Pendulum Technique

Information From Hypnotic Session

Comparison of "Old" and "New" Information

Summary and Conclusions

Appendix: Notes on the February 13, 1968, Interview With Sgt. Schirmer

Introduction

This report presents, for your consideration, the personal impressions of the writer which have resulted from the February 13, 1968, interview with Sergeant Herbert Schirmer, policeman from Ashland, Nebraska. The report is concerned with personal impressions for two main reasons:

- (1) The biases of the writer; and
- (2) the purpose of the writer.

Biases. The writer believes that there is sufficient empirical evidence to support the views that the following phenomena exist: hypnotic processes or varying levels of awareness; extrasensory perception and psychokinetic processes (ESP or psi processes); and spacecraft ("flying saucers") from extraterrestrial sources which are controlled by intelligent beings who seem to be conducting an intensive survey of the earth.

Because these views are different from those of many persons in contemporary society, the writer offers his impressions with the recognition that other observers may have obtained different, and even conflicting impressions, of the interview with Sgt. Schirmer.

Purpose. The purpose of the writer is to present a subjective evaluation of the information obtained during the interview. The writer recognizes that he was only one of many observers and that the recordings of the interview can serve as much more reliable indicators of the events which transpired.

Hopefully, the tone of the report is non-technical, personal, and subjective, so that the reader may compare this one point of view with the many other kinds of information: interview recordings, personality assessment and evaluation, observations and conclusions of other observers, and previous testimony from other persons.

Impressions of Sgt. Schirmer

My first impression of Sgt. Schirmer was similar to that which I have received from other persons who report UFO sightings: an uncertainty on their part about whether their story will be believed or whether they will be viewed by a psychologist as being "confused" or "crazy." After initial introductions, a short discussion was held in the Woodbury Hall offices. Those who were present included: Ahrens, Craig, Schirmer, Sprinkle, Wadsworth, and Wlaskin. (Later, Dr. Hallack McCord, Psychologist from Denver, appeared as an observer.)

Verbal and Non-Verbal Behavior. Sgt. Schirmer gave the appearance of being pleasant and cooperative, aware of the possible significance of his role in the proceedings, and willing to submit himself to questions about the UFO sighting.

At times, he seemed to have some hesitation in choosing the words he wished to use. (E.g., he changed from "craft" to "object" on some occasions, as if to mimic the terminology of others who were present at the morning introductory meeting.)

I considered him to be of average or above-average intelligence, with an average educational background. He presented himself as a conscientious policeman who had a sixth sense or intuition about crime detection; he also seemed to gain satisfaction from the occasional need for violence in his work, although he spoke favorably about the use of MACE. He seemed fairly relaxed, although he and Chief Wlaskin said they were tired from two days and nights of police duty.

Relationship with Chief Bill Wlaskin. I viewed the relationship of the two policemen as being close and comfortable. It seemed that

Chief Wlaskin took a special interest in the proceedings, as if he wanted to be certain that his sergeant would be treated fairly and considerately. Sgt. Schirmer gave the impression that he was a trustworthy observer and an excellent policeman, and he seemed to be pleased with the supporting comments which he received from his superior officer. They were friendly with one another, and they seemed pleased with the "first name" basis established among the UFO Project personnel and themselves.

Description of the UFO Sighting. During the initial discussion, Herb was willing to sketch a diagram on the blackboard to represent the Ashland community and the location of the UFO sighting. The information he submitted seemed consistent with what had been told to me by Roy Craig and Jim Wadsworth. Herb seemed to gain confidence from the general acceptance of his story, and he seemed to become less apprehensive about the proceedings planned for the afternoon.

Reaction to Setting and Participants. I saw Sgt. Schirmer's reactions as an indication that he wished to consider himself courageous but was not confident enough to admit his own doubts and fears. Just prior to the afternoon session, which was to be conducted in the Counseling Center of the Student Personnel Services, I learned from John Ahrens that Herb was very doubtful about whether he would undergo hypnotic techniques.

In looking back upon the events, I believe it would have been better to utilize hypnotic techniques with Herb during the morning session; these procedures could have been used to relax him and to orient him to the procedures, as well as to facilitate trance introduction in the afternoon.

However, because of his fatigue--and because I judged our rapport to be sufficient--I decided to wait until the afternoon interview, so that all observers could see what might develop "from scratch." (Of course, experts in the use of hypnosis believe that the total relationship is a factor in the ease and productivity of using hypnotic techniques, so that the morning discussion undoubtedly influenced the events of the afternoon session.)

Sgt. Schirmer seemed to be faced with conflicting wishes: the desire to be seen as a competent observer and courageous policeman versus the desire to be considered "his own man" rather than a puppet which could be controlled through suggestion or hypnosis.

Reaction to Interview and Interviewer. The crux of the apparent conflict occurred when I handed Sgt. Schirmer the copy of the release form* for him to sign. His hesitation appeared to stem from his wish to be cautious and prudent as well as from anxiety and doubt about the use of hypnotic techniques.

Because his concern was so evident, and because I did not wish to jeopardize the entire session by allowing him to discontinue the interview, I decided to utilize the pendulum technique. Although there is disagreement among experts about the reliability of subconscious information obtained by the pendulum technique, there is general agreement that

*A form which contained a statement that the University of Colorado would be released from legal responsibility for any bothersome effects of the hypnotic procedures.

it can be utilized as a method of obtaining concentration; relaxation, and preparation for deeper levels of awareness.

Herb seemed willing to use the pendulum, and he expressed amazement at his reactions and at the signals which seemed to be related to the questions being asked.

Impressions of Information Obtained From the Interview

Those attending the afternoon session included Ahrens, Condon, Craig, Hallack McCord, Schirmer, Sprinkle, Wadsworth, Walskin, and the psychologist, Bob Fenner, who was to administer personality tests to Sgt. Schirmer on Wednesday, February 14. Although I assumed that a tape recording (and perhaps video tape recording) of the interview was being conducted, I took brief notes to use as a basis for conducting the interview. (See Appendix.)

Information From Pendulum Techniques

The responses obtained from the pendulum technique suggested that Sgt. Schirmer was aware, at a deeper level of consciousness, of further information about the UFO sighting. However, information also indicated that there was subconscious uncertainty about divulging those memories.

Techniques were used to "placate" the subconscious resistance and to "persuade" Herb that he could obtain further information from these levels of awareness. When it was obvious that Herb was deepening the trance state, suggestions were offered that he could relax, go deeper into the trance state, recall and describe the events which took place during the UFO sighting.

Information From Hypnotic Session. Although there was apparent effort involved, Herb responded to the suggestions that he could describe

the events that took place during the UFO sighting. He stated that a bright light had shone from the object upon the car and that he saw a "white blurred object" which came toward the car. He said that he felt he was in communication with someone in the object, and that he also felt the communication was in effect during the interview.

When Sgt. Schirmer said that he felt it would be "wrong" to say anything else until the "proper time and proper place," I had the distinct impression that nothing more could be done to change his attitude. Nevertheless, I offered suggestions to see if he might "imagine" the proper time and place; because of his resistance, I believed it best to discontinue the hypnotic session and allow him to return to the normal state of awareness.

During the post hypnotic session, Herb offered many comments in response to questions from the observers. Although his statements had a "ring of truth" to them, he did not seem to know how or where he had received the information which he was submitting to us.

Comparison of "Old" and "New" Information. The information which was obtained during the interview did not seem to be inconsistent with that information which had been obtained from previous investigation of Herb's story. However, the "new" information certainly seemed unusual by most standards of comparison. The references to "sister ships," "electrical-magnetic force," "force of gravity," "from another galaxy," "friendly intentions" of beings whose "purpose is to prevent earth people from destroying the earth" were different from the earlier descriptions of the UFO sighting.

Although these terms are not unfamiliar to anyone who is interested in UFO reports, the "new" information raises many questions about the UFO

sighting and the UFO observer.

Interpretations About the "New" Information. I believe that there are four general interpretations which might be made in regard to the obtained information:

1. The information comes from a person who is emotionally disturbed and in need of psychological evaluation and psychotherapeutic treatment. This interpretation suggests that the additional information resulted from hallucinatory and/or other pathological reactions. A clinical psychologist or psychiatrist might utilize various approaches to determine if this interpretation is the more likely explanation.
2. The information comes from a person who is deliberately lying. This interpretation suggests that the additional information was offered to perpetrate a hoax. A polygraph test might be utilized to determine if this interpretation is the more likely explanation.
3. The information comes from a person who is responding to the conscious or subconscious wishes of the interviewer to submit certain information. This interpretation suggests that the information resulted from the interviewer-interviewee relationship. Another interviewer or interviewers might be utilized to see if the information is reliably obtained or whether other information might be submitted.
4. The information comes from a person who is reliably reporting events which he perceives as a part of his experience. This interpretation suggests that the information is "reliable."

(It is "true," in the experience of the observer.)

In my opinion, the fourth or last interpretation is more likely to be an adequate explanation of all of the impressions I received during my observations and interactions with Herb Schirmer. However, the latter interpretation raises more questions than it answers: How did he obtain the information? Why did he obtain the information? From whom did he obtain the information? For what purpose might the information be used by Sgt. Schirmer? For what purpose might the information be used by UFO investigators? Are there methods or techniques which can be used to verify the obtained information?

Summary and Conclusions

In summary, the use of the pendulum technique and hypnotic techniques resulted in additional information from Sgt. Schirmer about the experiences which he reports in regard to his UFO sighting. The information indicates that Sgt. Schirmer not only claims to have observed a low-level, hovering UFO, but that he also claims to have experienced the following events:

- (A) Observation of a bright light which was emitted from the object and which shone upon the police squad car.
- (B) Observation of a white, blurred object, apparently an intelligent organism, which came from the object and approached the car.
- (C) "Conversation" with the white, blurred object by some means of mental communication.

(D) Apparent mental contact, during the interview, with the person or being with whom he communicated during the UFO sighting, including a description of the activities and purposes of the UFO occupants.

(E) Apparent mental contact, during the interview, with the UFO occupants and the resultant belief that further information could be obtained at the "proper time and proper place."

(F) Apparent conviction that the additional information is valid, but with no supporting evidence of the source or validity of the additional information.

In conclusion, I believe that the interview demonstrated that hypnotic techniques can be utilized for the purpose of obtaining further information about UFO sightings from UFO observers. Also, in Sgt. Schirmer's case, I believe that the additional information serves as a basis for explaining the apparent "loss of time" which was reported in the original description of the UFO sighting. However, the additional information also raises further questions about the source, method, and purpose of communicating the additional information.

In my opinion, the events described by Sgt. Schirmer are "true" in his experience; however, I believe that the present evidence does not answer the questions regarding the source, method, and purpose of communicating the additional information.

APPENDIX

Notes on the February 13, 1968, Interview

With Sgt. Schirmer

(Although the following statements are only an approximation of the actual interview, they serve as the basis for many of the interpretive comments of the report.)

Use of the Pendulum Technique

The following signals were elicited for interpretation of the ideomotor responses:

- ↓ Yes
- No
- ↗ I don't know
- ↖ I don't want to say

(Cf. LeCron, L. M. Self-Hypnotism. Englewood Cliffs, NJ, 1964. Pp. 33-36.)

Interpretations Responses

Questions

- | | | |
|-----|---|---------------------------------------------------------------------------------------|
| Yes | ↓ | 1. Did I experience a UFO sighting on December 3, 1967? |
| Yes | ↓ | 2. Is there more information available? |
| Yes | ↓ | 3. Is there more subconscious information? |
| Yes | ↓ | 4. Are the recollections of the event accurate? |
| No | — | 5. Are there some details which are not accurate? |
| Yes | ↓ | 6. Is there a discrepancy in "time" between the sighting and the end of the sighting? |
| Yes | ↓ | 7. Am I aware of what happened? |
| Yes | ↓ | 8. Did I place my cap in the rear of the car? |
| Yes | ↓ | 9. Did I put my cap to my side? |
| No | — | 10. Did I put on the emergency brake? |
| Yes | ↓ | 11. Was the emergency brake on when I got back into the vehicle? |
| No | — | 12. Am I willing to go into a deeper level? |

<u>Interpretations</u>	<u>Responses</u>	<u>Questions</u>
No	-	13. Is this concern because of what I might find out?
No	-	14. Did I turn off the ignition switch of the car?
Yes	{	15. Did the car engine stall or stop?
Yes	{	16. Do I believe there is a relationship between the object and the engine failure?
No	-	17. Did I turn off the headlights?
Yes	{	18. Did the headlights go off during the sighting?
Yes	{	19. Did I remember having an impulse to take my gun out (of the holster)?
No	-	20. Did I take the gun out?
Yes	{	21. Was I prevented from taking the gun out?
Yes	{	22. If I had not been prevented, would I have taken the gun out?
Yes	{	23. Do I believe I was prevented (from taking the gun out of the holster) by someone in the object?
Yes	{	24. Do I believe I was in communication with someone in the object?
Yes	{	25. Do I believe a light was shown to me from the object?
Yes	{	26. Do I believe the light has something to do with the welt on my neck?
Yes	{	27. Do I believe the welt was associated with my being in a trance state?
No	-	28. Do I believe I entered the object?
No	-	29. Do I believe someone approached me from the object?
Yes	{	30. Do I believe my mind was being searched from something or someone in the object?

<u>Interpretations</u>	<u>Responses</u>	<u>Questions</u>
Yes	!	31. Do I believe I communicated with someone in the object?
No	-	32. Do I remember the communication or conversation?
No	-	33. If I went deeper, could I remember?
Yes	!	34. Do I believe that someday someone might communicate with me again?
Yes	!	35. If another object were to come, would I be willing to communicate with someone?
No	-	36. Was there a feeling of fear during the sighting?
I don't know	↗	37. Was there a feeling of fear after the sighting?

Break in Questioning

Sgt. Schirmer described some of his reactions after the sighting: he said that he drank two cups of hot, steaming coffee "like it was water"; he claimed that he often experienced a "ringing," "numbness," "buzzing" in his ears before going to sleep (around 1:30 a.m. or 2:00 a.m.); he believed he had experienced precognitive dreams (e.g., he dreamed about the death of a man he had visited; and after the dream, he found the man was dead); he said he felt concern and "hurt" since the UFO sighting; he described disturbances in his sleep, including incidents in which he awoke and found that he was "choking" his wife and "handcuffing" his wife's ankle and wrist; he said that his wife sometimes woke up during the night and placed his gun elsewhere so that it was not in his boots beside his bed where he had been keeping it.

<u>Interpretation</u>	<u>Responses</u>	<u>Questions</u>
Yes	↓	38. When I first saw the object, did I have an impulse to get the mike (microphone of the police car radio)?
Yes	↓	39. Did I reach for the mike?
Yes	↓	40. Did I take hold of the mike?
I don't know	↗	41. Did I press the mike button?
No	—	42. Did I attempt to speak over the radio?
Yes	↓	43. Do I believe I was prevented from speaking?
Yes	↓	44. Do I believe I was prevented from pressing the mike button?
Yes	↓	45. Do I believe I was prevented (from pressing the mike button) by something or someone in the object?
No	—	46. Do I remember anything which was said to me during the sighting?
I don't want to say	↙	47. Do I remember seeing anything or anyone emerge from the object?
Yes	↓	48. If I did want to say, would I say that I saw something emerge from the object?
I don't want to say	↙	49. Was it a physical object?
Yes	↓	50. Was it a light from the object?
Yes	↓	51. Did a figure or person emerge from the object?
I don't know	↗	52. Did the figure or person come to the car?
I don't know	↗	53. Was there more than one figure or person?
No	—	54. Did I have my eyes closed (at the time)?

(Because Sgt. Schirmer obviously was going deeper into a trance state, at this point in the interview, it was suggested to him that he could

relax, go deeper into the trance state; then it was suggested that he could "go back" in memory to the experiences of the UFO sighting and to talk about these events.

(After several minutes of apparent effort, Sgt. Schirmer began to speak and to describe what he said were his reactions to the events of the UFO sighting.

A Summary of Sgt. Schirmer's Statements

During the Hypnotic Session

Sgt. Schirmer claimed that the following events were among those that occurred: a bright light came from the object and shone upon the car; a "white, blurred object" approached the car and then faded away; then the craft moved upward, back and forth; a weird sound came from the object; a bright red-orange glow came from beneath the object; and then the object "shot" straight up and out of sight.

Sgt. Schirmer then stated that he felt it would be "wrong" to say more until the "proper time and proper place." (Suggestions were given that he might consider, in imagination, what could be the proper time and place; however, he did not accept the suggestions, and it was decided to discontinue the questioning in the trance state. Suggestions were given to Sgt. Schirmer that he could remember the events of the UFO sighting and that he could return comfortably to the normal state without any ill effects from the trance state.)

Summary of Sgt. Schirmer's Statements

After the Hypnotic Session

Sgt. Schirmer responded to various questions from those present, and he offered comments about his reactions to the trance state.

Chief Wlaskin discussed the events related to a visit by a Dr. Gerald Brewster, a psychiatrist who expressed his interest in the question of whether any of the three officers would have fired his gun at an UFO.

Questions from those present led to comments from Sgt. Schirmer, including these: The white, blurred object seemed to be a living object, although he didn't remember anything about the object until the hypnotic session; communication with someone in the craft occurred at the time of the UFO sighting and the feeling of direct mental contact with someone was occurring at the time of the interview; information was obtained (but which had not been mentioned previously to Chief Walskin or John Ahrens) which indicated that the craft was propelled by some type of electrical and magnetic force which could control the force of gravity; the craft was obtaining a power supply from nearby power lines in order to assist in communications; someone or something told Sgt. Schirmer that he was "doing a good job," that he should not talk further during the interview, but he could talk later this year and tell more about the events of the UFO sighting; information given to Sgt. Schirmer indicated the following: the craft belonged to a "sister ship" which was like an aircraft carrier; the occupants of the craft were based on Venus or Saturn but were from another galaxy; the intentions of these beings were friendly, and their purpose was to prevent earth people from destroying the earth.

Sgt. Schirmer was unable to offer evidence or opinions about how he had obtained this information or whether the information was valid; nevertheless, he claimed that this information was given to him and that he believed it to be true as it was given to him.

(End of Report to the Condon Committee)

Case #2: PLW. The UFO experience of PLW is presented as an example of the use of the pendulum technique in the investigation of "hidden" UFO experiences.

During the summer of 1978, PLW was participating in an informal instructional program for self-hypnosis which is conducted by the author for students and staff of the University of Wyoming. The Self-Improvement Program (SIP) provides instruction in several procedures, including the pendulum technique. Members of the group were encouraged to participate in a research study being conducted by Dr. James Harder; approximately 10 students volunteered to complete the questionnaire on "hidden" UFO experiences. One student (PLW) was surprised at his pendulum responses to the items. (See copy of responses.)

PLW arranged to meet with the author so that we could discuss his concerns about his responses to the questionnaire. After preliminary discussion, we agreed to utilize hypnotic procedures to assist PLW to recall any impression of March 27-28, 1973.

Interviews with PLW were conducted on June 26, and July 5, 1978; hypnotic procedures were followed, and PLW was able to recall impressions of an UFO sighting and an encounter with two strange-looking persons. (As in many UFO experiences, psychic implications were noted.) A report of the investigation was submitted to the Aerial Phenomena Research Organization. (See the report, "Interviews with PLW.")

[Copy]

Name PLW

Date 14 June 1978

Questions are designed to be answered with the aid of the pendulum.

	SEW YES	H NO	V DK	CW DWTs
1. Does my unconscious mind have a memory of something that was very important to me but which I cannot remember consciously?	✓	—	—	—
2. Did this experience involve one or more persons who were <u>strange</u> looking or possibly non-human?	✓	—	—	—
3. Is this something that my unconscious mind believes has an ordinary psychological explanation, such as a dream or an hallucination?	—	✓	—	—
4. Was this something that happened before I was ten years old? (Try to find age, and indicate here) <u>22</u> (March 27-28, 1973)	—	✓	—	—
5. Has there been any other experiences similar to this one? (Try to find other ages) _____	—	✓	—	—
6. Did this experience involve the close approach of a UFO?	—	✓	—	—
7. Do I have an unconscious memory of a UFO experience that has been blocked from my conscious memory?	✓	—	—	—
8. Does my unconscious mind have a memory of promising not to remember something, or agreeing not to remember?	✓	—	—	—
9. Does my unconscious mind think that this was only a result of an active imagination?	—	✓	—	—
10. Do I have an unconscious memory of being "on board" a UFO?	—	✓	—	—
11. Do I have an unconscious memory of receiving telepathic messages that I don't remember consciously?	✓	—	—	—
12. Do I have an unconscious awareness of a job or duty that will be important in the future?	✓	—	—	—
13. Does my unconscious mind contain information that will only be available to me in the future?	✓	—	—	—
14. Is there information that I could remember with the help of the right hypnotist?	✓	—	—	—
15. Does my unconscious mind believe I have received guidance at critical points in my life through telepathic-type messages?	—	✓	—	—

Please return completed questionnaire to:

APRO Research, attn: Dr. Harder
2808 Hilgard Street
Berkeley, CA 94709

? 1993, at age 42;
a "20 year"
experience to
occur?



THE UNIVERSITY OF WYOMING

DIVISION OF COUNSELING AND TESTING
BOX 3706, UNIVERSITY STATION

LARAMIE, WYOMING 82071

August 24, 1978

Mr. & Mrs. L. J. Lorenzen
APRO
3910 E. Kleindale Rd.
Tucson, AZ 85712

Dear Jim and Coral:

PLW is a 27 year old student at the University of Wyoming. He has participated in the "Self Improvement Program", a group of students who are learning procedures for self-hypnosis and self-development. He expressed interest in hypnotic sessions with me, because of his concern about "hidden" UFO experiences. (See enclosures). His responses indicated that he had experienced an encounter with "strange looking" persons on March 27-28, 1973; also, with further exploration, he obtained information which indicated that within 20 years, 1993, he would experience another unusual event.

PLW and I met on June 26, 1978, and on July 5, 1978. Hypnotic procedures were suggested to him for recalling the events of the night of March 27, 1973. At that time he was a member of the USAF (Airman 1st Class), stationed in [REDACTED] and he was traveling by automobile to visit his parents. During the interviews, PLW seemed to be reliving an experience in which he encountered two tall humanoid beings; he recalled no verbal conversation, but he obtained impressions of two "future events": (1) a place in Wyoming where the UFO people would land, someday; (2) a disaster, possibly in 1993 in California, and probably due to an earthquake.

Although PLW is skeptical about the origin and meaning of the obtained impressions, both he and I are impressed with the reliability of the impressions (similar impressions during both hypnosis sessions) and the emotional impact of the impressions.

In my opinion, his personal integrity and intelligence are high. I believe that his impressions should be regarded as memories of a "real" UFO experience, and the information obtained during that UFO experience should be regarded as a piece of that puzzle which we call the "UFO Mystery".

Respectfully submitted,

R. Leo Sprinkle, Ph.D., Director
Division of Counseling and Testing
Professor of Counseling Services

RLS/mm

Presented to

Interviews with PLW
R. Leo Sprinkle, Ph.D.

Mr. & Mrs. L. J. Lorenzen
APRO, 3910 E. Kleindale Rd.
Tucson, AZ 85712

August 1978

PLW Interview: Hypnotic suggestions to recall the events of March 27, 1973.

June 26, 1978 - 1:30 P.M.

Driving down Interstate Highway, traveling west. It's at night, and it's dark.
(Pause).

It's dark, very dark. Like no moon - or - overcast. Not much oncoming traffic, night seems to swallow the headlights, don't know what I'm looking for. (Pause). Horizon seems to be coming lighter, toward the west. Too far away for Casper. I'm not sure that I'm deep enough. (Suggestions to go deeper).

Seem to be awful jumpy, like a current running through me. Hands trembling a little bit, like I'm tired, or distraught. Seems like the light on the horizon is off to the left, behind the hills. Can't see any stars. Awfully dark. Like the light rises and comes across the highway. More of a smear. All of a sudden, everything is flooded with light. (What next?) I'm scared; too bright to see. Can't drive; I'm enclosed in the light. I think I'm stopping the car. Doesn't seem to make any noise at all. Maybe I've been driving too long. I didn't have the radio on. (Pause). Light is gone; my headlights seem puny. (What happens next?) I'm still sitting there. I don't know if the headlights are on. Seems like someone is walking down the road toward me; maybe 2 people. Walking up by the car; they seem to be awfully tall. So dark, I can't see much. Almost as if the eyes glitter, like a cat's eyes. Yellowish silver, like a cat's eyes membrane. Seem tall and skinny, like a basketball player. One is looking through the window on the passenger's side. The doors are locked. I think I'm trying to start the car. It won't start, or I drop the keys, or something. Seems so cold. No traffic at all -- straight out of "twilight zone". (Pause). (Turns head to left slowly). It's silent. I think the other one was on the driver's side, looking at me. It's so dark. I'm trying to see him from the panel lights.

Seems to be dressed in something dark; it doesn't reflect light. He tries the side door, but it's locked. He seems to be walking around the car; he seems to be wearing a cape. He seems to be 7 or 8 feet tall. Another car is coming down the road; he steps back on the shoulder of the road. I can see them standing together, in the headlights of the oncoming car. The capes come to their knees; their heads are light covered, but no hair. The car is gone now; it's dark again. They try the back door on the passenger side. It is open. He seems to be looking at me. The dome light comes on. Faces are so angular and bony, such high cheekbones. No eyebrows. Don't know if I'm making this up or not. Very cold. Must be late at night. Not sure -- Normally, I come home on Friday nights. (Pause). (Head turns back to the right). Dome light is kinda bright - very bright. Seems that my night vision is affected. He seems to be towering over me, and I'm still in the car. He is looking me straight in the eye. Don't know where the other one is; I'm sure there are two of them. (Pause). I seem to be cringing against the door. I try to open the door. He seems to stretch clear across the seat. Very dark again. (Pause). The door is closed. Nobody is around. The lights are off.

2 P.M. (Suggestions to return to the normal state).

PLW Interview: Suggestions for relaxation and preparation to recall events of the night of March 27, 1973. Interview conducted on July 5, 1978.

4:15 P.M. Suggestions to go back to the events of the night of March 27, 1973, after seeing the lights.

PLW: I stopped; the lights are gone. I'm in the right lane. Someone coming up the highway - seems to be two. Night seems to swallow the light. They're walking toward the car - just an impression of height. They separate; one on the passenger side, close to the car. Not much of a - so dark; he's walking toward the passenger side. I can't see out of the car. (Looks to the right). He's trying the door; I have it locked. Paranoid, but in the work I do, I keep the door locked. Vague impression of a face; light colored. The other one crossed in front of the car; standing on the driver's side, almost by the door where the mirror is. Just an impression of height, something there. He tries the side door. For some reason, I don't seem to be trying to start the car; that's odd. Almost as if I should have the hell scared out of me - out I'm not scared. He tries the back door; it's locked. A car seems to be coming over the horizon; with brights (bright lights) on. (Looks to the left). He's tall; very broad, but slender; 250 lbs; moving over to the passenger side with his companion. Car comes past, but he doesn't do anything, their backs are to me, but their heads may have been a brighter color than their clothes. They try the back door on passenger side; it's not locked. He reaches around and unlocks the door on the passenger side. Dome light comes on. I was just getting my night vision. I twist around in my seat. I see his face - long, bony, angular face. No hair, no eyebrows; he looks at me a second. He leans into the car; I start to crouch down and cover in the seat. (Pause). He's looking at me. (Pause). I guess I'm afraid now. It's straight out of a horror movie. (Pause). (Turns head to right) (Long Pause). Kind of a block here. (Pause). There doesn't seem to be anything more. (Suggestions to recall what happens next). (Long pause). Just...I know there is more here; there has to be. It all seems so real up to this point. (Pause). I'm trying to go deeper. (Suggestions to go deeper and recall what happens next). (Long pause).

The point where he gets in the car: He's looking, it seems. My fright seems to be gone now. Seems like I have this overwhelming compulsion to move toward him. I can't tell how much of this feeling is me. He seems to be backing away from the car door. I guess I'm getting out of the door on the passenger side. There seems to be stars. Part of my windshield is tinted darker; perhaps that's why I can't see them. He is tall! My head is up near his chest. I'm 5'11" or so; it's a strange experience. Wind is buffeting a bit; it's chilly. He seems to be wearing a cape wrapped around him; a dull black or blue color. I don't know where the other one is. (Faces to the front, with face tilted up slightly). Light seems to be coming back - light is reflected off the chrome of my car. It was such a pretty car once. I feel like I'm immobilized. It hits me in the back of my neck, where the spinal column and the head come together. The light seems to be nearer. Silvery light. It seems to be lights from a car, but I don't know; it gets stronger and stronger. I don't know if we're getting anywhere or not. (Suggestion to go on through experience). It must not be lights from a car, it must be something else. (Turns head to the left). (Long pause). Don't know if there is anymore. (Suggestion to continue through the experience). I've used ideomotor responses to see if there is anything else; according to the responses, there is, but I'll be damned if I know what it is. (Suggestions to recall any other events). (Long pause).

He didn't give me anything. (Pause). My subconscious indicates that he didn't show me anything, and he didn't say anything verbally. As if the "audio" isn't important. I'm relying on my finger and thumb responses. According to my subconscious responses, he told me something, or he thought something. It couldn't have taken more than a couple of seconds. (Suggestions to recall any message). Seems to be a kaleidoscope of colors; greens, browns, blues, light blues, yellows, whites; almost like "2001", moving down the chute. I can tell by the parallax, that I'm moving - almost as if I'm approaching something. It's like a sphere; the closer I get, it's not like that. Almost like I'm getting a view of a sphere, but shadows show demarcation. Brown or

reddish...can't make out the surface features. Pock marks; like the moon, or more so. Ruddy colored; seems to be rotating; all the same features. It's gone now. I have the sensation of falling. It's dark. (Pause). I stop falling; I'm not sure that I'm anchored to anything. Almost like I'm hanging. Getting another mosaic. Like a volcano - where the lava is flowing; but where the lava is red, this is yellow-green. Shooting stars. (Pause). So conscious that there is more. As if I can't interpret the data properly; as if the pieces are there, but there's more. Like the sun is coming up; and everything is flooded with light, but nothing seems to be illuminated around me. I can see the blue skies and clouds; the sky is...In the 6th grade there was an eclipse - a funny blue. The sky looks like that now. (Pause).

The bright light isn't so bright now, as if it is filtered out. Everything is so arid; as if I'm a part of everything. Like the Red Desert - reds, browns; a flash between vegetation and no vegetation. Subconscious seems to indicate that I'm trying to interpret these impressions in terms of what I know. So arid: vegetation is sagebrush. I know where this is! I'm sure of it. Medicine Bow Cutoff! I've driven this road many times. I'm not far from the intersection where the road goes to a mining camp, and the other goes up to a rim. I've seen that rock formation a million times; it looks like a pyramid. On a topographical map. The formation is not accurate, because of wind and erosion; but it's similar to a pyramid.

Straight out of Devil's Tower. I get the overwhelming feeling that this is where they will come. I don't see it, but I feel it. It won't be for a long time. (Pause). I seem to be suspended a long way over a freeway. There are many cars; the land seems parched. A lot of sand. Not Wyoming; too many people; seems like California. There seems to be smoke or haze, like from an immense fire. Thousands of cars; people walking on foot, away from the fire - or whatever it is - like a disaster. Straight out of the movies. Ocean doesn't seem to be far away. Water is where it shouldn't be - like a housing development. Earthquake? Maybe. Maybe California fell into the sea. Fire, smoke, everywhere. I ask myself if it was "war"; the answer is "no"; it seems to be a natural disaster in 1993. I wonder if there is a general system of disasters worldwide; the answer seems to be "yes". I think that's when they will come - when we need them. Doesn't seem to be anymore. (Suggestions to recall any other events of that experience, the significance of meaning of the impressions). (Suggestions to return to normal state).

Straight out of science fiction; I've had feelings about that night for a long time. Maybe I've just made up these impressions; I don't know.

(Discussion of feelings and impressions; and the similarity of these impressions to those of other persons who experience "contact" in UFO experiences).

Discussion

The pendulum technique, as described in this paper, can be used as a procedure for uncovering subconscious memories. Thus, the technique may be useful to UFO field investigators for obtaining preliminary information about CE III experiences - including the possibility that field investigators themselves have participated in "hidden" UFO experiences.

Of course, there are doubts among some practitioners of hypnosis about the validity of information obtained through the pendulum technique. Further, there are doubts among some UFO investigators (7) about the accuracy of hypnotic procedures for investigating "abduction" cases. The studies by Lawson (12), using "imaginary" abductees, raise many questions about the "imagination" versus "memory" dimensions of UFO experiences. The studies on hallucinations by Siegel (21) raise questions about the "hallucination" versus "memory" of claims of UFO abduction experiences.

UFO investigators may not be able to resolve, at this time, the critical question of the validity of information from UFO witnesses (26). It may be another generation, if ever, before there is sufficient knowledge about the lives of UFO "contactees" to support Vallee's hypothesis of a "control system" (28), or the speculation of "cosmic consciousness conditioning" as a purpose in UFO activity (24).

Meanwhile, UFO investigators can be concerned about the reliability, or consistency, of information obtained from UFO witnesses. With continued investigation of UFO encounters, including cases of multiple witnesses

(4) (6) (27) (29), UFO investigators may be able to determine if there are patterns in CE III cases. In discussing the classic case of Betty and Barney Hill, Hynek (9) concluded: "When and if other cases of close encounters become available for study (one recalls that the Hills waited several years before seeking treatment), we will be able to note whether they also form a pattern."

The cases of Sgt. Schirmer and Airman PLW can serve as reminders that UFO encounters are difficult to evaluate. However, the history of the UFO controversy (11) (20) shows that there is difficulty in evaluating the physical evidence (10) (19) as well as the testimony of UFO witnesses (1). If hypnotic procedures are not followed, then some UFO cases may provide little information for evaluation and discussion.

Despite the difficulties in evaluating CE III experiences through hypnotic procedures, UFO investigators have an opportunity to explore and to obtain information that might go unnoticed. The pendulum technique can serve as an initial procedure in obtaining preliminary information about close encounter experiences.

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HYPNOSIS OF IMAGINARY UFO "ABDUCTEES"

A. H. LAWSON

*California State University, English Department
Long Beach, California 90840, USA*

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I. ABSTRACT

In an attempt to evaluate objectively the claims of UFO "abductees," imaginary abductions were induced hypnotically in a group of volunteers who had no significant knowledge of UFOs. Eight situational questions comprising the major components of a typical abduction account were asked of each subject.

Although the researchers expected major dissimilarities, an averaged comparison of data from four imaginary and four "real" abduction narratives showed no substantive differences. Also, extensive patterns echoing well-established details from "real" UFO reports emerged from the "naive" subjects' imaginary sessions.

There is as yet no satisfactory explanation for the patterns and other similarities between imaginary and "real" abductions. But, more significantly, there are parallels between these patterns and the "image constants" or recurrent descriptions of form, color, and movement reported by subjects in drug-induced hallucination experiments, and in so-called "death" narratives, among other mental processes. Thus there is reason to accept at least some parts of "real" abductees' stories as accurate reflections of what their sensory mechanisms have reported.

However, despite the many similarities, there are crucial differences--such as alleged physical effects and

multiple witnesses--which argue that UFO abductions are separate and distinct from imaginary and hallucinatory experiences. With these distinctions in mind, an abduction model is proposed:

Witnesses really perceive images--from whatever source--such as bright and pulsating lights, lattice-textured forms moving randomly in the sky, lighted tunnels, humanoid figures, etc. These abduction constants are combined with data from the imagination, memory, and existing UFO data known by witnesses to create a "real" UFO encounter. The subjective reality of the intense hallucinatory structure convinces the witnesses that the entire experience is a physically real event. Subsequently they may report the "truth" as they have experienced it, although actual occurrences remain unclear.

The complexities of the UFO phenomenon are affirmed by the above model since still unexplained are many puzzling matters, including the greatest mystery of all, the nature of the stimulus which initiates the imagery in the witness and so triggers the abduction sequence.

The writer prefers a dualistic UFO hypothesis. But while there is a continuing absence of unambiguous physical evidence, this study concludes that UFOs are--in psychological terms--unquestionably real, and further, that non-physical UFO research is promising.

Key-words: Abduction sequence; animals; apparitions; "death" narratives; drug-induced hallucinations; entities exotic; hallucinations; human; humanoid; hypnosis; image constants; imaginary abductees; model abduction; "naive" subjects; patterns; "real" abductees; robot; stimulus.

II. INTRODUCTION

Since early 1977, sixteen volunteers have been hypnotized and given imaginary UFO "abductions" by a clinical hypnotist working with a group of Southern California ufologists.* The purpose of this paper is to describe the series of experiments and to discuss their implications for UFO research in the light of several analogs to abduction experiences, particularly drug-induced hallucinations.

The imaginary "abductees" were volunteers from local colleges and communities. The group was composed of ten females and six males and ranged in age from 12 to 65. Based upon a brief questionnaire, the oral portion of which was administered before and again during hypnosis as a check, all subjects were judged to be "naive"--that is, generally ignorant about UFOs and the extensive if uneven literature about them. (See Appendix I for additional data on the subjects and on the experimental protocol.)

The imaginary abduction study came about primarily because of researchers' dissatisfactions with results from allegedly real abduction case investigations. Objections included: 1) the uncertain credibility of witnesses; 2) the ambiguous nature of the anecdotal and other evidence supporting abduction witnesses; and 3) unresolved questions as to the efficacy of hypnosis and/or hypnotic procedures followed in particular cases. The researchers began the study with the assumption that imaginary abductions would be clearly distinct from "real" cases and so would offer some proof of the "reality" of actual abductions. But what we found was both surprising and unsettling, and much of the intervening time has been spent in trying to deal with the implications of those results.

III. MATERIALS AND METHODS

As the case literature indicates, most of the 200 or so reported abductions typically contain several distinct stages, the whole of which can be thought of as the abduction sequence:

- I. Witness in normal physical and mental environment
- II. Witness in "pre-abduction condition"
- III. Initiation of experience
 - A. Loss of control
 - B. Witness senses UFO
 - C. Witness senses being taken aboard UFO

*The group included Dr. W. C. McCall, John De Herrera, and the author. Earlier versions of this paper were presented at the 1977 MUFON UFO Symposium (Scottsdale, Ariz.), and at the 1978 meeting of the American Psychological Association (Toronto).

- D. Witness senses UFO interior
- E. Witness senses UFO entities
- F. Witness senses being "examined"
- G. Witness senses being given a "message"
- H. Witness senses being returned to normal physical/mental environment
- IV. End of abduction experience
- V. Aftermath of abduction experience

A series of eight situational questions based on this abduction sequence was incorporated into an interrogation form which was used with all subjects involved in the experiment. An abstract of this question form follows:

- I. Preliminary statement to subject describing the general nature of the experiment.
- II. Hypnosis.
- III. Idea of imaginary UFO encounter is presented, with the subject urged to tell all details eagerly.
- IV. Questions are asked about each of eight segments of an imaginary UFO encounter/abduction:
 - A. Imagine you are in your favorite place, relaxed and comfortable, when you suddenly see a UFO. Describe what you see.
 - B. Imagine you are aboard that UFO. How do you get aboard?
 - C. Imagine you are inside that UFO. Describe what you see.
 - D. Imagine you are seeing some entities or beings on board that UFO. Describe them.
 - E. Imagine the beings give you a physical examination. Describe what is happening to you.
 - F. Imagine you get a kind of message from the occupants of that UFO. What does the message say, and how is it made known to you?
 - G. Imagine you are returned where you were before you sighted the UFO. How do you get there, and how do you feel?
 - H. Imagine it has been some time since you have had that UFO encounter. Is there anything which indicates that your personality or your physiological and/or psychological functions have been affected in any way by your UFO experience?

In an attempt to gain perspective on the experiment, we quantified data from both imaginary and "real" abductions. (A discussion of the quantification procedures appears in Appendix II.) Transcripts of four "real" and four imaginary cases were analyzed line by line (for a sample imaginary transcript, see Appendix III). The following categories were used:

1. Pattern (obvious parallel with previous cases in the literature)
2. Possible pattern (parallel which the analyst judged probable)
3. No recognizable pattern
4. Strangeness of data
5. Subject's objectivity (response judged to show absence of bias)
6. Subject's bias (response deemed to indicate cueing or prejudice)
7. Possible paranormal data (i.e., alleged ESP data such as telepathy, etc.)
8. Emotional component (strong emotional factor in subject's responses)

The following two categories were used in the analysis but not in the comparison in Figure 1:

9. Intentional cue (a planned, deliberately leading question)
10. Unintentional cue (unplanned and/or accidental cueing or questioning)

The four "real" abduction cases were selected mainly because they were credible dual or multiple-witness cases for which regression transcripts or other narrative records were readily available. The "real" abductees included: A) Betty Hill, whose abduction along with her husband Barney in New Hampshire in 1961 is perhaps the most well-known such case. The imaginary study utilized Mrs. Hill's "dream narrative" (5) -- a detailed report of a series of dreams which she says followed her alleged abduction--rather than her hypnosis tapes because of its greater conciseness and its essential identity to the Hills' regression records. B) Judy Kendall (7), one of three sisters who allege they were abducted near Woodland, California, in 1971. The Kendall case was investigated by the same team of researchers involved in the imaginary study. C) Sandy Larson (8), who says she was abducted with her daughter and a boyfriend in North Dakota in 1975. D) Elaine Thomas (15), one of three women allegedly abducted near Liberty, Kentucky, in 1976.

The quantification attempt is subjective and uses a tiny sample, but the same analytical machinery was applied to both types of abduction narratives. It is emphasized, also, that well-investigated, multiple-witness abduction cases are very rare.

IV. RESULTS

The eight-category analysis computed its results simply by totaling the number of information bits in each category and dividing to get percentages. While individual categories

varied as much as ten points, striking similarities emerged when averages of four "real" and four imaginary cases were compared, as Figure 1 illustrates.

In addition to the quantification parallels, all of the imaginary subjects described many patterns or details identical to those found with varying frequency throughout UFO report literature (not only abduction cases). These patterns range from the obvious ("saucer-shaped") to rare or even obscure though established details of high strangeness ("tunnel of light"). Some interesting patterns from the first eight imaginary sessions are listed below, classified into "obvious" and "rare" categories for clarity. The investigators assumed that "obvious" patterns could be derived by naive subjects from even a very general awareness of UFOs. But "rare" patterns were thought possible only for "real" witnesses or those otherwise completely familiar with UFO case literature.

OBVIOUS PATTERNS

RARE PATTERNS

"UFO Sighted"

UFO too bright to see
Disc-shaped UFO (3)*
Haze surrounds UFO
Erratic movement

UFO more brightness than
color
Saturn-shaped UFO (3)
Saturn rings move counter
to body
UFO becomes "larger and
smaller"
S senses UFO is "observing"
her

"Aboard UFO"

S carried aboard in
trance
S "blacked out"

S taken through "tunnel of
light" (3)
Boarding seemed "long jour-
ney"
S taken through solid bot-
tom of UFO

"UFO Interior"

Consoles, furnishings (5)
Very bright lights (6)
Cold inside (3)
Loud humming

No consoles, furnishings
Fumes and mist present (2)
Cold and warm by turns
Humming almost "hypnotic"
TV-screen "windows" inside
S inside "bubble" through-
out exp.

* Numerals indicate the number of times a pattern was mentioned

OBVIOUS PATTERNS (cont)

RARE PATTERNS (cont)

"Entities"

Human (2)
Humanoid
Robot
Lacking some facial
feature (6)
Webbed fingers, toes
S senses entities tele-
pathic (3)

Animal
Exotic (3)
Apparition (2)
Two entity types on same
UFO (2)
Retracting beam from entity's
eye

"Examination"

Head-to-foot, orderly (3)
Entities kindly but
businesslike
Paralysis during exam (4)
S calmed by entity (3)

Blood sample "vacuumed" from
S
S senses "mind-probe" (2)
Bleeding is stopped, healed
quickly
S sleeps long time after exam

"Message"

Telepathic (4)
Content of message:
ecological, scientific,
"will return", "you
will forget" (2)

Verbal (2)
Other (2)
No message (3)
Entity's mouth moves, no sound

"Return"

Fatigue, disorientation
"No one will believe me"
S feels "good" about UFO exp.

Itchy skin, dry throat
Skin "burns"
S feels "taller" afterward

"Aftermath"

S has "more open mind"
S forgets experience

S puzzled about "time lapse"
S expects "something will
happen"

One of the most intriguing patterns relates an imaginary narrative with a 1974 Rhodesian abduction report, both of which describe apparitional entities that assume whatever form the observer wishes. This pattern suggests provo-

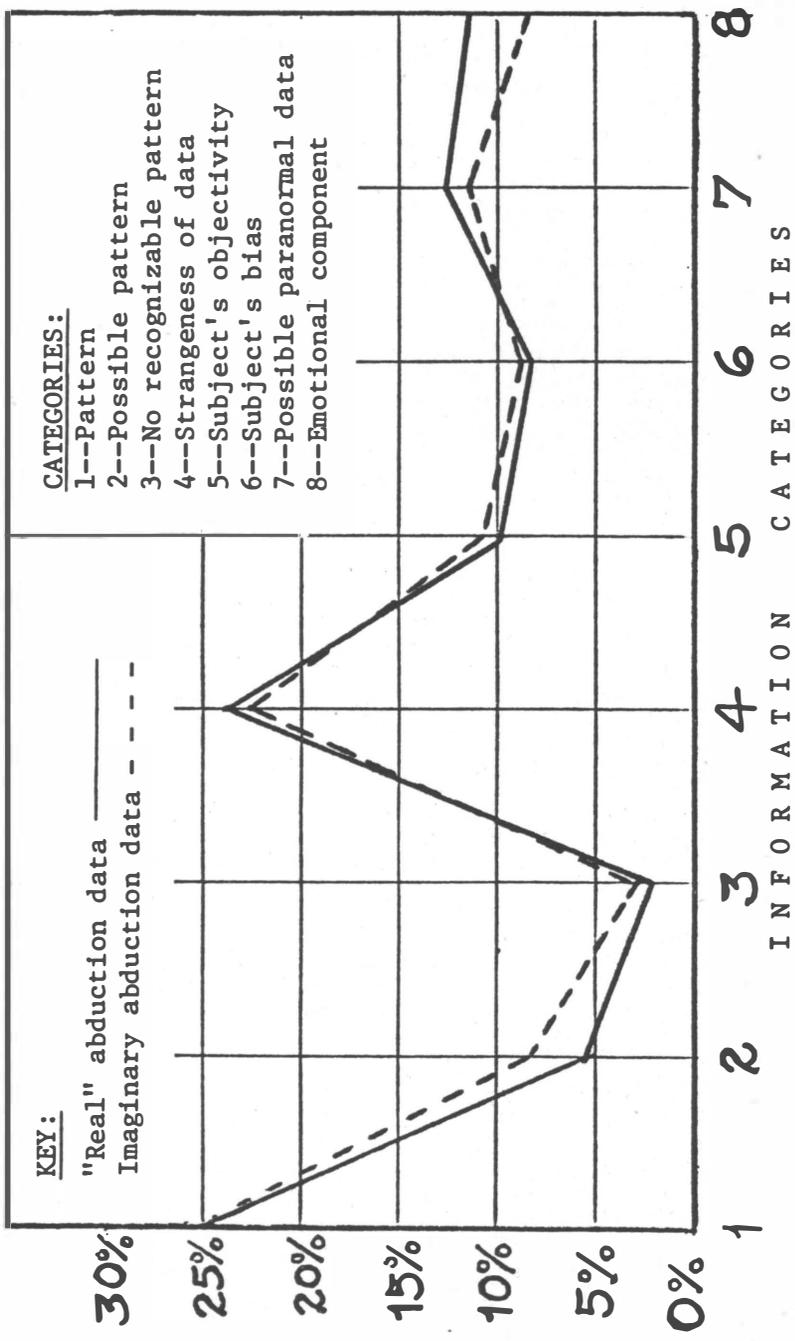


FIGURE 1-- GRAPH SHOWING EXTENSIVE SIMILARITIES BETWEEN DATA FROM COMPOSITES OF 4 "REAL" AND 4 IMAGINARY ABDUCTIONS.

catively that "real" witnesses are somehow responsible for significant elements of their own abduction experiences:

IMAGINARY APPARITION DESCRIPTION

. . . The more I look at it, the more it--it--it actually becomes more human as I look at it. It--it started out very elongated . . . it had the parts of a human face, but they--it didn't look right somehow. It--it's like there was no ears, or--the more I look at it--it begins to conform to what I want to see as being human. . . . I wonder if it's giving me this illusion of itself, strictly through my mind . . . because it keeps changing as it walks toward me. I get the feeling that it's changing for me. . . .

-Imaginary subject #4

"REAL" APPARITION DESCRIPTION

. . . We were programmed inside the motor car. . . . And then the form which was beamed straight to the back seat and sat there the entire journey, told me I would see what I wanted to see in and around and at itself. I would only see what I wanted to see: if I wanted it to look like a monster, then it looked like a monster. I don't know . . . what they did . . . Same basic form as humans, with large trunks, necks, hairless, two arms, two legs . . .

-Witness (under hypnosis) in Rhodesian case (from Flying Saucer Review 21, No. 2, 9)

Entity types from "real" and imaginary cases make a remarkable pattern. It is noteworthy that all of the six known categories of entities (human, humanoid, animal, robot, exotic, and apparitional) were described in just the first eight imaginary regression narratives. The sketches in Figures 2 & 3 provide the most compelling evidence of the extensive in-depth pattern parallels between imaginary and "real" abductions.

V. DISCUSSION

The imaginary/"real" patterns are as a group too abundant and complex to have sprung from ordinary pop culture sources such as TV, film, magazines, or other media. A thorough knowledge of UFO case literature would be essential for references to pattern details such as a retracting light beam, a UFO which changes its size, being levitated through a tunnel of light, and reports involving unusual entity types. Yet our protocol made significant UFO knowledge by the volunteers improbable.

Whatever their origin, the patterns seem to prove that the imaginary abductees were not fantasizing in absolute

"REAL" ENTITIES



TYPE:

HUMAN

HUMANOID

ANIMAL

IMAGINARY ENTITIES



FIGURE 2--"REAL" AND IMAGINARY ENTITY TYPES.

freedom--they did not, for instance, describe kelplike entities or UFOs that breathe. The absence of such far-out whimsy suggests that the patterns provide a structure around which subjects fantasize their experiences, following a limited imaginative range which parallels the bulk of "real" abduction cases.

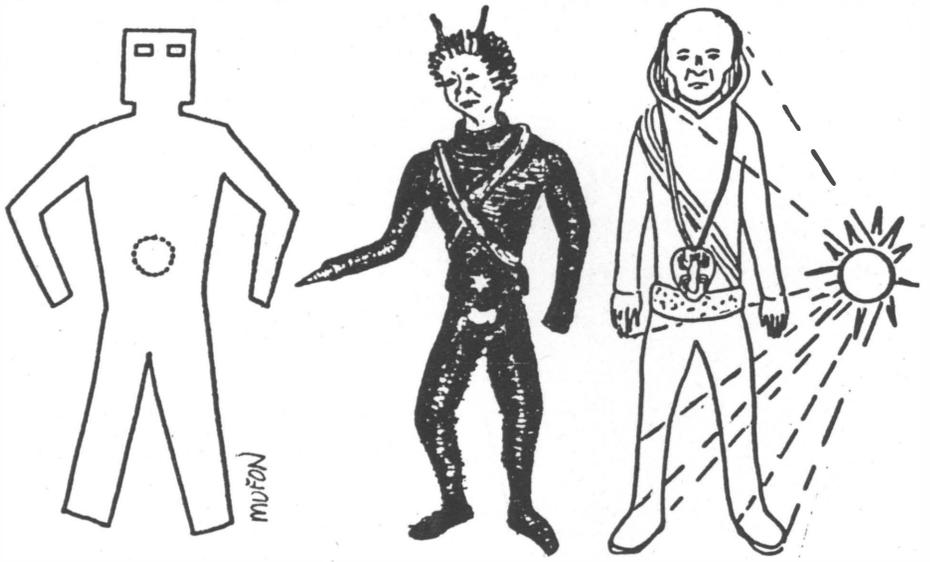
It should be pointed out that the patterns apparently confirm that imaginary narratives are substantially reliable indices of "real" case details. This baffling development may well become significant for future abduction research, but at present there seems no way to account for it.

The question remains, where have these non-trivial patterns in imaginary UFO abduction narratives come from? Several suggestions follow.

A. The hypnosis procedure. Since hypnotic regression has been used increasingly in recent years to obtain information about alleged abduction experiences, it is reasonable to ask whether the patterns are encouraged by the hypnosis procedure. Certainly one should be cautious about the results from hypnotic regression in UFO case investigations. As experienced hypnotists know, "mesmerization"--whatever its nature and whatever else it might be--is no sure road to the truth. A witness can lie, or believe his own lies, and thus invalidate any regression. A more common result may be that hypnotized witnesses subtly confuse their own fantasies with reality--without either the witness or the hypnotist being aware of what is happening. As far back as 1947 an attempt to use hypnosis in a UFO investigation resulted in apparent examples--though completely unwitting ones--of imaginary abduction narratives (2). It may be impossible to know for certain when witnesses are fantasizing in this way.

However, hypnotic regression has been employed in only a tiny percentage of the thousands of reports which provide the known details about the UFO phenomenon, and yet many unusual pattern details (such as retracting light beams) have been reported in cases where no hypnotic regression was used. Thus while the imagination may embellish and so corrupt a regressed witness's testimony, hypnosis can be a valuable research tool when properly employed. There the question will have to rest--albeit uncertainly.

B. Leading questions. A related inference is that the patterns are caused by a series of leading questions which bias the protocol of the imaginary abduction experiment. In reply, I quote from imaginary regression narrative #7. Note that the hypnotist merely asks a single question,



ROBOT

EXOTIC

APPARITIONAL

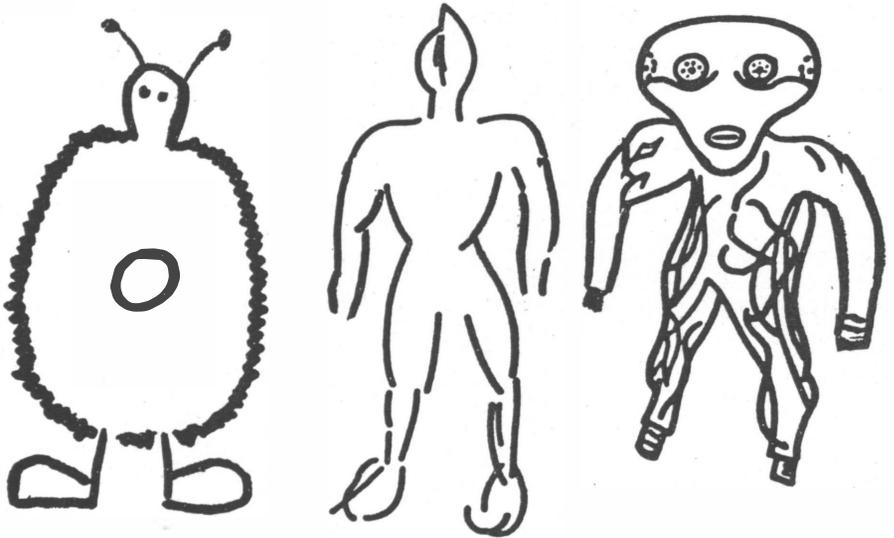


FIGURE 3--"REAL" AND IMAGINARY ENTITY TYPES.

whereas the subject responds with an extended descriptive passage in which I count more than 35 observational details --none of which can be said to result from cueing or otherwise improper procedure:

Q: Now, imagine that you're seeing some entities, or beings. . . . Describe them, as completely as you can.

S#7: They seem to be humanoid in form. They have round heads that are much larger than--humans. It's almost as though they're kind of--checking out to see if I'm hostile or not. Their bodies are different colored than their faces and hands. Maybe--maybe clothes. . . . Their skin is kind of--waxy--waxy yellow. They don't have any hair. They have kind of bumpy-like . . . skin. . . . Their faces seem kind of humanoid. But their hands are the same waxy yellow, and they have bumps on the top. They don't really have fingers. They seem to be kind of webbed. Yet I don't see definite projections, or fingers. Kind of bumps on the end of--of the--the hand. They don't seem--to have-- I can't see any legs, or feet, because they're--what looks like possibly an article of clothing goes right to the floor. Both of them are dressed alike. Costume is . . . oh . . . more purplish than blue in color. Seems to be all one--all made in one piece. They don't seem to be any seams on the costume. Their eyes are very, very deep-set. Can't really see eyes or pupils. What may be a nose is in the middle of the face, but doesn't really project from the face at all. And the mouths are--round openings, without lips. . . . They seem to have very short necks, and very broad shoulders. . . . They stand about four feet, two inches tall. Maybe a little taller. . . . They have no tools or weapons with them. They're just kind of walking around me. . . . And the floor seems to be going down, as if it's an elevator. And--and the door seems to be going up. I think we're traveling down. Doesn't really seem to upset them at all. I think they're probably examining me as well as I'm examining them.

(The subject's sketch of the entities described above appears in Figure 4.)

While no hypnosis session can entirely avoid unconscious bias and cueing, the imaginary series was generally free from such flaws. Perhaps I should repeat here that our comparative analysis checked for subjects' bias and for

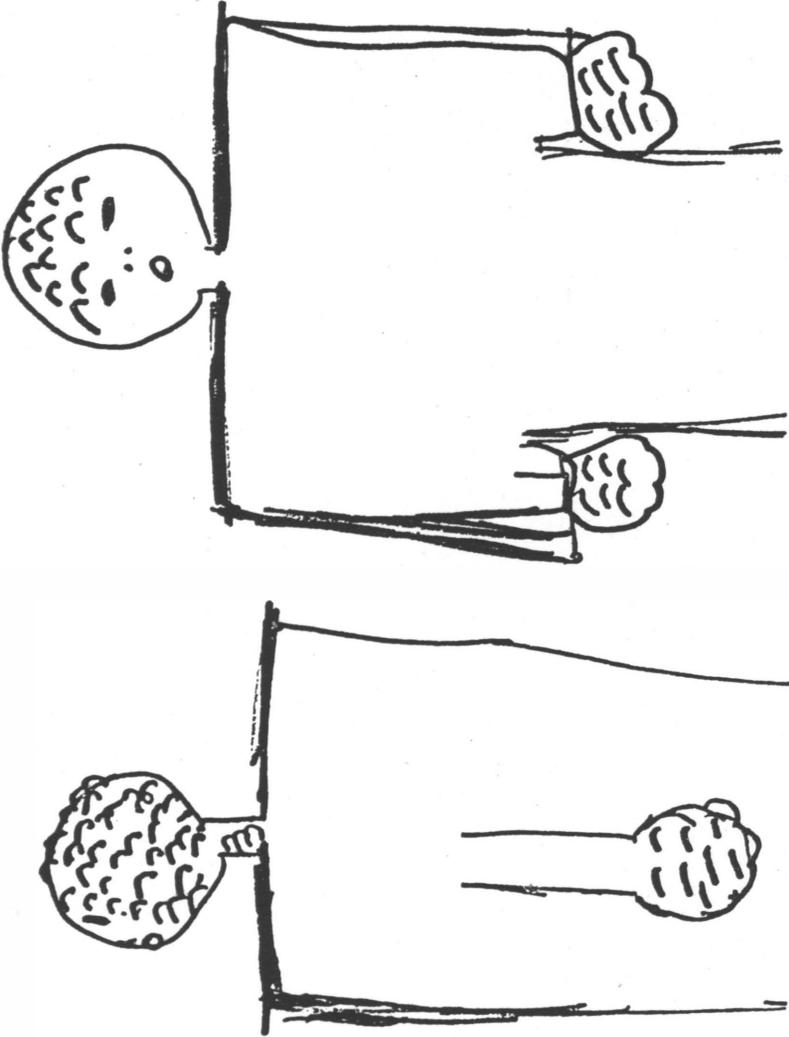


FIGURE 4--ENTITY DRAWN BY IMAGINARY SUBJECT #6.

leading questions, discounting both where appropriate.

C. Are "real" abductions imaginary? The existence of extensive and non-trivial patterns between imaginary and "real" narratives leads easily to the inference that "real" abductions are imaginary. But there are major differences between the two experiences, as the following comparison shows:

IMAGINARY ABDUCTION EXPERIENCES

Voluntary
Witness usually controls emotion
No enduring sense of "time lapse"
No physical effects
No physiological effects
No amnesia
Few dreams, nightmares
No apparent aftermath
Usually no conscious "memory" of UFO encounter experience

"REAL" ABDUCTION EXPERIENCES

Involuntary
Witness often frightened, emotional
Often involves "time lapse"
Physical effects alleged
Physiological effects alleged
Amnesia common
Dreams, nightmares, etc.
Aftermath of disturbing psychic, emotional effects
Often a conscious memory of UFO encounter

An interesting sidelight on one imaginary session was that the subjects involved (a couple) could not say for certain they had not experienced an encounter when awakened from hypnosis. Similarly, some "real" abductees were unable to say for sure whether they had imagined parts of their narratives or not. There are few simple answers in ufology.

In any case the investigators are aware that any explanatory theory must confront some considerable distinctions.

D. The ETH inference, UFOs, and certainly their popular misnomer, "flying saucers," imply for most people the possibility of extraterrestrial visitors, superior beings with advanced technology who may treat humans as specimens. Although there is no more certain evidence for the extraterrestrial hypothesis than for any other, none of the several viable UFO theories--psychic manifestations, extra-dimensional objects, exotic natural phenomena, divine emissaries, etc.--rivals the prevalence of the ETH. The "nuts-and-bolts" theory, then, may have distorted UFO report data by creating a complex set of ETH-oriented expectations which emerges in witnesses' narratives in the form of patterns..

The "obvious" imaginary patterns may originate from ex-

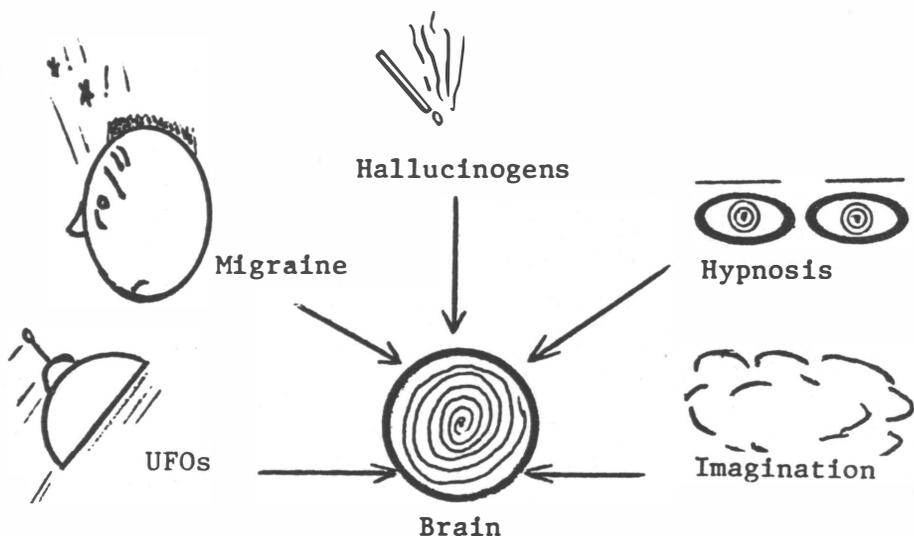


FIGURE 5--DIAGRAM OF THE BRAIN'S SIMILAR RESPONSES TO A VARIETY OF DIFFERENT STIMULI.

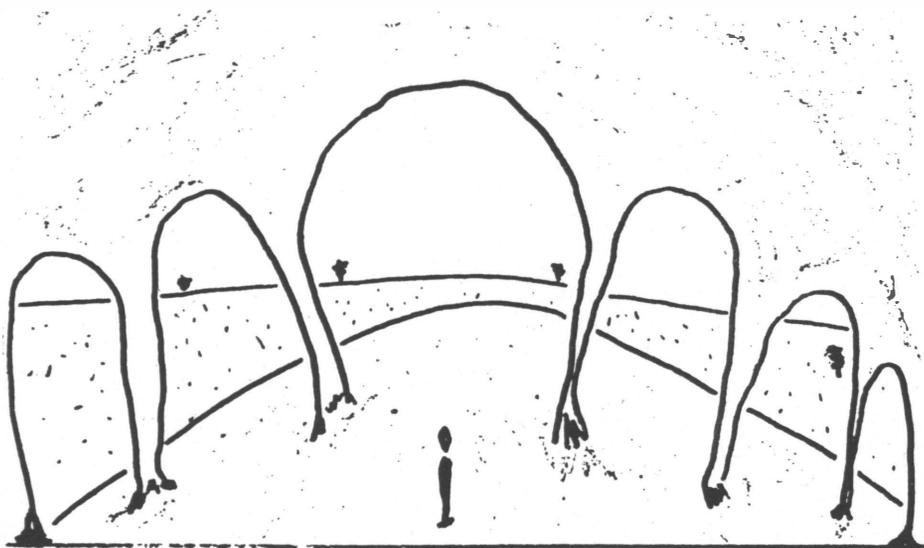


FIGURE 6--SKETCH SUGGESTED BY DRUG-INDUCED HALLUCINATION. NOTE RESEMBLANCES TO UFO INTERIOR AND "BIG ROOM". (AFTER HALLUCINATIONS.)

cessive ETH awareness. If imaginary data were completely culture-free, we might expect evidence of other hypotheses to manifest itself, but it apparently has not done so. Of course, ETH patterns may dominate simply because other theories are invalid.

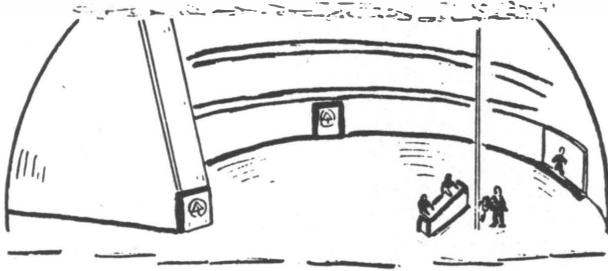
However, most "rare" data patterns probably do not stem from an ETH inference since, unlike the standard patterns, they have a mythic depth about them that would preclude easy cultural influence. In addition, the unusual patterns have affinities with other mental processes which will be discussed later.

E. Jungian archetypes. Many imaginary/"real" abduction patterns suggest the archetypal concepts hypothesized by Carl Jung, who developed the idea with regard to UFOs in his book, Flying Saucers (6). The patterns lend themselves to a Jungian interpretation since both "real" and imaginary narratives seem to imply a collective awareness of such imagery. This idea is acknowledged briefly here, but is best considered only as an interesting speculation.

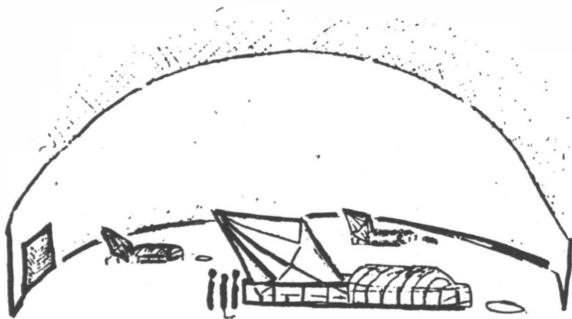
F. Paranormal cueing. The investigators considered that some imaginary subjects might be "reading the minds" of the three or more informed ufologists present during the hypnosis sessions. Paranormal communication could account for the ability of the naive volunteers to describe obscure details of UFO lore. However, evidence for this fascinating possibility is ambiguous at best.

G. The limitations of the brain's responses. The patterns could be explained if, as is theorized, the human brain responds similarly to a variety of stimuli, in which case supposedly unrelated phenomena produce identical mental effects (11). If the brain does mask its activities in this way, comprehending anything about the stimulus for abduction experiences will be difficult. Also, the limited-brain notion seems to open up an epistemological can of worms: even if we choose to trust witnesses, we can't know how their testimony relates to reality (see Figure 5). We will return to this matter later.

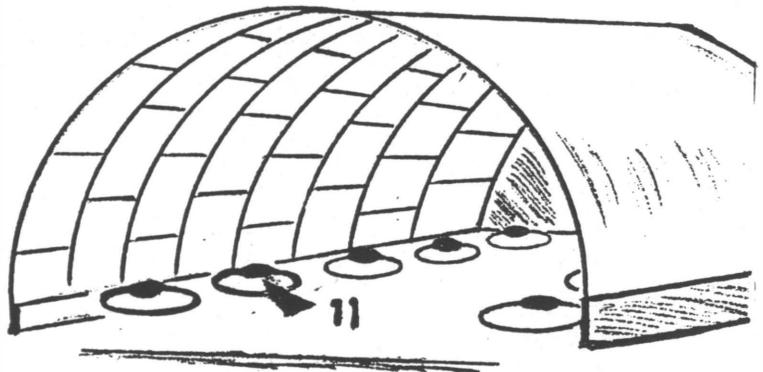
None of the above suggestions accounts adequately for the patterns and all related questions. In addition, a significant implication of the patterns remains: "real" abduction witnesses are very likely telling the truth as they have experienced it. Support for this statement is found in two areas: 1) recent work on drug-induced hallucinations by R. K. Siegel and others (11, 12, 13); and 2) anecdotal evidence from "death" narratives compiled by Raymond Moody and others (9).



Garden Grove (Calif.) Case (1971)



Mojave Desert (Calif.) Case (1974)



Travis Walton Case (1975)

FIGURE 7--"BIG ROOMS" FROM RECENT "REAL" ABDUCTIONS.

There are substantial similarities between the UFO abduction sequence and what are called "image constants" or recurrent descriptions of form, color, and movement reported by subjects in drug-induced hallucination experiments. Some of the more obvious similarities include: 1) the initial bright, pulsating light; 2) images of tunnels and/or tubes; 3) varied but intense colors; 4) rotating or spiraling images; 5) geometric patterns; 6) erratic movement of imagery; 7) the subject's becoming part of the imagery or otherwise participating in the experience; 8) reports of multiple "TV screens," often displaying autobiographical data; 9) integration of the subject's own memories into the experience; 10) various "complex imagery"--i.e., recognizable human (often cartoon-like), animal, and other forms.

While several of these hallucinatory images are virtually synonymous with familiar segments of the abduction sequence, an unusual parallel is provided by a participant's painting of a scene from a hallucination, and it may serve to introduce perspective on the abduction/hallucination patterns. The picture suggests the interior of a high-domed UFO with surrounding "windows" (see Figure 6). Large, domed rooms are common in both "real" and imaginary abduction narratives, as Figure 7 illustrates.

The tunnel/tube image is one of the most common in both hallucinations and imaginary/"real" abduction narratives. At times the expression of the image in the three experiences is very similar, implying a common origin (see Figure 8):

#1, Imaginary Abductee ("elevator-shaft" room):

"They seem to have...brought me to this ...it almost seems like a tube. The ceiling is about 20 feet high. And I seem to be about 3 feet from the floor...." (Subject #6)

#2, "Real" Abductee ("volcano" room):

"I can see sky up there!...I'm looking up through rocks!...It's a volcano, maybe....Like a long tube....jagged...." (Witness to 1976 Kentucky abduction.)

#3, Hallucinating Subject ("tubelike" room):

"It's sort of like a tube, like I sort of feel...that I'm at the bottom of a tube looking up.. You can see the (screens) and imagery converging with a point in the center...." (Siegel(13),p. 117.)

But the tunnel/tube images take various forms in UFO reports, Some of these are clearly tunnel-like, while

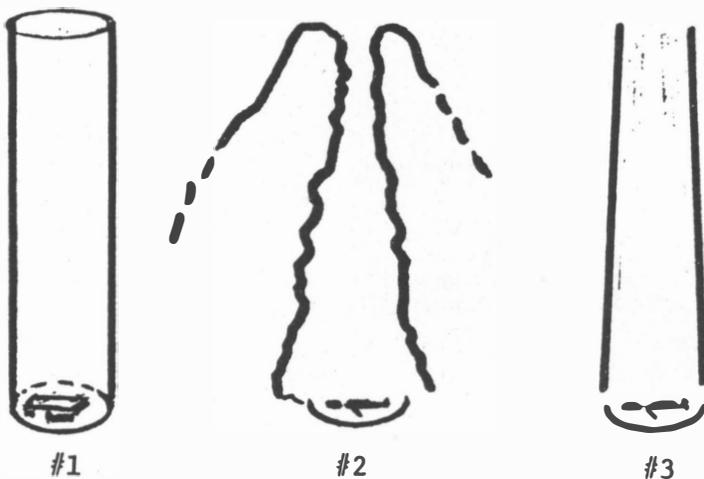


FIGURE 8--SIMILAR TUBE IMAGES FROM IMAGINARY (1) AND "REAL" (2) ABDUCTIONS, AND A HALLUCINATION (3).

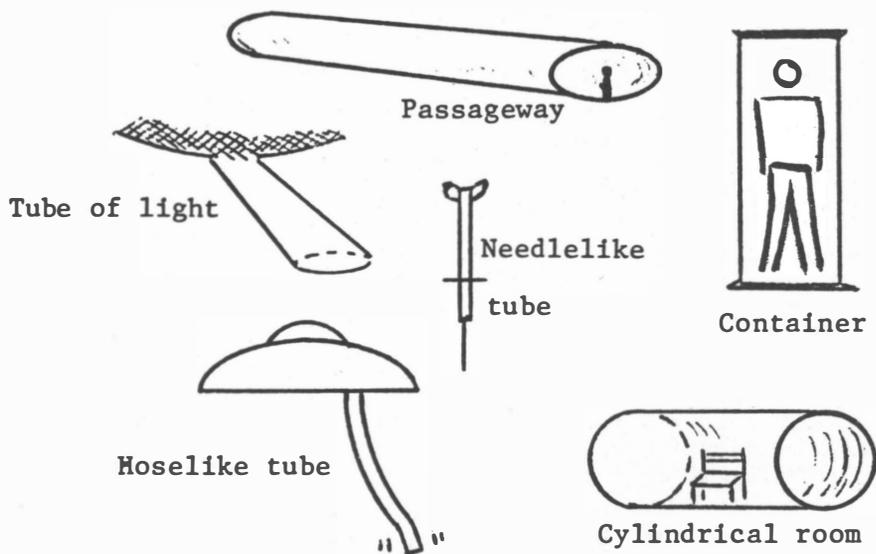


FIGURE 9--TUNNEL/TUBE IMAGERY IN UFO REPORTS.

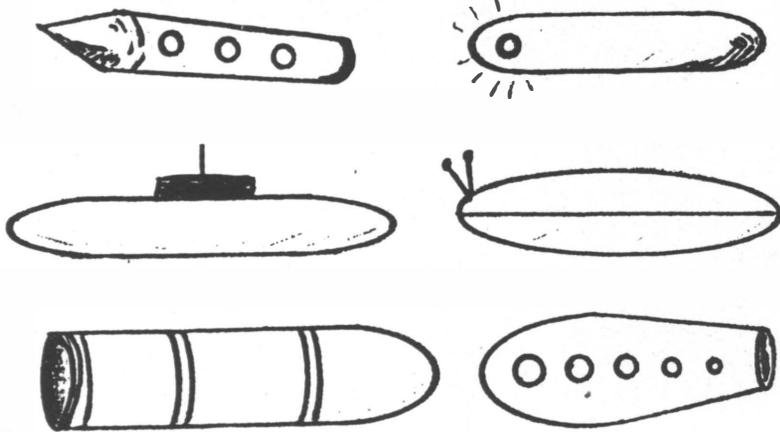


FIGURE 10--TUBE-SHAPED UFOs.

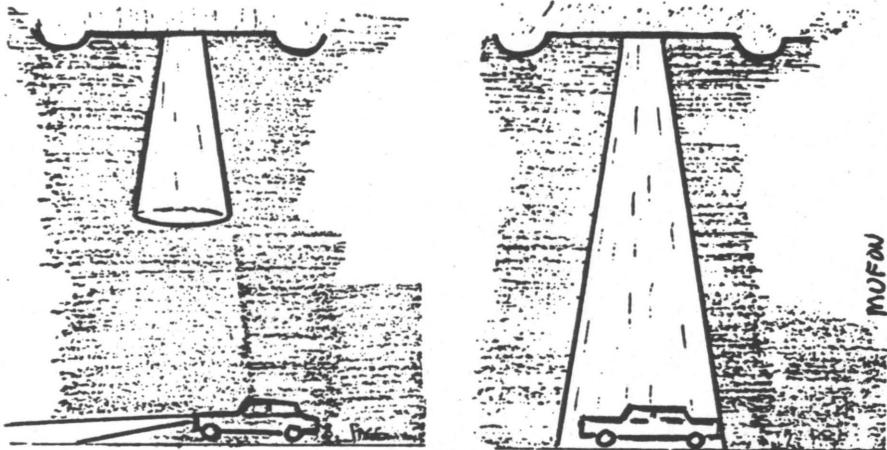


FIGURE 11--TYPICAL RETRACTING LIGHT BEAM FROM UFO
SHOWING FLAT "CUT-OFF" END.

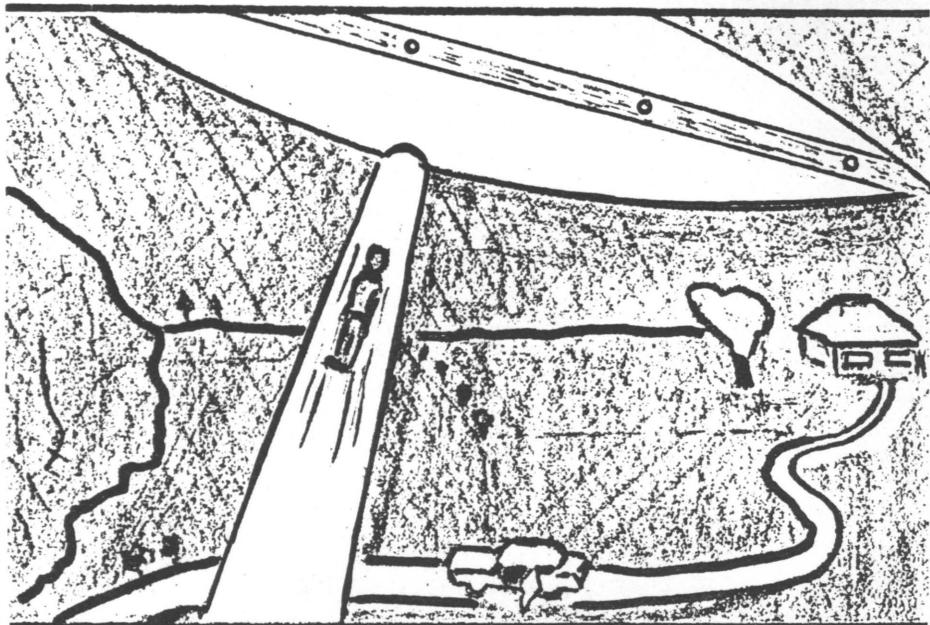


FIGURE 12--REPORTED LEVITATION BY BEAM OF LIGHT.

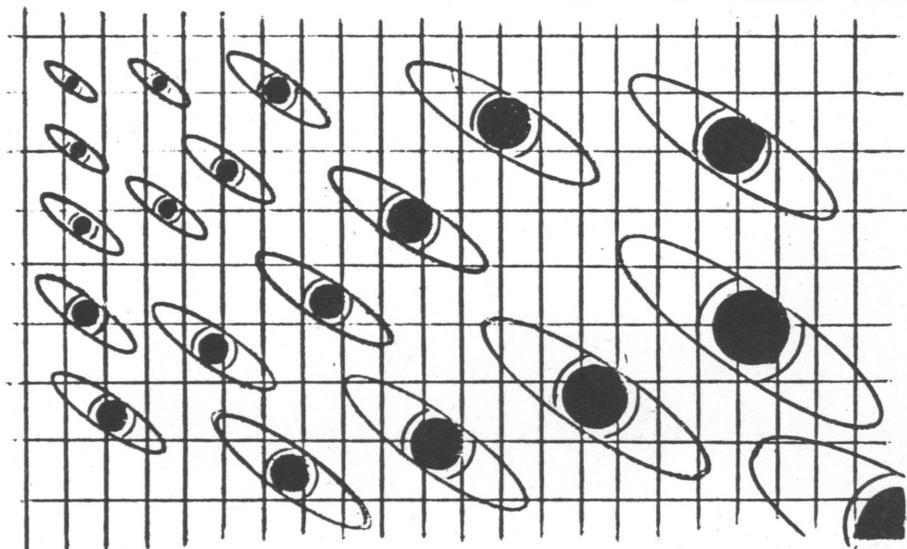


FIGURE 13--GEOMETRIC PATTERN AND "COMPLEX" OR RECOGNIZABLE IMAGERY FROM HALLUCINATION.

others seem to be figurative extensions of the image. As Figure 9 shows, they emerge in reports as UFO passageways, cubicles, transparent containers, rooms, etc. The similar tube image appears as a hose-like appendage hanging from the UFO, and also in a miniversion as a cylindrical tube frequently wielded (as if a medical instrument) by entities during alleged physical examinations.

The tunnel/tube image also seems to recur in the many reports of cylindrical UFOs. (Some typical examples appear in figure 10.) One of the most unusual manifestations of this image is the retracting light beam, which witnesses describe as akin to a lighted tube or tunnel. From ground perspective it is as if they are looking into a tunnel of light. This tubelike beam has several bizarre qualities: it reportedly emerges and retracts slowly, showing a flat "end" (as in figure 11); its bright light often casts no shadows; and it allegedly has physical effects upon witnesses and environment.

One function of these tubes of light is the levitation of witnesses. Figure 12 shows a typical rendering of a "real" levitation. Similar events were described by three imaginary subjects:

Subject #1: "A long tube came out of it, and it was about two feet above me,...And this long cylinder-like tube came down. It was grey and...was like all colored lights inside of it....I seem to be floating for a second, and--then I was inside...."

Subject #3: "...gentle suction...it just sort of drew me up into it, sort of through the bottom...like some sort of tunnel of air and light, drawing me up inside of it....I'm inside of a tube when I first come in...."

Subject #4: "I was pulled in...a particle of dust into a vacuum cleaner. I mean, I'm just suddenly there"

Another common image in hallucinations is the geometric or lattice pattern, which is sometimes found combined with complex or recognizable imagery (as is Figure 13). Geometric patterns are also found in witnesses' sketches of the textured surfaces of UFOs (various examples are shown in Figure 14.). Many UFO geometric patterns are apparent rectangular or circular light sources which are interpreted as "windows" by witnesses. An interesting point about reported UFO shapes is that virtually every geometric form can be found among witnesses' sketches.

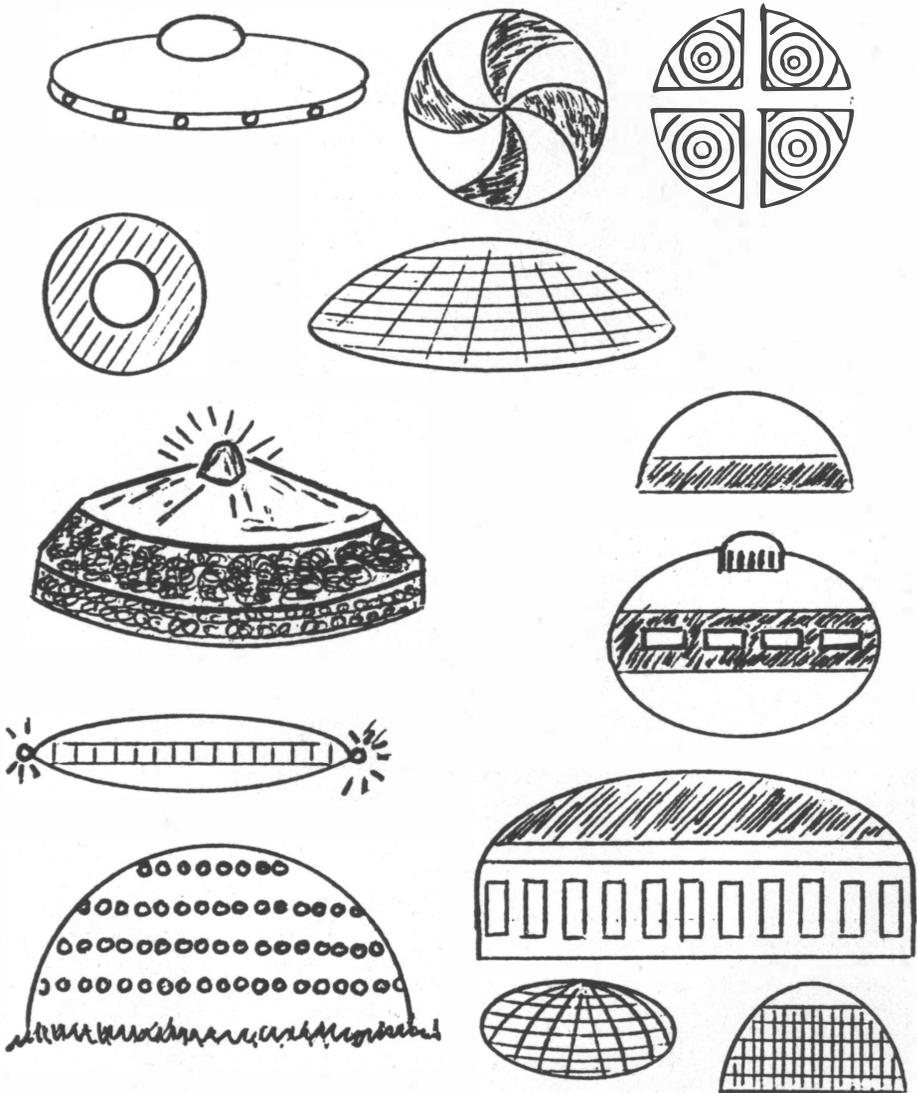


FIGURE 14--GEOMETRIC PATTERNS REPORTED ON UFO SURFACES.

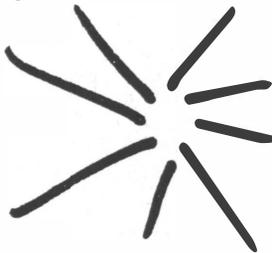
Thus UFOs can be directly associated with a sequence of hallucination image constants (see Figure 15): pulsating light sources; tunnels and/or tubes; rotating images; geometric patterns; colors; and random movement. These and other parallels support the idea that sequential patterns exist in drug-induced hallucinations as well as abductions. Siegel says that at least cocaine hallucinations do appear to progress toward increasingly intense levels of experience, "from simple snow lights through geometric forms to tactile sensations" (11).

Remaining parallels are even more dramatic. The imagery from hallucinations and close encounter reports is often so similar as to be nearly interchangeable. In Figure 16 are four such sketches: first "A", from a CE-III in which a UFO with a "honeycomb texture" was observed with an entity in a window; "B" is a typical geometric pattern from a hallucination, not very different from the textured surface of "A"; "D", also from a hallucination experience, shows a rotating tunnel with a figure in a "window" and resembles both "A" and "C".

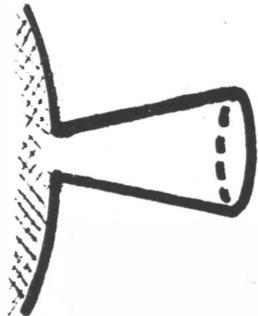
In Figure 17 a "complex" or recognizable hallucination image (right) can be compared with a reported entity. Similarities between the two cartoon-like figures include their aura, their expressions, and that both seem apparitional. Oddly, both hallucination and abduction witnesses perceive human forms as cartoon-like on occasion.

There are other similarities. Hallucinating subjects apparently integrate their own memories into their sessions, experiencing old events with some changes and a new intensity. One interesting manifestation of this process is illustrated in Figure 18. Hallucinating subjects commonly observe a series of "TV screens" displaying various personal events from their past. Similarly, both imaginary and "real" abductees report seeing groups of such screens bearing autobiographical data.

Personal data emerges in other segments of abduction narratives. For instance, Judy Kendall described her "catheterization" by aliens, and then revealed she had been catheterized while in a hospital (4). Sandy Larson told of having her sinuses "scraped" by her alien examiner, but she had had a sinus operation previously (8). There are other examples in the literature. Surprisingly, one of the imaginary subjects also experienced this medical-memory phenomenon; subject #3 said a large mask apparatus was put over her face during her examination then later remembered that a similar mask was used when she was given a tonsillectomy as a child. If remembered medical details can find



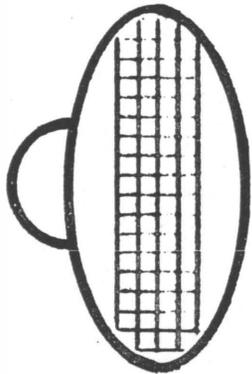
Lights



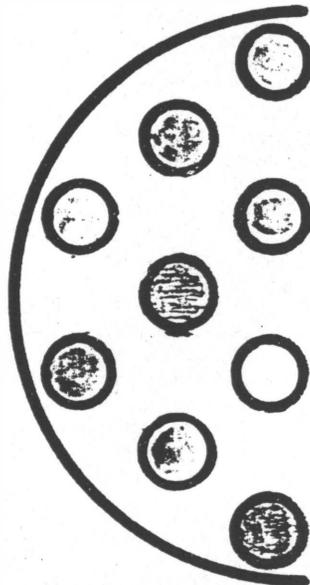
Lighted tunnel



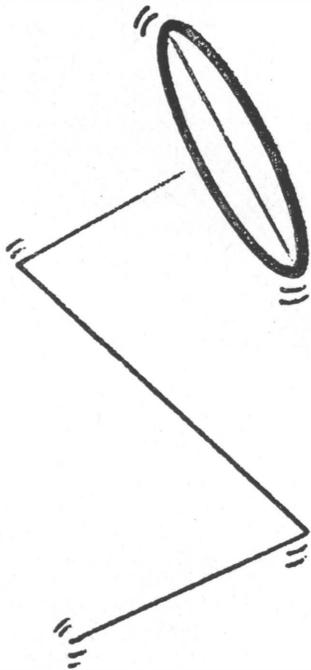
Rotation image



Geometric pattern

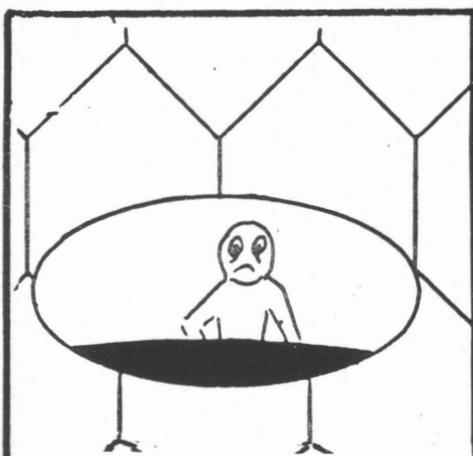


Colors

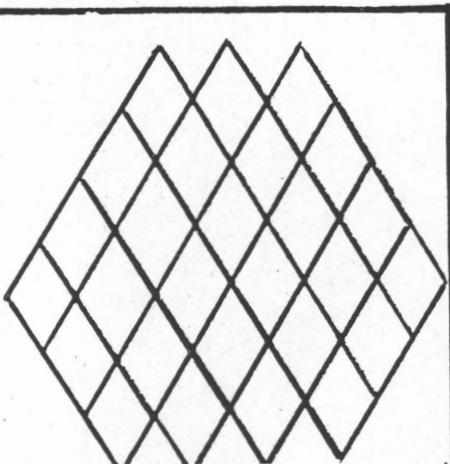


Random movement

FIGURE 15--SOME UFO-HALLUCINATION PARALLELS.



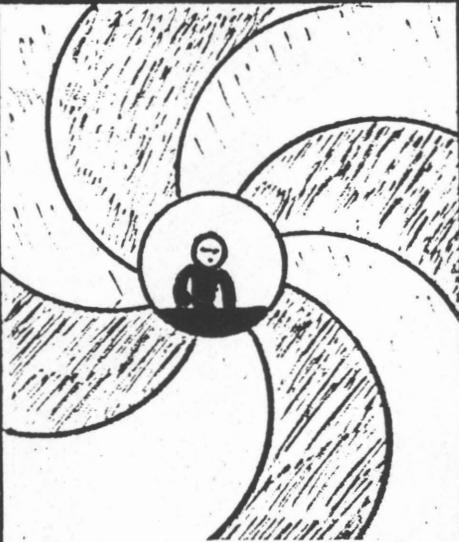
A. Entity in "window" of honeycomb-surface UFO. (F/ Webb, Year of Humanoids.)



B. Typical geometric or lattice image reported by hallucinating subjects.

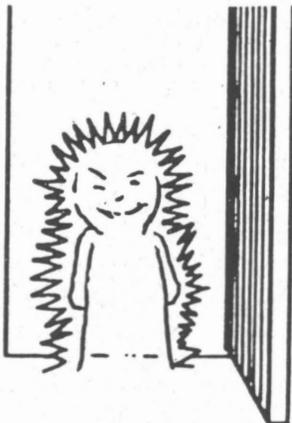


C. Entity reported near auto hood. (Webb/Humanoids)



D. Hallucination image of human figure within a rotating tunnel. (Suggested by Siegel, Hallucinations.)

FIGURE 16--SIMILAR UFO/HALLUCINATION IMAGES.



"Little electric man"
from 1973 Ohio CE-III.
(Webb/Humanoids.)



Hallucinated figure
resembles entity, (L).
(Suggested by Siegel,
Hallucinations.)

FIGURE 17--SIMILAR FIGURES FROM A UFO CASE (L)
AND A HALLUCINATION EXPERIENCE (R).

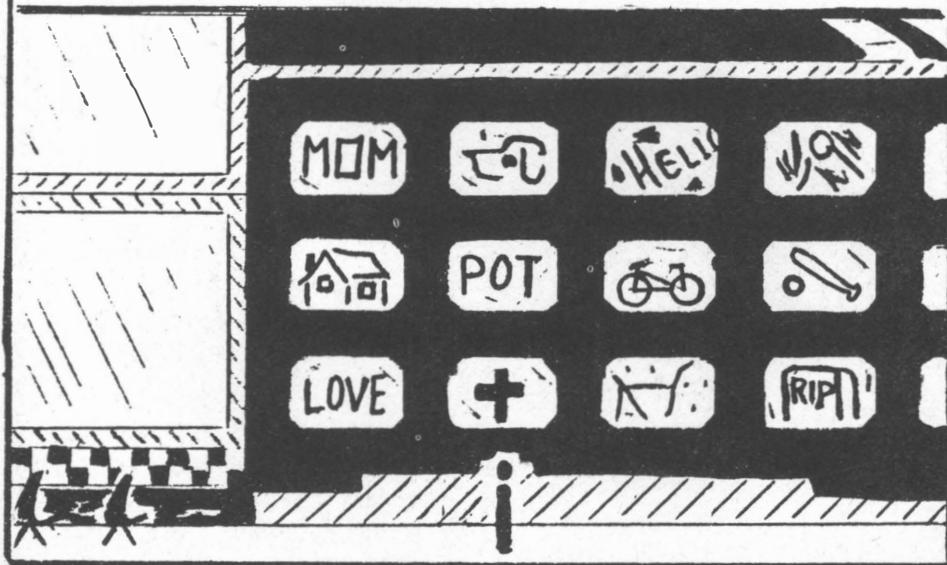


FIGURE 18--"ABDUCTEE" AND "TV SCREENS" BEARING PERSONAL
DATA. SIMILAR PHENOMENA ARE REPORTED DURING
HALLUCINATIONS.

their way into imaginary and "real" abduction narratives, there is no reason why other personal data should not turn up as well. As in the case of hallucinations, it is clear that the interplay of memory and imagination may promote a wide variety of details originating in the subject's personal experience.

Witness misinterpretations may also be involved in a second body of evidence supporting the "reality" of abductees' experiences. This evidence is provided by "death" narratives or descriptions of events supplied by persons who have apparently experienced clinical death before being resuscitated or otherwise "returned" to life. As described by Raymond Moody and others (9) the evidence is anecdotal rather than rigidly scientific, and this should be kept in mind. But besides being intriguing and provocative, in its generally informal character it is not too different from the bulk of UFO evidence. "Death" experiences typically involve a series of events which have many parallels with the UFO abduction sequence. Although "death" narratives do not always follow an identical sequence of events, many of the described phenomena are consistent with details from abductions. Similarities include: 1) a bright light; 2) a humming (musical or annoying); 3) a sense of floating out of body; 4) moving through a "tunnel" or tube; 5) approaching a door or border of some sort; 6) encountering a "being of light"; 7) telepathic communication with the "being"; 8) a rapid review "as on a TV screen" of events in the witness's life; 9) a kind of "moral examination" (roughly akin to the abductee's physical exam) which involves past deeds; 10) a moral "message" of some kind; 11) a "return"; 12) an aftermath in which the witness experiences varying degrees of personality change.

The overall context of death and dying is of course remote from UFO abductions, but in that respect it is like reports of hallucination experiences. In Figure 19 are listed some of the signal parallels between "real" and imaginary abductions, hallucinations, "death" narratives, and other processes. The apparent near-identity of imagery among these phenomena suggests that whatever differences there are stem not from qualitative distinctions but from participants' interpretations. Note also that Figure 19 includes imaginary hallucinations, imaginary "death" experiences, and creative imagination categories. Study of these areas is well under way, and further results will be made available at the earliest convenience.

Do the extensive parallels among hallucinations, "death" experiences, and imaginary/"real" abductions prove that UFO abductions are illusory? I think not, for four reasons. First, many abduction (and other close encounter) reports involve dual

ENCOUNTER SEQUENCE	REAL ABDUCTIONS	IMAGINARY ABDUCTIONS	HALLUCINATIONS	DEATHBED NARRATIVES	RELIGIOUS CONVERSION	MYSTICAL EXPS.	SHAMANS' TRANCES	MIGRAINE ATTACKS	"LITTLE PEOPLE"	IMAGINARY HALLUCNTNS.	IMAGINARY DEATHS	CREATIVE IMAGINATION
BRIGHT LIGHT	*	*	*	*	*	*	*	*	*	*	*	*
GEOMETRIC PATTERNS	*	*	*	*	*	*	*	*	*	*	*	*
TUNNEL/TUBE	*	*	*	*	*	*	*	*	*	*	*	*
SHAPE CHANGES	*	*	*	*	*	*	*	*	*	*	*	*
SIZE CHANGES	*	*	*	*	*	*	*	*	*	*	*	*
SOUNDS	*	*	*	*	*	*	*	*	*	*	*	*
SENSE OF FLOATING	*	*	*	*	*	*	*	*	*	*	*	*
"BIG ROOM"	*	*	*	*	*	*	*	*	*	*	*	*
"DOOR"	*	*	*	*	*	*	*	*	*	*	*	*
BEING	*	*	*	*	*	*	*	*	*	*	*	*
COMMUNICATION	*	*	*	*	*	*	*	*	*	*	*	*
"TV SCREEN" REVIEW	*	*	*	*	*	*	*	*	*	*	*	*
MORAL EXAMINATION	*	*	*	*	*	*	*	*	*	*	*	*
PHYSICAL EXAMINATION	*	*	*	*	*	*	*	*	*	*	*	*
BODILY DISMEMBERMENT	*	*	*	*	*	*	*	*	*	*	*	*
PARALYSIS	*	*	*	*	*	*	*	*	*	*	*	*
FOG, MIST PRESENT	*	*	*	*	*	*	*	*	*	*	*	*
"MESSAGE"	*	*	*	*	*	*	*	*	*	*	*	*
RETURN	*	*	*	*	*	*	*	*	*	*	*	*
AFTERMATH	*	*	*	*	*	*	*	*	*	*	*	*
INEFFABILITY OF EXP.	*	*	*	*	*	*	*	*	*	*	*	*

FIGURE 19-- PARALLELS AMONG VARIOUS MENTAL PHENOMENA SHARING BASIC ELEMENTS OF THE "ENCOUNTER MATRIX"

or multiple witnesses and there is scant evidence that multiple hallucinations or shared "deaths" occur at all--let alone spontaneously and extending over several hours. Second, there are reported physiological, psychological, and physical effects associated with abduction experiences which--if true--are uncharacteristic of the other events. Third, hallucinating and "death" subjects are convinced of the "reality" of their experience only during or after peak intensity periods; but most abduction or other close encounter witnesses are persuaded very early of the "reality" of the event--however incredible they know it to be. Fourth, while the triggering mechanism or stimulus for hallucinations and "deaths" apparently can be determined with some accuracy, the stimulus for "real" abduction experiences continues to be one of the major unknowns of ufology.

While abduction experiences are probably not simply hallucinatory, their association with hallucination and "death" image constants provides objective evidence of substantial significance to ufology: these similarities argue that at least parts of "real" abductees' narratives are accurate reflections of what their sensory mechanisms have reported. That is, witnesses have really perceived bright, pulsating colors; lighted tunnels; lattice-textured "somethings" in random movement in the skies; and humanoid figures! These "abduction image constants" provide a structure which "real" witnesses could so interpret as to lead them to develop an encounter narrative--just as the imaginary subjects may have done.

A briefly sketched model of a "real" abduction experience could involve the following: 1) the abduction image constants (which the witness actually perceives) are integrated with data largely from 2) the imagination, 3) the memory, and 4) the witness's (ETH-biased) general awareness of UFOs. The witness's conviction of the "reality" of the image constants encourages an uncritical acceptance of data from the imagination and memory, and another UFO encounter event is experienced.

This model falls short of explaining major segments of the UFO phenomenon, particularly the reported physical and physiological effects which allegedly accompany close encounters. It does not clarify how or why witnesses integrate the image constants and other data into abduction experiences; nor how all these matters relate to night lights and daylight discs, which comprise the majority of sighting reports. Above all, still unknown is the nature of the stimulus which initiates the witnesses' perception of abduction image constants--the first and most mysterious event in the abduction sequence. In this connection, the French ufologist Claud Rifat's speculative conclusions' seem apt (10):

UFO reports . . . do not give us any indication of the true stimulus which elicited the report; they give us only what the subject fancies about the nature of a UFO CE-IIIs are LSD-like experiences in which a subject perceives a mixture of the real world and of her/his inner unconscious one. . . .

This epistemological dilemma should suffice, but its complexities multiply. A recent study by psychologist Richard Haines finds no substantial differences between sketches of UFOs by "real" witnesses and non-witnesses (4), indicating that anyone can sketch a UFO with "accuracy" whether or no he/she has had a UFO experience. Like the imaginary study, the Haines results make one wonder how much--if any--UFO witness testimony is "true." Further, researchers have determined that during REM or dream sleep the human muscular system undergoes a mild paralysis (perhaps to prevent the physical acting out of dreams)(1). Close encounter witnesses frequently report a sense of paralysis at the first approach of a UFO and/or at other intense moments. But several imaginary abductees--and their enigmatic consistency is maddening-described feeling paralyzed at similar moments. If the paralysis means that UFO experiences are related somehow to dreams, then how do we explain the imaginary subjects' reports of paralysis in similar situations?

It is likely that dreams, hallucinations, death experiences, and a variety of other mental phenomena are related to UFO experiences. Our research has found extensive similarities between UFO encounters and religious and metaphysical mysticism, folklore (16), shamans' trances, migraine attacks, and even the operations of the creative imagination. Among the similarities are recurrent image-constants, a basically consistent sequence of events, and the unusual "peak experience" quality common to all. Also, very bizarre incidents in abduction reports have parallels in these phenomena. For example, the embarrassingly incredible "bodily dismemberment" sometimes reported by abductees (i.e., Sandy Larson, Garden Grove Case, etc.), is a regular feature of shamans' "death-rebirth" trances. Again, the commonly reported "TV screen review" in abduction cases clearly suggests the "my whole life flashed by" syndrome of near-drowning victims and persons undergoing psychic shock. Obviously, all of these phenomena could be related by some common aspect of consciousness.

While psychologists do not understand any of these matters completely, two theories (both of which recall Jung's collective unconscious, interestingly) seem worth considering. Siegel proposes that "underlying mechanisms in the central nervous system" are operative in hallucinations. (12) Stanislav Grof suggests there are archetypal matrices in the mind which are activated after a requisite stimulus. (3)

Grof follows psychologist Otto Rank and others who find a major formative influence on the brain in the trauma associated with normal human birth processes. It is tempting to see a relationship between the omnipresent tunnel/tube images of UFO encounters and the vaginal tube or tunnel through which most of us have passed during birth. Parallels abound in the infant's trip from Eden-like security through a violently oppressive and perhaps prolonged passage to a "big room" with "beings", bright lights, and strange sounds. The physical, physiological, and psychological effects on the newborn can hardly be overestimated, and these effects recall the similarly overwhelming responses by "real" abductees to their adventures.

We are presently considering a test of the birth-trauma hypothesis. We will attempt to give imaginary abductions to a group of individuals who have been born by Caesarian section to see whether the tube image is equally dominant, less so, or non-existent in their narratives. If there are significantly different numbers of tunnel/tube images it will be interesting.

We have followed Grof's ideas somewhat in naming the UFO/hallucination/deathbed vision process the encounter matrix. We see it as serving many situations in common, with the individual's subjective interpretations determining whether a given event is experienced as a "death" event, an abduction, or whatever.

The idea that processes of the central nervous system and/or unconscious matrices are involved in UFO encounters certainly seems worth pursuing. If ufologists have learned something from hypnosis, hallucinations, and deathbed visions, perhaps psychologists and other specialists in human consciousness may learn something from abduction narratives and the bulk of UFO reports. Aids to such study may well include the encounter matrix theory and hypnosis of imaginary "abductees", which together have provided one of the first informed series of apparent replications of UFO experiences. (14)

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APPENDIX I

The imaginary abductees were unpaid volunteers from local colleges and communities who were recruited through word-of-mouth and campus newspaper advertising. The student newspaper ad asked for "creative, verbal types" to volunteer for an "interesting experience in hypnosis and imagination." Selection was made after screening out any who had had UFO sightings, and those who seemed informed about UFOs. On the night of the hypnosis sessions an informational questionnaire was administered, testing for general attitudes toward UFOs and including a series of name-recognition questions which were later given to the subject under hypnosis as a check.

The imaginary abduction hypnosis sessions were conducted in a hospital in Anaheim, California. The hypnotist was Dr. William C. McCall, a medical doctor with two decades of clinical hypnosis experience who over the past four years has regressed more than 30 persons who allegedly were involved in abductions or close encounters. Dr. McCall utilized an arm-lowering induction in all cases described herein. Each session took about an hour.

The investigators had expected that much prompting of the subjects would be necessary to get any results at all, and thus the interrogation form was supplied with many specifics such as size, shape, color, sense data, etc., as an aid to the hypnotist in case the subjects could not supply such details. What actually happened, as is so often the case in UFO research, the investigators found astonishing: each of the first eight subjects regressed provided a coherent, intriguing UFO abduction narrative. What startled us at first was the subjects' ease and eagerness of narrative invention. Usually, after introducing each situation--such as, "Describe the interior"--Dr. McCall would sit back and the subject would talk freely with no more prompting than an occasional, "What's happening, now?"

It should be emphasized that all eight of the imaginary regressions in this first series were carried out in early 1977, many months before the release of the motion pictures, Close Encounters of the Third Kind, and Star Wars. Thus these obvious sources could not have influenced the first group of imaginary subjects. We have found no substantial Hollywood influence on any imaginary subject we have regressed since the release of these films.

APPENDIX II

After the first two sessions, it was obvious that an objective analysis of the data was imperative. A line-by-line analysis of four "real" and four imaginary sessions was initiated, with informational data in each of the ten categories being checked throughout. (An example of an analyzed type-script for imaginary subject #5 is attached as Appendix III.)

The quantification attempt is not wholly satisfactory, for the categories are imperfect and the analyses based upon them are subjective and imprecise. Further, "real" hypnotic regression sessions present major problems to the analyst: the sessions vary in length, and witnesses often repeat themselves, are often given cues, and are contradictory and fragmentary in narrative manner. Still it should be pointed out that the same analytical machinery was applied to both "real" and imaginary narratives.

When data from the four imaginary sessions had been analyzed, they were compared with the four "real" abductions. The "real" cases had been chosen because they were deemed of high credibility: three cases involved multiple witnesses and the fourth had two; all but one had received extensive media and investigative attention, and that one had been investigated by the imaginary hypnosis team.

The ten-category analysis computed its results in rather simple-minded fashion, by totaling the number of informational "bits" in each category and dividing to get percentages. While individual figures varied as much as ten points, a pattern emerges when the averages of the four "real" cases are compared with averages of the four imaginary cases:

COMPARISON OF "REAL" AND IMAGINARY CASES (IN INFO BIT NUMBERS AND PERCENTAGES)

INFORMATION BIT CATEGORY:	#1	#2	#3	#4	#5	#6	#7	#8	TOTAL
<u>(IN BIT NUMBERS)</u>									
"REAL: CASE A:*	127	30	5	135	83	33	58	86	557
" " B:	115	30	13	80	38	37	34	42	389
" " C"	129	26	12	121	47	56	72	62	525
" " D:	122	23	10	125	22	33	83	34	452
IMAG. CASE A:	103	36	6	72	44	33	48	22	364
" " B:	76	23	9	54	33	30	24	24	273
" " C:	90	29	6	79	23	33	31	32	323
" " D:	89	32	26	131	62	29	70	50	489
"REAL" AVERAGE:	123	27	10	115	48	40	62	56	481
IMAG. AVERAGE:	89	30	12	84	40	31	43	32	362

APPENDIX II (Cont)

INFORMATION CATEGORY:		#1	#2	#3	#4	#5	#6	#7	#8
(IN PERCENTAGES)									
"REAL"	CASE A:	.228	.053	.008	.242	.149	.059	.104	.154
"	" B:	.295	.077	.033	.205	.097	.095	.087	.107
"	" C:	.246	.049	.023	.230	.089	.107	.137	.118
"	" D:	.269	.050	.022	.276	.048	.073	.183	.075
IMAG.	CASE A:	.282	.099	.016	.198	.121	.091	.132	.060
"	" B:	.278	.084	.033	.197	.120	.109	.088	.088
"	" C:	.278	.089	.018	.244	.071	.102	.096	.099
"	" D:	.182	.065	.053	.267	.127	.059	.143	.102
"REAL" AVERAGE:		.256	.056	.021	.239	.099	.083	.128	.116
IMAG. AVERAGE:		.255	.084	.030	.226	.109	.090	.114	.087

* Identification of the "real" cases may be helpful. "A" is Judy Kendall (Woodland, Calif., 1971); "B" is Betty Hill's "dream narrative"; "C" is Elaine Thomas (Liberty, Kentucky, 1976); "D" is Sandy Larson.

**UFO DRAWINGS BY WITNESSES AND NON WITNESSES:
IS THERE SOMETHING IN COMMON?****(Part II)****R. F. HAINES***325 Langton Avenue, Los Altos, California 94022, USA**Received January 21, 1979***ABSTRACT**

Previously, the author found that no readily discernable differences could be found between drawings of "what a UFO looks like" by people who claim to have seen one from others who claim never to have seen one (Haines, 1977). Since this finding may have resulted simply from the relatively small sample size (136 valid drawings) further tests were administered. The mean results of 458 more valid drawings are presented here. The results may be summarized by pointing out that the "Have" seen group drew (1) a higher percentage of valid i.e., not ludicrous drawings, (2) a higher percentage of UFO shapes at some angle relative to the edge of the (drawing) card, (3) a higher percentage of two or more shapes on the card, (4) a lower percentage of shapes in side or isometric view, and (5) a lower percentage of symmetrical drawings. Neither the mean width-to-height ratio of the UFO outline shape or its dome (if drawn) differed between the two participant groups. Also, the other major UFO outline and dome measurements were not drawn differently by either group. Finally, and perhaps more significantly, the "Have" seen group drew a smaller number of miscellaneous details such as apertures (windows?), markings, wavy lines around the shape, etc. These findings are compared to those obtained in the previous study and discussed in terms of the perceptual impact the UFO encounter appears to have on one's willingness and/or ability to reproduce a UFO shape.

KEY WORDS: UFO shapes; eye witness drawings; visual perception; shape reproduction; voluntary compliance; perceptual accuracy.

"False facts are highly injurious to the progress of science, for they often endure long; but false views, if supported by some evidence, do little harm, for everyone takes a salutary pleasure in proving their falseness; and when this is done, one path towards error is closed and the road to truth is often at the same time opened."

Charles R. Darwin

The Descent of Man

This paper reflects a continuation of the author's concern about how we perceive things around us, things as common place as our own visual image in a mirror to things as bizarre as unidentified aerial phenomena; familiar and unfamiliar things, frightening and comforting things, expected and unexpected things. Each of these experiential dimensions affect what we perceive (Fox, 1979; Haines, 1979(b); Persinger, 1979; Schwarz, 1979).

The way in which people draw drawings of unidentified flying objects (UFO) has been of particular interest to the author for many years because the details of such drawings may provide us insight on the general nature of the original visual stimulus as well as on various perceptual processes of concern to those serious students of UFO phenomena who desire to understand better how much credence to place in such drawings.

Shepard (1979), Standing (1973) and other investigators have conducted studies that show that the human's ability to recognize complex visual stimuli is "virtually inexhaustible". As Shepard points out, "Tests using recognition generally yield a substantially better performance than tests using verbal recall." (op cit.) Thus, while it may be difficult for someone to describe a mental image in words that others will understand without ambiguity, it may be possible to draw a sketch of that image or, better yet, to recognize the original stimulus shape from among a specially prepared array of prototype shapes (Haines, 1976(a)). This approach depends upon a combination of responses by the eye witness (oftentimes long after his sighting). At first there is a sequential, partial recognition of a single contour, thickness, gravitational orientation and/or surface detail. What follows is a systematic combining of these separate "remembered features" into a whole, a gestalt that approximates the remembered appearance of the original stimulus. There

are a great many sources of distortion that can occur during this process which others have already commented upon in print (e.g., Hartmann, 1968; Fox, 1979; Persinger, 1979; Westrum, 1979; Trankell, 1972). Perhaps the greatest challenge we face in this regard is to devise field investigative techniques that adequately control for such distortions. Data presented here was collected in an attempt to help refine such a methodology.

In a previous article in this journal (vol.II, no. I, 1977), the author presented an initial set of data from 177 people who drew a picture of what they thought a UFO looked like. Of these participants, 136 (77 percent) returned valid drawings, i.e., drawings that were not obviously ludicrous to the experimenter. Fifty (37 percent) of these valid drawings were by people who claimed to have not seen a UFO. The primary finding of these previous UFO shape drawing tests was that there was no readily discernable difference between the two sets of drawings. However, the small sample size and/or various biasing (e.g., pre-selection) factors may have prevented any trends from becoming obvious. Therefore, it was decided to administer this drawing test to more people in order to continue to explore this potentially fruitful area of study. This paper presents the findings from five more test administrations to a total of 547 people.

METHOD.

The method used has been described elsewhere (Haines, 1977). Briefly, all of the participants (except group 5) were given a 5" x 7" white blank card and asked to write their age, occupation, sex, handedness, and whether or not they sincerely believed they had seen a UFO at some time in the past. This information was to be placed in the upper right-hand corner of the horizontally oriented card. Then they were asked to "draw what you think a UFO looks like... include whatever details and embellishments you think are necessary." The test date and other information was stamped on each card at a later date. The instructions made it clear that for those participants who claimed to have seen a UFO, their drawing need not necessarily be of the phenomenon they saw. The drawings took about five minutes to complete.

Selected descriptive characteristics of the five test groups are given in Table 1. These groups are numbered four through eight to indicate that they are a continuation of the data reported previously (Ibid.). Regarding the degree of interest in UFOs represented by these five groups, it is

Table 1
Test Participant Information

	Group 4 ^(a)	Group 5 ^(b)	Group 6 ^(c)	Group 7 ^(d)	Group 8 ^(e)
Test Date	2-5-78	4-16-78	5-28-78	5-29-78	7-9-78
No. Participants	247	87	96	82	37
No. Males	142	note f	50	39	14
No. Females	105	note f	46	43	23
"Have Seen a UFO"					
No. Males	53	30 ^(g)	16	8	1
No. Females	22		11	11	2
Age Range & (mean)	5-62 (28.7)	18-64 (38)	10-49 (27.1)	15-48 (27.7)	37, 68 (52.5)
"Have Not Seen a UFO"					
No. Males	89	57 ^(g)	34	31	13
No. Females	83		35	32	21
Age Range & (mean)	11-56 (24.8)	18-67 (34.5)	7-61 (32.8)	9-60 (28.4)	11-73 (53.5)

Notes:

- (a) Group 4 consisted of an audience attending a widely publicized Science Fiction Convention (Spate Con 6) at the Oakland Municipal Auditorium, Oakland, California. Movie personalities from "Star Trek TV series", and noted UFO authorities were on the program.
- (b) Group 5 consisted of an audience attending the 1978 annual National Research and Investigations Conference sponsored by the British UFO Research Association, Nottingham, England.
- (c) Group 6 consisted of an audience attending the (Space Con 7) convention in Los Angeles, California (day 1).
- (d) Group 7 consisted of an audience attending the (Space Con 7) convention in Los Angeles, California (day 2).
- (e) Group 8 consisted of members of the Redwood City (California) Unitarian Fellowship at which the author spoke on the subject of UFOs.
- (f) The sex of the participants was not recorded.
- (g) This value is the total of the male and female participants.

likely that group 8 contained the smallest percentage of people with an active interest in the subject and group 5 the largest. Group 8 also possessed the oldest participants of all, on the average.

Regarding the occupations listed by people in the "Have" seen and "Have Not" seen groups, no particular dominant occupation was found. While one could speculate that certain occupations would tend to inhibit (prohibit?) a person from claiming publically that he had seen a UFO, there did not appear to be evidence that one's occupation influenced his willingness to sketch a UFO. That is, the same proportion of participants listing professional occupations drew UFO shapes as participants who listed non professional occupations. This may be due to the fact that all cards were unsigned and were drawn within relatively large audience groups which would tend to mask the identity of the participant.

The average age of participants in the "Have" seen and "Have Not" seen groups was approximately the same. Likewise, the percentage of right- and left-handed people in the two groups was the same. Thus, it may be said that the two basic participant groups were relatively matched in terms of these characteristics.

RESULTS AND DISCUSSION

General Measures - A total of 154 drawings (28 percent) were submitted by people indicating that they "Have" seen a UFO and 395 (28 percent) by people indicating that they "Have Not" seen a UFO, for a grand total of 549 entries. Four hundred fifty eight (83 percent) valid drawings were obtained. Table 2 presents the mean results for the five test groups. It can be seen that participants in the "Have Seen" groups drew a larger percentage of valid drawings (by about 10 percent) than did the participants in the "Have Not" seen groups. While the interested reader will want to analyze the above data for himself, a number of interesting findings are summarized in Table 3 for the benefit of those who do not wish to take the time to do so.

As was also found in the study reported previously (Haines, 1977), the percentage of participants in the present "Have" seen group is larger than has been found for the adult population in America (Anon., 1978). In this poll, conducted by the Gallup organization, the adults surveyed were asked if they had heard or read about UFOs. A nation-wide average of 9 percent said that they had.

Table 2 Drawing Test Results

Measures	Group 4		Group 5		Group 6	
	"Have"	"Have Not"	"Have"	"Have Not"	"Have"	"Have Not"
General	Number of . . .					
Valid Drawings (a) (pct.)	68(90.6%)	150(87.2%)	29(96.6%)	45(78.9%)	25(92.5%)	53(76.8%)
Symmetrical Drawings	28(41.1%)	80(53.3%)	27(93.1%)	44(97.7%)	18(72%)	45(84.9%)
Asymmetrical Drawings	40(58.8%)	70(46.6%)	2(6.8%)	1(2.3%)	7(28%)	8(15.1%)
Side View Drawings	35	117	19	27	18	32
Isometric View Drawings	4	16	3	12	2	11
UFO at Indeterminate angle	29	17	7	6	5	10
UFO Drawn parallel to ground	25	110	22	34	15	40
Cards with no shape drawn	6	1	1	0	1	13
Cards with 1 UFO shape drawn	53	142	24	42	21	47
Cards with 2 UFO shapes drawn	7	4	3	2	3	3
Cards with 3+ UFO shapes	8	4	2	1	1	3
UFO Major Outline Measures						
Mean width/height ratio	3.80	4.05	7.40	6.37	4.82	4.41
Max. width/height ratio	11.1	13.6	7.50	10.6	20.5	16.6
Min. width/height ratio	1.30	0.30	1.0	1.0	0.86	1.09
Max. width of UFO (mm)	140	135	(b)	(b)	136	179
Min. width of UFO (mm)	18	5	(b)	(b)	14	19
UFO "Dome" Measures						
Mean width/height ratio	3.9	3.9	7.82	7.55	3.73	4.15
Max. width/height ratio	8.3	9.8	6.09	7.50	5.50	16.94
Min. width/height ratio	1.4	1.5	2.71	1.77	2.50	0.76
Miscellaneous Measures	Number of drawings with . . .					
Round openings (apertures?)	17	47	5	11	8	13
Other shaped openings	23	72	6	9	7	16
Thin lines extending from UFO	2	45	0	2	3	7
Wavy lines from UFO body	18	40	1	10	3	2
Markings, insignias, etc.	1	5	0	0	0	0
Interior detail	0	0	0	0	1	0

Notes: (a) Obviously ludicrous shapes were not included (e.g., "UFO initials," "cup on saucer," etc.)
 (b) Not valid since a large size paper was used by the participants.

Table 2 (continued)

Measures	Group 7		Group 8		Summary	
	"Have"	"Have Not"	"Have"	"Have Not"	"Have"	"Have Not"
General						
Number of . . .						
Valid Drawings (a) (pct.)	15(78.9%)	50(79.4%)	2(100%)	21(63.67%)	139(90.8%)	319(80.9%)
Symmetrical Drawings	9(60%)	35(70%)	1(50%)	13(61.9%)	83(59.7%)	217(68%)
Asymmetrical Drawings	6(40%)	15(30%)	1(50%)	8(38%)	56(40.3%)	102(32%)
Side View Drawings	7	26	1	9	80	211
Isometric View Drawings	5	10	1	3	15	52
UFO at Indeterminate angle	3	14	0	9	44	56
UFO Drawn parallel to ground	10	68	2	16	74	234
Cards with no shape drawn	4	11	0	10	12	35
Cards with 1 UFO shape drawn.	12	47	2	19	112	297
Cards with 2 UFO shapes "	1	3	0	2	14	14
Cards with 3+ UFO shapes "	2	0	0	0	13	8
UFO Major Outline Measures						
Mean width/height ratio	4.57	4.00	3.13	4.42	4.74	4.65
Max. width/height ratio	14.25	12.60	3.76	15.25	20.50	16.60
Min. width/height ratio	0.48	0.53	2.50	1.00	0.48	0.30
Max. width of UFO (mm)	176	176	120	171	176	135
Min. width of UFO (mm)	6.6	13.4	6.0	61	6.6	5
UFO "Dome" Measures						
Mean width/height ratio	9.22	3.24	—	3.11	6.16	4.40
Max. width/height ratio	9.53	6.82	—	5.40	8.3	16.9
Min. width/height ratio	2.88	0.65	—	1.37	1.4	0.65
Miscellaneous Measures						
Number of drawings with . . .						
Round openings (apertures?)	3	10	0	8	33	89
Other shaped openings	4	20	1	12	41	129
Thin lines extending from UFO	4	15	0	7	9	76
Wavy lines from UFO body	1	5	1	3	24	60
Markings, insignias, etc.	0	1	0	0	1	6
Interior detail	0	1	1	0	2	1

Notes: (a) Obviously ludicrous shapes were not included (e.g., "UFO initials," "cup on saucer," etc.)

(b) Not valid since a large size paper was used by the participants.

Regional differences were noted with 14 percent responding yes in the West, 9 percent in the East and South, and 8 percent in the Midwest. Four of the five present drawing tests were conducted in the western U.S.A. The fact that groups 4 - 7 met specifically in relation to the subject of UFOs and space-related themes, probably accounts for this biasing "selection" factor in the present data. Since there was no practical way of determining if the participants actually had or had not experienced an actual UFO in the past it had to be assumed, perhaps naively, that the great majority of the present participants were telling the truth in this regard.

Table 3

Abbreviated Summary of Table 2

"Compared with the "Have Not" seen participants, the "Have" seen participants drew..."

-
1. A larger percentage of valid drawings (91 vs 81 %).
 2. A larger percentage of shapes whose longitudinal axis was at an angle on the card rather than parallel to the card's edge (47 vs 27 %).
 3. A larger percentage of cards with two shapes drawn (10 vs 4 %).
 4. A larger percentage of cards with three or more shapes drawn (9 vs 3 %).
 5. A larger percentage of shapes drawn at an indeterminate angle because no ground plane was included (32 vs 18 %).
 6. A smaller percentage of shapes in (apparent) side view (58 vs 66 %) and isometric view (11 vs 16 %).
 7. A smaller percentage of cards with one shape drawn (81 vs 93 %).
 8. A smaller percentage of symmetrical shapes (60 vs 68 %).
-

Why do people who claim to have seen a UFO draw more valid shapes that are asymmetrical and which are oriented at an indeterminate angle? Do such results mean that these people feel more willing to express themselves in abstract ways that do not necessarily conform to the commonly accepted social stereotype image of UFO shapes? Perhaps these people are different from those in the "Have not" seen group in the first place, (even before their alleged UFO sighting) so that similar drawing results would have been obtained even if no UFO sighting had (allegedly) taken place. If this is true, further research is called for that pretests each participant on a variety of psychological and sociological dimensions along with the present UFO shape drawing test. If the present findings are reliable one might also ask what is it about the UFO experience that causes the participant to draw different UFO characteristics from someone who has not seen a UFO? Clearly, the in-depth involvement by social scientists in such studies is called for.

Major Outline Measures - Five measures were made on the outline shape of each drawing as listed in Table 2. Interestingly, there were no clear-cut differences for any measure between the "Have" seen and the "Have not" seen groups. This was also the case for the participants in the three test groups reported previously (Haines, 1977). While the magnitude of the various ratios reported here may be of theoretical interest, they do not appear to be particularly useful in allowing one to predict whether or not someone has seen a UFO or, conversely, to be used to determine if a UFO experience may have influenced the witness in such a way so as to affect their subsequent drawings of a UFO.

It should be noted that the test instructions did not specify whether those participants who claimed to have seen a UFO should draw what they saw. This was done in order to not introduce an instructional bias to the two test groups. Nevertheless, a number of "Have" seen participants did note that their drawing was of the phenomenon they saw. These particular drawings were not fundamentally different from the drawings that were not so labelled by the "Have" seen participants. It is possible, of course, that the "Have" seen group's drawings, if not of the phenomenon they saw, reflect the same outline shapes and details (derived primarily from the media) as reflected in the drawings by the "Have not" seen participants. In future testing, the participants should be instructed to indicate, after their drawing is completed, whether their drawing is of the object they witnessed.

UFO Dome Measures - Three measures were made on each drawing where a dome-like protrusion(s) was included. It can be noted that in every case where a dome was drawn it was located on the top of the outline shape. The "Have Not" seen group drew a larger percentage of domes than did the "Have" seen group (41 % vs. 23 %) [see Table 2]. This finding appears to be similar to the other findings cited in Table 3 concerning the manner by which the "Have not" seen group participants express themselves through their drawings. When the three dome measures are compared for the two groups no particularly clear-cut differences were found. The important issue seems to be whether someone will draw a particular detail in the first place rather than how he draws it. This raises the important subject of voluntary compliance.

The willingness of people to comply with another person's request to take part in a drawing test such as the present one is a matter of central importance to the present data and their interpretation. The verbal instructions given by the experimenter just before these drawings were made stressed that the exercise was for scientific purposes and could possibly help explain some of the mysteries surrounding the UFO phenomenon. It was felt that this type of introduction would help increase the degree of voluntary compliance by the participants. On the other hand, the relatively large size of these audiences and relative anonymity of the participants may have contributed to an attitude of "Well, I'm going to draw something strange looking just for the fun of it." Clearly, there is no objective, easy way of knowing how seriously each participant followed the instructions. While this may lead some to disregard the present data, the relatively high percentage of apparently valid drawings by both participant groups suggests that they did take the instructions seriously. Nevertheless, it should be pointed out that for some unknown reason, the two largest participant groups (see Table 2, groups 6 and 7) produced the largest differences between the "Have" and the "Have not" seen group's cards submitted with no shape drawn at all ("Have" = 2.8 %; "Have not" = 13.5 %). In these cases the "Have not" seen participants filled out all of the requested personal information on their cards but would not draw anything. Future investigators should attempt to find out why people won't comply with this task.

Miscellaneous Measures - Table 2 shows that six miscellaneous measures were also used when comparing the drawings by the two participant groups. There is no way to assign percentages to these number totals and one can only make inferences concerning the differences found because some

drawings had two or more miscellaneous measures. The "Have Not" seen group drew more details than did the "Have" seen group, a finding similar to that found in the earlier study (Ibid.). An intriguing question that should be raised is why would someone who claims to never have seen a UFO include more round (or other shaped) apertures, more straight thin lines or wavy lines extending from the outline shape and more markings and insignias than someone who claims to have seen a UFO? As was true for the dome measures, it seems that the important issue is whether someone will draw a particular detail in the first place rather than how he draws it. It may be that the answer to this matter lies near the core of the UFO enigma.

SUMMARY

Either the UFO experience influences the way in which one draws a sketch of the alleged stimulus or it does not. The present series of studies was conducted upon the premise that it does and that the nature of this influence may be quantified. Yet to discuss the present results at this point would disregard the important possibility that people who claim to have seen a UFO are different from people who claim to not have seen a UFO to begin with. This is a definite possibility. It is a possibility that becomes apparent at times to those of us who interview alleged UFO eye witnesses (Haines, 1976(b)). In order to adequately insure that the "Have" and "Have not" seen participant groups are the same in every important respect before the UFO sighting experience one would have to take far more preliminary measures on the participants than was feasible here. As was discussed earlier, general descriptive participant data was obtained for this purpose (see Table 1) and showed that the two participant groups were basically similar. Of course, these participants' psychological and sociological characteristics are significant contributors both to their willingness to participate in the first place and also to the way that they express themselves through drawings. Quantification of these more subtle personal characteristics is vitally essential and calls for the use of rather delicate, systematic procedures (e.g., Schwarz, 1979; Sprinkle, 1979).

Thus, if we are going to take seriously the possibility that UFO phenomena represent a manifestation of a physical stimulus that is external to the observer (which would be witnessed by any normally perceptive person present at that time and place) then we must also be willing to quantify relevant personality characteristics that have been shown to influence the perceptual processing of a visual stimulus.

At once we are confronted by another major alternative, viz., that the UFO phenomenon represents internally generated stimuli (e.g., visual hallucinations or pure imagination) that cannot be verified independently. While it is not possible to estimate the number of present drawings that were so generated it is likely to have been quite small. The present UFO drawings were produced in the absence of a visual stimulus, i.e., from memory. Still, qualitative and quantitative differences were found in the drawings of the "Have" and "Have not" seen participant groups. From an experimental point of view the next step would seem to be that of administering a well designed battery of personality, psychiatric, and other tests along with the present UFO shape drawing test under conditions that would tend to maximize participant cooperation and trust. In this way we will be better able to identify both the influence of prior personality characteristics represented in the two participant groups as well as any influences that the alleged UFO experience has upon their drawings.

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**A THEORETICAL FRAMEWORK FOR THE PROBLEM
OF NON-CONTACT BETWEEN AN ADVANCED
EXTRA-TERRESTRIAL CIVILIZATION MANKIND:
SYMBOLIC SEQUENTIAL COMMUNICATION VERSUS
NON-SYMBOLIC NON-SEQUENTIAL COMMUNICATION**

C. RIFAT

13, bis Avenue Miramont, Geneve 1206, Suisse

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Abstract

A general set of ideas is proposed to suggest that advanced extra-terrestrial intelligence (ETI) might, probably, never be interested in communicating with such a primitive species as ours.

According to the author, symbolic sequential language is the most primitive kind of language intelligent beings may use. Advanced intelligences may better communicate via a non-symbolic non-sequential language, which is able to convey much more bits of information per unit of time at a low cost of distorsion, thus nearly eliminating the problem of cloudy symbolic concepts which is so huge a factor of noise in human communication.

What is most interesting is that we may well be in presence of a terrestrial species having evolved a more advanced mode of communication: the dolphin!

Key words:anthropomorphocentrism;chauvinism of symbolic sequential language;ecological adaptation;information;communication;eidetic;dream.

"Human intelligence reduced to its essential is synonymous with human language.Intelligence is improved communication,the transmission of more complex information from one individual to another."

(Richard Lee,in:Communication with Extraterrestrial Intelligence - CETI - Edited by Carl Sagan,MIT Press 1973,page 91)

Résumé

Un ensemble d'idées est proposé pour suggérer qu'une intelligence extraterrestre avancée ne serait,fort probablement,aucunement intéressée à communiquer avec une espèce aussi primitive que la nôtre. Selon l'auteur,le langage symbolique et séquentiel est le plus primitif mode de communication que des êtres intelligents peuvent utiliser. Des intelligences avancées auraient avantage à communiquer au travers d'un langage non symbolique et non séquentiel qui est,en effet,capable de véhiculer beaucoup plus de bits d'information par unité de temps et pour un faible taux de distorsion que le premier,lequel langage éliminerait ainsi le problème des concepts symboliques que nous utilisons tous les jours ,concepts dont la nébulosité sémantique est si grande qu'ils engendrent un important bruit de fond dans la communication humaine.

Ce qui est tout aussi intéressant est le fait qu'il se pourrait que nous soyons en présence d'une espèce terrestre ayant déjà évolué un mode de communication plus avancé que le nôtre:le dauphin!

Mots-clés:anthropomorphocentrisme;chauvinisme du langage symbolique séquentiel;adaptation écologique;information;communication;eidétique;rêve.

"L'intelligence humaine réduite à son essentiel est synonyme du langage.L'intelligence est une communication améliorée,la transmission d'une information plus élaborée d'un individu à un autre."

(Richard Lee:Communication with Extraterrestrial Intelligence - CETI - Edité par Carl Sagan MIT Press 1973,page 91)

Introduction

Cet article se propose de ramener à de justes proportions les idées par trop étroites que nous nous faisons couramment à propos de notre mode usuel de communication,ce que Carl Sagan(I-2)aurait nommé sans doute:le chauvinisme du langage-symbolique-séquentiel!

Qu'est-ce que ce "chauvinisme"? C'est ramener ce que l'on ne connaît pas à des choses qui nous sont connues et il est vrai,en effet,qu'en tant qu'espèce n'ayant qu'elle-même pour se comparer nous avons toujours tendance à tout ramener à nous-mêmes.L'Histoire est pleine d'exemples pouvant servir à illustrer magnifiquement ce principe que Sagan nomme justement chauvinisme et que j'appellerais plutôt "anthropomorphocentrisme",contraction de deux appellations bien significatives. Nul besoin de nous étendre là-dessus.

Il est particulièrement frappant de constater,du moins à ma connaissance,que personne ne remet jamais en question la soi-disant nécessité toujours sous-entendue qu'auraient d'éventuelles ETI de manier un langage semblable au nôtre! Car,dès que l'on étudie ce problème d'un peu plus près,il devient vite évident que ce genre d'idée est

un nouvel exemple d'anthropomorphocentrisme, une œillère intellectuelle façonnée par notre structure biologique sur laquelle nous prenons inconsciemment modèle.

Pourtant voilà là une question primordiale: car du langage utilisé dépend très certainement la probabilité ou non-probabilité d'échange informationnel entre deux espèces différentes.

Qu'est-ce que la Communication?

Pour répondre à cette question je reproduirai textuellement le paragraphe suivant, d'après Wilson(3), où cela est clairement et simplement défini:

"Certains ont défini la communication comme étant le phénomène par lequel le comportement d'un individu modifie la probabilité de schèmes comportementaux chez d'autres individus. Ce concept à l'avantage d'être directement traduisible en un énoncé mathématique. Ce formalisme reconnaît le jeu minimal suivant de 6 entités:

Individus

Actions

A

B

X_1

X_2

Probabilités d'apparitions

de ces actions

$p(X_1)$

$p(X_2)$

La communication se produit lorsque $p(X_2 | X_1) \neq p(X_2)$. Ce qui signifie, en d'autres termes, que si A a exécuté X_1 , alors la probabilité conditionnelle que l'acte X_2 soit exécuté par l'individu B n'est pas égale à la probabilité que B exécute X_2 en l'absence de X_1 .

Si l'on admet qu'une certaine quantité d'information est transmise,

comment peut-on la mesurer?

L'unité quantitative de base, que l'on utilise à cette fin, est le bit (abréviation de l'anglais "chiffre binaire": binary digit d'où bit). Un bit est la quantité d'information nécessaire afin que de contrôler, sans erreur, laquelle de deux alternatives d'égale probabilité sera choisie par le récepteur.

Imaginons un système social réduit à sa plus simple expression envisageable et comportant un oiseau territorial situé en face d'une série d'intrus. Admettons que chaque envahisseur ne fasse aucunement attention au propriétaire de la place tant que celui-ci ne lui aura présenté l'un ou l'autre des deux signaux équiprobables suivants:

si l'oiseau lève ses ailes, l'intrus s'en va toujours, s'il les baisse, il continue à avancer.

Chaque présentation d'un signal transmet, par conséquent, un bit d'information. Si maintenant l'on peut émettre 4 messages équiprobables, chaque signal contiendra 2 bits; un système de 8 messages messages équiprobables contiendra 3 bits par signal, etc.

Ainsi la quantité de bits est la puissance à laquelle le nombre 2 doit être élevé pour donner le nombre de messages équiprobables.

Si H représente le nombre de bits et N le nombre de messages nous obtenons:

$$N = 2^H$$

$$H = \log_2 N$$

Si l'on suppose, maintenant, que les messages distincts ne sont plus équiprobables, alors dans ce cas la quantité d'information transmise devient moindre que $\log_2 N$. La signification intuitive de la perte d'information est aisée à saisir. Quand tous les signaux émis sont équiprobables, l'incertitude associée à l'identité de chaque futur signal est à son maximum. L'on dit ainsi que lorsque le signal est émis, il réduit l'incertitude à son minimum. Cependant, lorsqu'un signal est plus fréquent que les autres, l'incertitude associée aux signaux non émis baisse. (...)"

Retenons seulement de ces considérations très générales que l'information est un concept parfaitement quantifiable même si c'est une entité assez abstraite et que la communication est synonyme d'un transfert d'information (que l'on mesure en bits) entre systèmes. Plus cette information sera complexe et précise, plus les systèmes en interrelation communiqueront mieux, si l'on peut dire.

En résumé, la communication c'est l'échange et la circulation d'informations dans un réseau reliant des systèmes émetteurs et des systèmes récepteurs par l'intermédiaire d'un message codé qui constitue alors un langage.

Fait important, elle peut être perturbée par la distorsion que peut subir le message codé à son arrivée, soit par un facteur extérieur situé dans la ligne de transmission soit à cause d'une non-parfaite équivalence entre les codes de l'émetteur et celui du récepteur, ce qui équivaudra donc à l'introduction d'un bruit de fond dans la ligne de transmission en question. Plus le bruit de fond sera élevé et plus l'information sera dégradée. Retenons ces faits essentiels afin que d'aborder la suite de notre étude. Pour plus d'information, le lecteur est invité à se reporter au livre de Shannon et Weaver (4).

Un Mode de Communication Primitif: L'échange d'Information par Voie Séquentielle via un Code Symbolique.

D'après les données dont nous disposons concernant l'évolution des espèces et en fonction d'une interprétation néo-Darwinienne nous savons que l'environnement est responsable de l'apparition de telle ou telle structure chez un organisme: c'est ce que l'on nomme l'adaptation écologique.

Ainsi si une baleine a modifié son apparence de mammifère c'est en raison d'une adaptation aux contraintes physiques imposées par le milieu marin liquide, de même que les représentants d'une même esp-

èce présenteront des adaptations caractéristiques en fonction de la latitude occupée: Règle de Bergmann et Règle d'Allen(5), par exemple. Ceci pour dire que le choix d'un mode de communication entre individus d'une même espèce est déterminé par l'histoire phylogénétique de l'espèce, considérée en fonction de la pression de l'environnement, dont les facteurs sont si divers qu'ils ne sont guère quantifiables. Ainsi certains organismes communiqueront par des signaux chimiques, d'autres par des signaux sonores, etc.

L'Histoire de l'Homme se résume à celle du langage. Mais qu'est-ce que notre langage?

Les deux caractéristiques essentielles du langage humain sont:

La Séquentialité

Le Symbolisme

Cela signifie que nous émettons séquentiellement des ondes acoustiques transportant un message codé par l'intermédiaire de symboles. Les sons émis ou perçus sont juxtaposés les uns après les autres, mais ils ne sont pas intégrés simultanément, comme par exemple, pourraient l'être les informations perçues par l'ensemble des cellules de nos rétines; ce qui est intégré c'est le symbolisme qu'ils véhiculent.

Qu'est-ce qu'un symbole?

Un symbole est un signal codé servant à transmettre une certaine quantité d'information sans exprimer, cependant, toutes les données relatives à l'information en question. Par exemple, je suis en face d'une table que je perçois de façon parfaitement définie dans l'espace et le temps; mais si je veux transmettre cette information à une personne située en dehors de mon espace-temps, j'aurai quelque difficulté car je devrai utiliser un signal sonore ou écrit définissant de façon ultra-simplifiée l'objet en question, en l'occurrence le concept "table", sorte de résumé extrême de ma perception originale.

Toutes les caractéristiques complexes originellement perçues au moyen de l'intégration de millions de données traitées simultanément par

mon cortex visuel auront été perdues!

En ce sens, le symbole équivaut à une perte d'information de l'émetteur au récepteur à cause de l'élimination d'une grande quantité de bits opérée, depuis la transduction d'une information non-séquentielle et non-symbolique en une information séquentielle et symbolique, par cette transformation.

En d'autres termes, l'ambiguïté du message s'est accrue dans des proportions considérables.

Dans le cas de la représentation symbolique d'un objet bien défini, la perte d'information est, certes, immense mais il en reste néanmoins quelque chose qui la rend encore intelligible. Par contre lors de l'échange de concepts abstraits et non strictement définis (ce qui est le cas du langage de tous les jours) l'ambiguïté prend des proportions si considérables qu'on peut, à la limite, considérer qu'aucune information n'a été objectivement transmise entre deux personnes!

Un concept abstrait laisse, en effet, le choix à tellement de messages d'égale probabilité qu'il ne transmet plus rien du tout, ne serait-ce qu'un bit. En ce sens nous communiquons bien souvent à coups de nuages qui s'interpénètrent sans se heurter, pour employer une image!

Combien de bits un mot tel qu'"objet" ou qu'un autre tel que "réalité" contient-il? Je ne saurais le dire.

La perte informationnelle opérée par le processus de symbolisation équivaut aussi à une distorsion: perte ou distorsion sont ici synonymes. L'ambiguïté des concepts est égale à une non-équivalence des codes de l'émetteur et du récepteur, d'une part (c'est à dire la coloration affective du mot en fonction de l'expérience mémorisée qui est différente pour chaque personne), et d'une autre à un bruit de fond sur la voie de transmission.

En fait il n'existe qu'un seul langage humain - apparu tout récemment d'ailleurs - dont le rapport information/distorsion soit acceptable: à savoir le langage scientifique où chaque terme est strictement défini, levant ainsi une grande part d'ambiguïté bien qu'elle

demeure toujours en fonction des réalités objectives désignées par le terme en question, selon le niveau de précision atteint par le concept utilisé, ce que l'on pourrait nommer le degré de "résolution conceptuelle".

Le langage qui nous est commun se prête donc mal à un bon échange d'information pour les raisons suivantes:

1. Quantité limitée de bits échangeables à cause de la non-équivalence d'un même concept pour chaque personne, en d'autres termes suite à un codage différent d'un même signal entre l'émetteur et le récepteur.

2. Débit de bits limité par le mode séquentiel de transport de l'information.

Dernière chose à remarquer: il existe deux sortes de codage dans la Nature qui soient susceptibles de nous intéresser ici:

1. Le codage physiologique opéré par les cellules sensorielles et intégratives du système nerveux, que l'on peut supposer, sans grand risque de se tromper, être identique chez chaque individu d'une même espèce voir entre individus d'espèces différentes, c'est à dire le langage naturel des neurones.

2. Le codage culturel, que l'on observe chez les Hommes, opéré par des langages arbitraires en fonction des populations.

Nous y reviendrons; il nous suffit pour l'instant de savoir qu'un codage physiologique se nommera un langage Naturel, car invariant pour toutes les neurones, tandis qu'un codage culturel sera un langage "Artificiel", car variable selon l'expérience et la culture de chaque homme.

Je propose maintenant de définir un langage où le rapport énergie dépensée par bit effectivement transmis (en une unité quelconque et arbitraire de temps) est grand, comme un langage primitif à cause du gaspillage d'information qui s'en suit.

De même sera défini comme langage avancé un langage où ce même rapport sera petit.

Un langage primitif sera donc un mode de communication où le bruit entre émetteur et récepteur sera grand et le flux de bits petit, tandis que dans le cas d'un langage avancé ce bruit sera très petit et le flux de bits très grand. Les facteurs de bruit seront surtout déterminés par l'emploi d'un codage naturel, invariant, ou d'un codage artificiel et flou, pour les raisons déjà mentionnées.

En soit, déjà, ces définitions sont très larges et n'ont qu'un aspect purement heuristique qui puisse nous permettre de comprendre quelles seraient les motivations éventuelles d'intelligences maniant un langage plus évolué que le nôtre par rapport à l'Humanité.

En fonction de ces considérations il devrait être évident au lecteur qu'un langage séquentiel et symbolique appartient au premier type défini. En conséquence notre langage peut être empiriquement classé comme le prototype du langage primitif d'organismes récemment parvenus à l'intelligence. Mais qu'est-ce que l'intelligence? Mot encore ambigu!

Toujours est-il que pour qu'une intelligence puisse s'exprimer et se développer, en rétroaction informationnelle constante avec son milieu, il lui faut avoir un moyen d'action sur l'environnement qui permettra de l'informer à son tour et réciproquement.

Ce moyen est la main dans le cas de notre espèce et devra être un organe accomplissant la même fonction chez une autre espèce.

Sans moyen d'action sur l'environnement, quel que soit le niveau de complexité atteint par un système nerveux, l'intelligence ne reste que potentielle, incapable d'actualisation. En un sens, elle est sans être. Cela est un point important; nous y reviendrons en examinant une espèce "candidate à l'intelligence".

Un Mode de Communication Avancé: L'échange d'Information Non-Séquentielle via la Voie Naturelle Directe

Les conditions environnementales où se développèrent nos ancêtres Primates conduisirent notre lignée vers l'homnisation et, en particulier, vers le développement d'un moyen de communication vocal relativement complexe. L'Evolution engendra ainsi, sur une planète parmi des milliards d'autres, une espèce capable d'échanger de l'information assez complexe grâce à tout un système physiologique façonné par la pression du milieu sur cette espèce. Si l'espèce en question eût vécu dans un environnement différent, il eût été possible qu'elle n'acquît jamais ce moyen de communication et qu'elle demeurât au même stade communicationnel que les autres espèces animales. Mais il eût été aussi probable qu'elle acquît un système de communication supérieur à celui qu'elle connaît actuellement. Cela n'a été qu'une question de pression sélective et de niche écologique.

Mais sommes-nous vraiment les seuls en notre monde à posséder un mode de communication élaboré? Nous serions tentés de répondre par l'affirmative - en regardant avec fierté "nos" réalisations - mais il serait nécessaire de garder présent à l'esprit que toutes nos actions sur la Nature ont été rendu possible parce que nous possédions l'instrument nécessaire entre notre intelligence et notre action sur le milieu, en l'occurrence la main. Qu'aurions-nous été sans elle, incapables d'informer la matière? L'on eût pu guère nous distinguer des autres espèces que, peut-être, par une absence de pelage...

On s'accorde, généralement, à penser que les cétacés marins, dont en particulier le dauphin et l'épaulard, seraient des candidats à l'intelligence, en raison du haut degré de développement atteint par leur système nerveux central tant au niveau de l'organisation que des structures.

Le seul problème est que l'on n'a jamais réussi à entrer en communication avec eux! Mais cela serait-il une raison de dénier ces êtres de cette qualité que nous nous attribuons; est-ce une raison suffisante pour être convaincu que nous sommes bien les seuls êtres intelligents de notre globe? Je ne le crois guère et en voici les raisons:

Seville Chapman(6) a proposé en 1968, dans une lettre à Science, une hypothèse fort intéressante à propos des dauphins et qui, à ma connaissance, n'a pas eu beaucoup d'écho (si l'on me permet ce jeu de mots) en l'occurrence celle-ci: les dauphins - et sans doute d'autres cétacés marins - "verraient" acoustiquement leur environnement en plus de le voir visuellement et cela de façon presque aussi bonne que nous voyons le nôtre au moyen de nos yeux. En d'autres termes, ils utiliseraient les sons de façon non-séquentielle et non-symbolique, directement par la voie naturelle c'est à dire par un codage physiologique au niveau des neurones, invariant entre individus d'une même espèce.

Cela est très important, nous allons le voir.

À défaut de démonstration, il faut dire que cette hypothèse paraît fort séduisante et plus rationnelle que les idées précédemment émises sur la perception acoustique supposée séquentielle et symbolique de ces cétacés. Apparemment les chercheurs n'ont pas essayé de se mettre à la place d'un dauphin doté d'un système de perception très différent du leur; ce qu'ils ont fait c'était de transposer inconsciemment leurs critères d'un langage à une espèce dont l'évolution fut absolument différente de la leur, tout en pensant que ceux-ci étaient vraiment objectifs.

Toujours est-il que je pousserai encore plus dans la spéculation, à défaut d'évidences expérimentales à ce sujet: si un jour l'hypothèse de Chapman se trouve confirmée, il sera alors permis d'en avancer une autre, à savoir d'envisager l'éventualité que le dauphin puisse communiquer non par un échange séquentiel de sons codés mais par une transmission intégrée d'information non-symbolique.

Cette hypothèse aurait non seulement l'avantage de mieux coïncider avec les données neurophysiologiques que l'on possède sur cet animal, mais elle expliquerait encore pourquoi les expériences ayant tenté de détecter un langage semblable au nôtre chez celui-ci aient totalement échoué. Car, alors, les dauphins communiqueraient par des sortes d'images acoustiques extrêmement riches en information et totalement dénuées des attributs de notre langage!

Dans ce cas hypothétique nous serions ironiquement confrontés à une intelligence potentiellement supérieure à la nôtre (en raison du flux important de bits transmissibles par seconde par cette méthode pour un faible taux de distorsion des messages) mais incapable de passer pour telle à nos yeux en raison du mode tout à fait différent de langage et, surtout, en raison de l'absence d'actualisation de cette intelligence par une action sur l'environnement suite à une absence de main. Ce qu'il est important de retenir de tout cela est que l'environnement d'une espèce détermine l'évolution ou la non-évolution de tel ou tel mode de communication.

En raison de la multiplicité probable des environnements qui doivent régner sur d'autres planètes, il n'est pas impossible que certaines espèces arrivent à l'intelligence directement munie d'un mode de communication non-séquentiel, non-symbolique - dont le véhicule pourrait être des ondes électromagnétiques de haute fréquence - où que des espèces similaires à la nôtre aient eu le temps d'accumuler assez de connaissances sur elles-mêmes et l'organisation moléculaire et physiologique de leur système nerveux pour se pourvoir artificiellement d'un tel moyen de communication. Et j'en reviens à la citation du début de cette étude: L'intelligence c'est une communication améliorée, la transmission d'information plus complexe d'un individu à un autre. De telles ETI satisferaient bien à cette définition: elles échangeraient des sortes d'images mentales à la vitesse de leurs pensées. Ainsi seraient-elles capables de transmettre une quantité extraordinaire de bits/seconde, sans efforts, par la voie naturelle directe, de même que nous intégrons sans guère nous fatiguer une quantité énorme d'information non-séquentielle et non-symbolique au travers du système visuel!

Rappelons encore que notre système nerveux est capable (sans notre contrôle conscient) de générer artificiellement et sans efforts de l'information non-séquentielle et non-symbolique: ce sont les rêves ou les hallucinations. Si nous étions dotés d'un système émetteur de

cette information et d'un autre qui puisse nous permettre de la contrôler à volonté, alors nous connaîtrions sans doute une nouvelle façon de penser et d'analyser, à savoir la "modélisation" instantanée de tel ou tel aspect d'un réel précédemment mémorisé! (Car le rêve, en effet, est bien une modélisation du réel, modifié selon les désirs)

Toujours est-il que certains d'entre-nous, que l'on nomme des eidétiques(7), sont tout à fait capables de contrôler la génération consciente d'information non-séquentielle et non-symbolique dans leurs systèmes intégrateurs: ainsi un eidétique doué peut surimposer selon son désir une image "hallucinatoire" sur ce qu'il perçoit du Monde Extérieur. Regardant un arbre dénudé il peut instantanément le recouvrir de feuilles imaginaires qui lui apparaîtront aussi réelles que de vraies feuilles!(8)

Cela est-il exceptionnel? Très certainement non, car puisque tout le monde peut rêver où projeter consciemment, sous l'effet d'une substance hallucinogène, nous devrions tous être capables de telles performances avec un entraînement qui reste à découvrir.

Tout cela pour dire que nous avons déjà potentiellement en nous un futur langage avancé; ce qu'il nous manque c'est surtout une structure nerveuse émettrice. Pourquoi ne pas supposer que, peut-être, un jour nous serons capables de nous doter d'une telle structure ou, à défaut, d'en fabriquer l'équivalent électronique?

Pour en revenir aux ETI susceptibles de manier un tel mode de communication, je pose la question à tous ceux qui croient qu'un jour nous entrerons en contact avec de telles personnalités: si de telles intelligences venaient à passer aux environs d'une planète peuplée par des intelligences pourvues d'un système de communication primitif, quel intérêt auraient-elles à communiquer avec elles puisque, nécessairement, une telle espèce n'aurait rien à leur apporter qu'elles ne sachent déjà depuis fort longtemps?

Si nous étudions les singes, par exemple, c'est bien, en dernière analyse, pour mieux nous comprendre; mais viendra un jour où plus personne n'ét-

udiera les singes car nous aurons découvert tout ce que nous voulions savoir. Alors nous les laisserons vaquer à leurs occupations et peut-être qu'alors certains singes discuteront de l'existence ou de la non-existence d'une créature mythique dénuée de poil en arguant que si une telle créature existait, elle ne manquerait pas de prendre contact avec eux...

Et peut-être encore bien plus tard, quand ces singes auraient évolué, ils écouterait l'espace à travers leurs radiotélescopes... mais ils seraient les seuls à s'écouter.

Et, avant de conclure, voici un résumé succinct des attributs des langages dont nous avons discuté:

LANGAGE SYMBOLIQUE SEQUENTIEL (L.S.S)

Voie de transmission: Ondes accoustiques

Structure du message: Un signal, un symbole. Juxtaposition séquentielle des signaux émis.

Code: Artificiel, variable avec les cultures, variable entre individus d'un même groupe de langue

Quantité d'information véhiculée: faible (environ 100 bits/seconde)

Ambiguïté des signaux: Très grande à cause du codage artificiel utilisé.

LANGAGE NON-SYMBOLIQUE NON-SEQUENTIEL (L.N.S.N.S)

Voie de transmission: Probablement ondes électromagnétiques ou ondes accoustiques de haute fréquence.

Structure du message: Une constellation de signaux à intégrer simultanément.

Code: Naturel, invariant entre chaque individu car langage naturel des structures nerveuses traitant l'information.

Quantité d'information véhiculée: Très grande (probablement plus de 100.000 bits/seconde)

Ambiguïté des signaux: Minimale à cause de l'invariance du codage

Conclusion: Où allons-nous depuis ici?

J'ai voulu montrer dans cet article assez spéculatif que ce langage dont nous sommes si fiers est pourtant très élémentaire par rapport à d'autres langages envisageables. C'est un anthropomorphocentrisme bien pardonnable de croire le contraire car cela rassure sur l'importance de l'Homme et de sa destinée dans l'Univers.

S'il existe des ETI avancées susceptibles de parvenir jusqu'à la Terre, il me paraît raisonnable de penser que leur mode de communication dépasse fort probablement le nôtre depuis déjà longtemps et tant, que le problème de la communication avec des gens comme nous ne se poserait plus pour elles: il n'y aurait simplement rien à communiquer...

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EPISTEMOLOGY of the RESEARCH

ARE UFOs PSYCHIC PHENOMENA?

I. GRATTAN-GUINNESS

34 Hillside Gardens, Barnet, Herts, EN5 2NJ, England

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SUMMARY

Students of UFO phenomena nowadays mostly regard their work as a branch of psychical research. In this paper I explore the possibilities of connections and similarities between UFO and psychic phenomena.

1. Introduction

I shall not spend any time on arguing for the occurrence of UFO phenomena, although I shall refer to examples on occasion. Rather than deal with the view of those critics that all phenomena can be explained in terms of either some natural phenomena or an unethical claim by the witnesses, I shall ignore it. For me there is a significant residue of evidence which cannot be so explained away, and this is not the place to argue about particular cases. When I use phrases such as 'UFO sighting' below, I refer only to this significant residue.

Description of particular cases is the principal preoccupation of the literature, especially the journals. Among the best journals in this field is the British Flying saucer review. I shall confine my journal references to it when mentioning particular sightings.* I shall also refer to some of the more worthwhile books and articles in the field, especially those which discuss the general questions about the field, which are my chief concern here.

2. Ufology: its recent history and current state

Ironically, the best known event of 1978 connected with UFOs is not a sighting but the film 'Close encounters of the third kind'. This unlikely title is taken over from the classification of UFO sightings in J.A. Hynek's The UFO experience, and covers cases where 'the presence of "occupants" in or about the UFO is reported'.²² Sometimes contact with these "occupants" is claimed, as happens in the film.

Since the film has been commercially successful, it is certain to have a successor. Often such films have uninspiring titles in the form 'Son of' or '..... 2', but in this case both the title of a successor and its content are obvious. I do not wish to provide free ideas for the dollar-laden servants of the film industry, but since the appearance of Hynek's book in 1972 the category of 'Close encounters of the fourth kind' has been introduced by some students of the field. They are alleged abduction cases, whose details are apparently retrievable

* Flying saucer review, 1955 - , six parts per volume. Now published from West Malling, Maidstone, Kent. In later footnotes I cite articles from it in the following way. 'FSR 20/3' refers to volume 20, issue 3; 'FSR CH 9' cites the 9th issue of its supplementary series Case histories (now suspended); and FSR SI4 mentions the 4th of its occasional series of 'Special issues'. I give the year of publication also; but as the issues are only around 36 pages each, I omit the page numbers of the articles. Book selections of some of its articles have been published as The humanoids, London, 1969 (an expanded version of SI1); and Encounter cases from Flying saucer review, New York, 1977.

only by regression hypnosis. These cases provide some of the strangest data in this field,^{12,37} and their cinematic possibilities are obvious.

Cases of this kind are among the reasons for a strong change in recent years away from orthodoxly technological explanations of UFOs as machines to an acceptance that UFO sightings, or at least a significant proportion of them, are not of objects in the normal sense of that term, but are psychic experiences of some kind. Hence the question in my title, which we shall explore in the sections below. Firstly, however, I must say more about the history of the "technological" period of explanations of UFO phenomena, for it has left its mark on the current state of the field in many ways.

Although sightings have been recorded apparently back into antiquity, the modern interest in the field started just after the last World War. At the time the authorities of both East and West were discovering the extent of the Germans' military war-time technology, and rapidly "acquiring" as many of the relevant personnel as possible. Then these reports of 'flying saucers' (the vogue term of the time) were publicised in profusion, especially in the United States of America. Were people seeing the latest products of the talents of our/their/someone else's Germans? It is not impossible for a machine of that shape to be designed according to our technological principles, although the technical difficulties are immense, especially to achieve the sudden and large changes of speed and/or direction which are often reported by witnesses.^{30,53}

Characteristically of this field, the question of whether or not witnesses were observing post-Nazi technology cannot be answered definitively. On the one hand, there are claims that the Germans tried to develop such a machine. For example, in an article under H. Oberth's name in an early issue of Flying saucer review there is information on the V7, a helicopter powered by circumferentially mounted engines. Apparently it was developed at the research centres in Prague and

Vienna, although the technical difficulties were enormous and the project was not continued at Peenemünde.³⁵ Again, a friend of mine, himself not interested in UFOs, told me that a report on the Germans' achievements was written at the end of the War by a close acquaintance of his in British Military Intelligence. On the other hand, I have not been able to see any documents on the matter: the custodians of the relevant British, American and German archives deny that they possess such material, and authorities such as R.V. Jones have no knowledge of such developments.^{26, 29}

In recent years the social climate has eased. The Americans have released much of their information collected by their Air Force,^{24, 48} and some good television programmes have been made there.¹⁸ Again, the French Minister of Defence admits that his Ministry studies the phenomena.¹⁵ By contrast, Britain remains the land of timidity in the face of anything that is possibly novel: the BBC programmes on UFOs are usually rubbish, for example,^{4, 7} But 'Close encounters of the third kind' may help to waken up the British. The Daily express collected much information from a request for readers' letters,⁸ and a UFO Investigation Network is now working well nation-wide under the efficient organisation of Jenny Randles⁶ and reporting regularly in Flying saucer review.

I shall not say more on this situation and its history, but I do wish to point out the kind of atmosphere that has surrounded the subject, and still does. The military implications of UFOs, I am sure, have governed the desire of officialdom to disparage the subject. Hynek's The UFO experience describes many cases of the most extraordinary carelessness with the evidence by his colleagues on various investigative committees; indeed, it was these attitudes that aroused his deeper curiosity.²⁴ D.M. Jacobs's excellent social history of The UFO controversy in America shows how widespread was the generation of controversy by fanatics on both sides.²⁵ This is our historical heritage, and we must attend carefully to it even if it evolved in the context of the assertion and rejection of technological

explanations which now are not widely advocated.

3. Some similarities between UFO and psychical phenomena

The move away from technological to psychical explanations has occurred largely in the 1970s.³ The causes include the continuing failure to produce convincing technological theories of craft design and motion, and the gradual realisation that psychic phenomena are sometimes associated with, or follow, a UFO sighting (I give some examples in sub-section 3.1 below). C.G. Jung was a pioneer in this direction in as much as in his Flying saucers of 1959 he regarded UFOs as God-images rather than machines,²⁷ although just before his death he thought that they were space-ships.⁴¹

I shall now address myself to the question posed in my title: are UFOs psychic phenomena? In the rest of this section I shall briefly survey nine respects in which UFOs and psychic phenomena display similarities. I cover not only the phenomena themselves but also theories about them and the attitudes that are held about both phenomena and their study.

3.1. Phenomena UFOs would appear (literally) to be most similar to apparitions and ghosts; but this similarity is less marked than it would seem. But UFOs can leave much more physical evidence behind, and more frequently, than is normal with apparitions or ghosts: broken branches, damaged crops, circular marks on the ground, and so on.* In addition, ectoplasm hardly ever seems to occur at UFO sightings. The behaviour of animals is often similar in both areas: dogs and cats run away with the same enthusiasm from UFOs as they do from various kinds of psychical phenomena. Animal deaths have also been discovered after UFO sightings.^{19,13,14,28} Among

* Among many examples, see Michel, A. and Bowen, C., 'A visit to Valensole', FSR 14/1 (1968); Crump, L.G., 'The Whippingham ground effects', FSR 14/3 (1968); Liljegren, A., 'Mariannelund UFO and occupants', FSR 16/6 (1970); Bowen, C., 'Landings and humanoids reported in Cape Province . . .', FSR 19/1 (1973); and Phillips, T., 'Landing report from Delphos', FSR CH 9 (1972). On the well-known Socorro case, see Stanford, R., Socorro saucer, New York, 1978 (first published in 1976 as Socorro saucer in a Pentagon pantry).

specific cases where connections between UFO and psychic phenomena may be involved, I may mention Geller's claim of UFO contacts (the degree of your belief in them will depend on your belief in Geller);³⁶ the UFO sighting of 'Dr.X' in France, which involved psychic healing and (later) levitation;^{32,34} the sightings of Stella Lansing, who seems also to have the "thoughtographic" ability to cause images to appear on film in addition to those captured by the camera;^{16,42,43,44,45} and the close encounter of the fourth kind experienced by Betty Hill, who has had other psychic experiences.⁴⁷

However, despite these many points of similarity between the two areas, there is no obvious patterns of connection between them: one witness's "other thing" might be poltergeists, another's is thoughtography, and so on. This situation strengthens the general thesis of connections between UFOs and psychic phenomena, but makes the development of theories asserting specific connections very difficult.

3.2 Repeatability Both areas face great difficulties in this respect. For UFOs the most interesting case so far is perhaps Stella Lansing, who seems to see UFOs, and photograph them, at will. In addition, other people can see them with her: I myself have done so.^{20,46}

3.3 Residual categories Both UFOs and psychical phenomena are defined as residual categories of phenomena, those which are not in Respectable Category A, nor in Respectable B, nor This has three important consequences. Firstly, to say that UFO phenomena are psychical phenomena really says very little: since both areas are so disparate, it is not surprising that some of one will correlate with some of the other. This leads to my second point. Both UFO and psychic phenomena need classification, need a taxonomy; to search for the "nature" of either is a mistake. Thirdly, connections between two areas might in fact help the construction of classifications in both of them.

3.4 The situation over rationality Both UFO and psychic phenomena strain

rationality by their apparent contradiction with established science. To me, however, the conclusion is : so much the worse for established science. My own work in the history of science (a topic about which scientists normally know nothing significant) has shown me very clearly that scientific progress over time affects the conception of rationality itself, especially the assessment of the legitimacy or otherwise for scientific study of a class of phenomena: yesterday's magic mutates into today's feasible problem, and tomorrow it will be demanding research posts and specialist journals. No argument for the eventual acceptability of either UFO or psychic phenomena thereby follows, but the more infantile forms of their rejection can be strongly criticised, especially when one brings in the historical fact that fringe sciences of a period help to mould the rationality of science as a whole.

The reason why such wholesale rejection of both these fields occurs is as follows. Scientists think that the cautious approach to strange phenomena is to reject their occurrence. But they are twice mistaken: firstly, in regarding science as a wholly cautious activity (Popper has demolished this view with regard to theory construction); and secondly in thinking that rejection is the cautious approach anyway. On the contrary, the cautious view is to accept the phenomena, since no commitment to any particular kind of explanation is made but the possibility of exploring various explanations is allowed. The "caution" of rejection is often a reckless and unthinking conservatism. A. Michel quotes Jean Cocteau as having once said to him: 'What would be unbelievable is that they should NOT exist'.³³

In recent years science itself has become less "authoritarian" in its self-image: in particular, physics is no longer its queen. As an example, meetings between scientists and ufologists take place every now and then,²¹ and serious journals are attempted.¹⁰

3.5 The polarity of attitudes As I have intimated before, attitudes concerning UFO phenomena and their studies are often strongly in favour or against; hence

another similarity with psychical phenomena leaps to the eye. I am sure that the polarity itself is worthy of study. Both areas seem to tap a deep-seated source of fear: fear for some that these phenomena actually occur, fear for others that they may actually be orthodoxly explicable. In this connection the asymmetry of publicity of the views of critics and of protagonists applies. Students of psychical research know well that critics are automatically sold as experts, while well-argued defences are ignored.¹⁹ The same happens in ufology. For example, all the British newspapers were full recently of the story that Adamski's photographs of UFOs must in fact have been of the cover of a bottle cooler; but the report of its inventor that he had been inspired to his design by seeing Adamski's photographs was less widely circulated.⁵ By such moves is the philosophy of reckless "caution" fortified.

3.6 Minds, bodies and universes Both UFO and psychical phenomena have many consequences for the distinction between mind and body. The current situation over this distinction is in a curious state; most scientists (and also Popper) support some form of interacting dualism between mind and body, while philosophers think that they have reduced mental events to states of language behaviour. UFO and psychical phenomena seem to speak against dualism to some extent, but in addition attempted linguistic reductions of mental events are irrelevant. In a thoughtful article on 'The mind-matter interface' J. Eisenbud has made the pleasant suggestion that we regard a UFO as 'an into-the-body experience', as a converse to psychical out-of-the-body experiences.¹⁶ Perhaps we can go further and wonder if a UFO is an object at all, and if "it" is actually flying.

A related matter is the question of the space-time in which bodies exist. Part of the psychic explanation of UFOs is that they come from parallel universes, but I do not see what help this unfalsifiable hypothesis provides. In addition, it has no specific connection with UFO or psychic phenomena anyway. I can postulate the

existence of as many parallel universes as I like around me without any difficulty, since their presence will be detected only when physical interaction with my universe occurs. How such interaction may occur is a good question, of course, and maybe some aspect of ufology or psychical research will be illuminated by an answer to it.

3.7 Use of hypnosis Originally a psychical phenomenon itself, hypnosis is now a widely used technique in psychology and (sometimes) medicine, even though it is still not well understood theoretically. It is increasingly used in ufology, especially for close encounters of the fourth kind. However, the UFO experience itself does not normally appear to have any hypnotic or hallucinatory component to it; the UFO seems to enter the witness's experience in his normal state of consciousness and does not affect it, although it may well cause physiological effects (burns, eye-strain, headaches, and so on) and even death. ^{11,40}

3.8 Use of statistics There is now enough data for statistical analysis of UFO sightings to be attempted.⁵⁰ The most detailed so far is in progress under Dr D. Saunders, a member of Hynek's Center for UFO Studies in America, who has tens of thousands of sightings in his computer programme. He told me some time ago that there seemed to be some kind of correlation emerging between the frequency of sightings and the sidereal time of their occurrence, with different distributions for different kinds of UFO encounter. Perhaps when more statistical work has been done, psychical researchers can find here some uses for statistics in their own work. However, the drawing of conclusions in these areas is even more perilous than in more orthodox fields. For example, I. Brand expresses the hope that the frequency distribution of UFO data will show whether UFO phenomena are physical or psychical phenomena,⁹ though I cannot see how statistics alone could provide a suitable criterion.

3.9 Use of photographs and films By and large the same problems of interpretation of photographs apply to both areas: UFO photographs seem to be rather easier to fake.

Fortunately, there are many photographic experts in both fields who apply very rigorous tests and controls on photographic evidence. A UFO sighting of particular photographic interest was a sighting in 1967 over San José de Valderas in Spain of a white saucer-shaped object with a black mark, rather like the Russian character called 'zh,' on its lower surface. There were several witnesses, including two who took clear photographs of the object from different positions.^{39,52} I may also recall from sub-section 3.1 the case of Stella Lansing, which has photographic as well as ufological aspects.

4. Some conclusions

From the considerations above I shall proceed towards some conclusions.

Are UFOs psychic phenomena? The question is too simple. The two categories are too incoherent and disparate for the question to be worth asking in this form. We need to ask a series of questions of the form: 'In which ways (if any) do UFO experiences of type X match up with psychic phenomena of type Y?'. Although many individual connections have been noticed, no clear-cut pattern of connections has yet emerged. If UFOs do come under the umbrella of psychic phenomena, then they may well be among the most curious, and thus among the most difficult to study.

One reason for the lack of success may be that psychical explanations of UFO phenomena have only recently become fashionable, and ufologists have not yet become conversant with the details of psychical research. For example, J. Vallée has recently published UFOs: the psychic solution, but I must confess that I do not learn from it what the psychic solution actually is.^{23,51}

Much information may be being lost because ufologists are not asking UFO witnesses relevant questions, or carrying out appropriate procedures. For example,

the possibility of pre-cognition of UFO sightings is not usually explored. Again, the interview of witnesses is regarded only as a search for information and opinions: no attempt is made to recreate the possible psychic state of mind of the witness. Further, the location of the UFO sighting is carefully mapped; but it is usually correlated only with man-made artefacts such as power lines, and not with natural effects such as magnetic fault lines. (A. Michel's Flying saucers and the straight line mystery is something of an exception,³¹ and the frequency of occurrence of sightings near mountains and/or lakes is widely noted.) Finally, the time of duration of the sighting is determined as accurately as possible, but the witnesses' astrological charts (both the birth and the progressed charts) are not prepared, to see if any tendencies or patterns are to be found from them.

I am inclined to wonder whether explanations of both UFO and psychic phenomena may have to draw on occult doctrines. The most interesting essay published so far on possible occult aspects of UFO sightings is David Tansley's Omens of awareness.^{1,49} The stimulus for him to write the book came when 'A sudden and inexplicably deep interest in UFOs occurred in January 1976 accompanied by peculiar synchronistic events'. He read some of the technological explanations of UFOs,² but in a counter-view he relates UFOs to the 'expanding consciousness of man' and to ancient Mystery Teachings about the world. For him UFOs are connected with spirit forces called 'allies'; which can appear in human and animal form, and perhaps even as UFOs. The colours in which UFOs sometimes appear are similar to those found in (alleged) manifestations of pranic energy. UFOs are appearing in order to make us realise the existence of the univereal creative forces of nature, and to encourage us to control them. Tansley's book is dedicated to Brother Philip, of the Monastery of the Seven Rays in South America, the continent in which (for some reason) many of the best UFO sightings occur.* Brother Philip's Secret of the Andes is not a UFO

* Many such cases are described in the CH issues of FSR.

book, but some of its message relates to UFOs in the way that Tansley outlines.

We are obviously entering deep water here; but the shallower streams of technological and psychical explanations have so far been disappointing. And after all, why should fringe subjects not embrace their own fringes?

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IN UFO AREA

A STATISTICAL SURVEY AMONG ITALIAN ASTRONOMICAL OBSERVATORY

M. PITTELLA

*Centro Ufologico Nazionale
Via Vignola 3, 20136 Milano, Italy*

ABSTRACT

This statistical survey was performed between the years 1977 and 1978, among the most important 14 astronomical and astrophysical observatories in Italy. It had the purpose to probe the opinion of a major slice of the Italian scientific community about the UFO subject and to know whether the staff of some observatories had directly sighted some UFO phenomena. This informative test did not supply us with new and unexpected information. However it is a clear document emphasizing the mediocre standard of information and sensibility of the scientific environment upon the UFO question.

Such an investigation, if addressed to other scientific circles too and regularly repeated, could be a suitable way to assess time to time possible developments of the scientific opinion about the UFO subject.

KEY-WORDS

Information, Informative Test, Observatories, Questionnaire, Survey

INTRODUCTION

On suggestion of a member of our Scientific Committee, the Operative Team of Milan provincial division of "Centro Ufologico Nazionale" started this survey in May 1977. The work was completed in June 1978 in coincidence with the answer of the last Observatory that accepted the initiative.

From the very beginning we assured all Observatories that we would not have divulged the papers they had filled it. This in order to render their expression as serene as possible. Thus the original answers of the Observatories are not reproduced in this report. Here we shall confine ourselves to describe under a statistical form the gathered information.

MATERIAL AND METHODS

Observatories probed

We addressed this informative test only to those fourteen Italian Observatories which might be regarded as active ones at the moment, on indication of a CUN astronomical consultant. They are as follows:

- 1.- Observatory of ARCETRI - L.go E.Fermi 5, Firenze
- 2.- Observatory of ASIAGO - Asiago (Vicenza)
- 3.- Observatory of BOLOGNA - Via Zamboni 33, Bologna
- 4.- Observatory of BRERA - Via Brera 28, Milano
- 5.- Observatory of CAGLIARI - Via Ospedale, Cagliari
- 6.- Observatory of CAMPO DEI FIORI - Campo dei Fiori (Varese)
- 7.- Observatory of CATANIA - V.le A.Doria, Catania
- 8.- Observatory of COLLURANIA - Collurania (Teramo)
- 9.- Observatory of CAPODIMONTE - Via MoiarIELLO 16, Napoli
- 10.- Observatory of MONTE MARIO - Monte Mario, Roma
- 11.- Observatory of PALERMO - Palermo
- 12.- Observatory of PINO TORINESE - Pino Torinese (Torino)
- 13.- Observatory of TRIESTE - Via Tiepolo 11, Trieste
- 14.- Observatory G.HORN D'ARTURO - Via Montebello 4, Bologna

Questionnaire used

The survey was based on a one-sheet simple questionnaire (Fig.1). No previous types of questionnaire existed to which we might refer. Also we were not aware of how many Observatories would have paid attention to our initiative. So we decided to use a really elementary questionnaire, that might have a good chance to be favourable welcomed by its addressees. In the questionnaire the following nine questions were reported. All questions generally required a "yes" or "no" answer only.

- 1.- Are you acquainted with UFO phenomenon?
- 2.- Do you know astronomers who witnessed alleged UFO phenomenon?
- 3.- Did some among your colleagues witness an alleged UFO

- phenomenon at your Observatory?
- 4.- Do you know whether other Observatories witnessed such a phenomenon?
 - 5.- Did your Observatory receive some reports of alleged UFO sightings?
 - 6.- Do you regard some among the reports you received as reliable ones?
 - 7.- Do you usually convey the received reports to some official bodies?
 - 8.- What explanations of the following ones do you think to be reliable?

Natural phenomenon
 Psychic phenomenon
 Parapsychological phenomenon
 Extraterrestrial machines
 Secret terrestrial machines
 Known terrestrial machines
 Hoaxes
 Machines of another time
 Machines of another dimension (Hyperspatial phenomenon)
 Something other (specify)

- 9.- Do you like to know the results of this survey?

A blank appeared at the bottom of the questionnaire where to put the date of compilation, the signature and possible suggestions and/or criticism addressed to our Center.

Dispatches to the Observatories

The first letter to the Observatories dates back to May 14, 1977. Two reminders were then forwarded to the Observatories which had not answered yet, within the dates July 25, 1977 and September 1, 1977. All the three times we sent the following material:

- a.- a letter of introduction where our project was explained and where we stated in a full and clear way that the UFO phenomenon has to be looked upon as a phenomenon the nature of which is still unknown and has not to be pre-conceivedly associated with any premature explanations;
- b.- informative papers about the activity, the organization and the aims of our Center;
- c.- the statistical questionnaire (Fig.1);
- d.- a pre-addressed envelope for the return of the filled-in questionnaire.

On June 1978 we sent a copy of the report in which we summarized the result of the survey to everyone of the 14 Observatories involved (also to those who gave no answer or those who stated they were not interested in the result of the informative test).

RESULTS

Respondent Observatories

Ten only among the fourteen probed Observatories joined the survey. The Observatories No. 1, 2, 3, 4, 5, 7, 8, 9, 12, 13 (according to the list shown under the chapter "Material and Methods") gave us their answers, whereas the other 4 Observatories did not take part in our enterprise.

Answers

The histogram produced in Fig.2 illustrates both the number of positive answers (positive Y-axis) and of negative ones (negative Y-axis) coming from ten Observatories about the questions No. 1, 2, 3, 4, 5, 6, 7, 9 contained in the questionnaire. As we can see in the same histogram, some Observatories did not answer (or they did not it with the necessary clarity) the questions No. 1, 6, 7.

The histogram produced in Fig.3 illustrates which of the possible explanations listed in question No. 8 was the most frequently expressed by the Observatories. Two Observatories did not answer question No. 8, but the other ones pointed out from 1 to 5 possible explanations of UFO phenomena.

DISCUSSION

The results of this inquiry suggest 4 important comments:

1.- The Italian Observatories are not acquainted with the UFO phenomenon.

Also Observatories stating they have a good acquaintance with the phenomenon (question No. 1) assert they have no good knowledge upon any UFO sightings in which some professional astronomer had been involved (questions No. 2 and 4). Conversely we know very well that many cases of this kind exist. The only Observatory answering in a positive way the questions No. 2 and 3 was on the contrary referring to the sighting of a balloon.

2.- The Italian Observatories function like gathering centers for sightings reports.

It should be noted that the maximum index of positive answers concerns the question No. 5. But these reports, which are seldom regarded as reliable ones, owing to the mediocre sensibility of the Observatories too (question No.6), are systematically lost, because they are never conveyed to anybody able to examine them closely (question No. 7).

3.- The Italian Observatories do not acknowledge the reality of the UFO phenomenon (considered as unknown phenomenon triggering the sightings reports).

Answers to question No. 8 are assembled around the natural and psychic phenomena, the conventional aircrafts and the hoaxes. Few Observatories showed to have some doubts.

4.- The Italian Observatories are not interested in the UFO matter.

Many astronomers willingly speak about the UFO subject when newspapers, broadcast and television stations ask them for it, but only 8 Observatories out of 14 appeared to be interested to know the results of this work and two Observatories explicitly stated they did not want to know them (question No.9). This fact, the mediocre standard of information about which we talked at point No. 1 and the reminders we had to forward them, testify the scant interest of our Observatories in the UFO matter.

In spite of this still disconsolate picture, some astronomers are step by step approaching the UFO problem more seriously. Maybe within some years another informative test of this kind shall bring to the light a most comfortable situation!

centro ufologico nazionale

per lo studio della fenomenologia U.F.O.

Sezione di Milano

operazione **ASTRO**

QUESTIONARIO STATISTICO

MATERIALE RISERVATO

ad uso del solo nucleo operativo

osservatorio di _____

- sì | no
1. Siete documentati sul fenomeno ufologico? _____
2. Astronomi di vostra conoscenza sono stati talvolta testimoni di presunti passaggi UFO? _____ X
3. Qualcuno di voi ha assistito a presunti passaggi UFO dal vostro Osservatorio? _____ X
4. Vi risulta che da altri Osservatori siano stati effettuati simili avvistamenti? _____ X
5. Il vostro Osservatorio ha ricevuto qualche segnalazione di presunti avvistamenti UFO? _____
6. Ritenete attendibile almeno qualcuna delle segnalazioni che avete eventualmente ricevuto? _____ X
7. Comunicate solitamente a qualche Ente ufficiale le eventuali segnalazioni che ricevete? _____ ENTE _____

8. Quali spiegazioni del fenomeno vi sembrano le più attendibili?

- | | |
|----------------------------------------------------|---------------------------------------------------------|
| <input type="checkbox"/> fenomeno naturale | <input type="checkbox"/> ordigni terrestri conosciuti |
| <input type="checkbox"/> fenomeno psichico | <input type="checkbox"/> montature |
| <input type="checkbox"/> fenomeno parapsicologico | <input type="checkbox"/> ordigni di un altro tempo |
| <input type="checkbox"/> ordigni extraterrestri | <input type="checkbox"/> ordigni di un'altra dimensione |
| <input type="checkbox"/> ordigni terrestri segreti | <input type="checkbox"/> altre (specificare) _____ |

9. Desiderate conoscere i risultati di questa nostra statistica?
SI NO

FIRMA DEL COMPILATORE

DATA

X Vi saremmo molto grati se poteste specificare nello spazio riservato alle note i nominativi completi e le date relative ai casi in questione.

NOTE (eventuali comunicazioni al Centro Ufologico Nazionale).
(utilizzare eventualmente anche il retro del foglio).

fig. 2

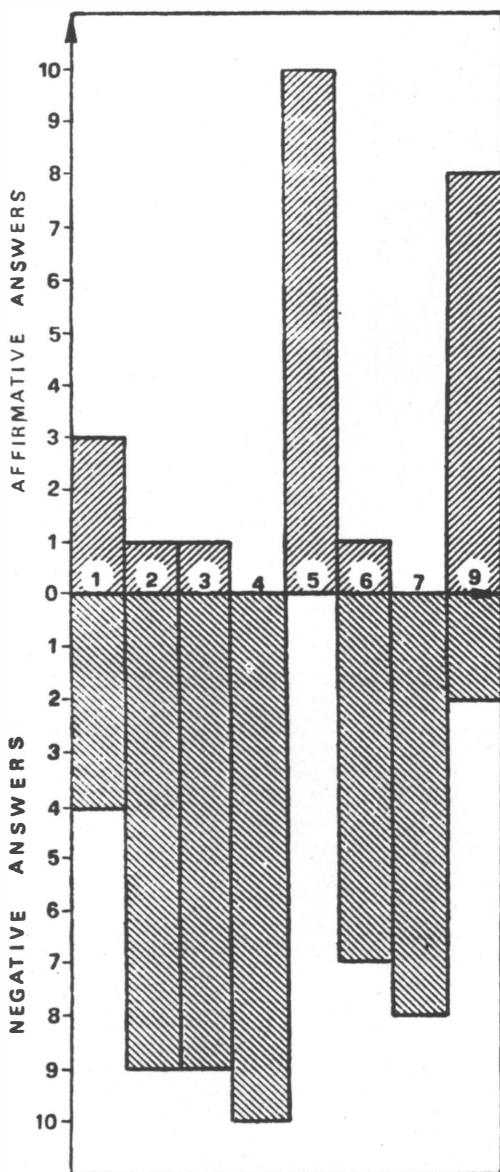
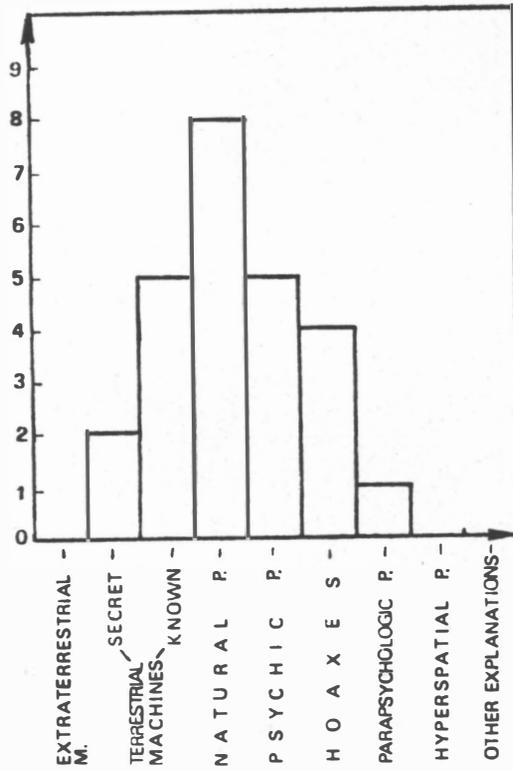


fig. 3



OFFICIAL DATA REQUEST IN ITALY

R. CABASSI, R. FARABONE, F. IZZO

CNIFAA

Via Rizzoli, 4, 40125 Bologna, Italy

The recent wave of UFO reports concerning Italy from September 1978 to January 1979 induced our Committee to be present in the national press with a series of clarification articles. Moreover we promoted an official request to the Italian Ministry of Defence in order to make available to qualified researchers, the data filed by this Ministry. We have not yet got a final answer to our request, except for a cable from Admiral Mainini, Principal Private Secretary of the Ministry of Defence, dated Rome 13th, 1979, where we were told about his waiting for instructions from "higher organs" who were looking for a "civilian organization" to which devolve the study of the UFO problem.

But, in order to sift such a proposal, let us examine the contents of our official request, dated January 9, 1979, which has been sent to the highest organs of politics and defence of our country:

COMITATO NAZIONALE INDIPENDENTE PER LO STUDIO DEI FENOMENI AEREI ANOMALI

Da (From)
C.N.I.F.A.A.
(Headquarters)
Via Rizzoli, 4 sc/B
Tel. (051) 23.90.88
40125 BOLOGNA (Italy)

Rif.
Prot.

A (To)

Bologna, January 9, 1979

In reference to the declaration of Navy Captain Michele TURRI, head clerk of the Operation Bureau, Third Department of General Staff, Board of Defence (1):

"We do not have any special Bureau and this kind of news (regarding UFO phenomenon -editorial note-) is part of non classified information, i.e. not covered by military secret; as a matter of fact, we do not even draw up statistics omissis"

As no military interest subsists in the commonly defined by monogram "UFO phenomenon",

Since international groups of scientists are even more interested in such phenomenon (2, 3, 4, 5, 6),

Considering also the actuality and the persistence of observations of unidentified objects in our country and considering the doubts expressed on the matter in a recent question at Parliament (7), Our Committee, acknowledging a potential scientific interest in the data gathered by the General Staff of the Board of Defence, and kept at the Board of Defence in Rome, in order to recuperate such data for appropriate use, asks that:

- 1) such data be handed over, together with possible studies, research work and enquiries carried out by specialists of the Board of Defence to a group of highly competent scientists and researchers;
- 2) all future observations of such phenomenon be part of such collaboration.

We wish to propose as a candidate regards the choice of such group of specialists. We wish to lay stress on the fact that research workers of several doctrines join our Committee and are already actively engaged in studies and elaboration of data concerning UFO phenomena.

The important international collaboration which exists in the editing of the international review "UFO PHENOMENA", which we send you regularly, is an ulterior proof of the serious work of research of our Committee.

This document is signed by university and scientific researchers

that support our initiative but are also available to collaborate as consultants.

- (1) La Nazione, May 27, 1978
- (2) E.U. Condon Project Director "Scientific Study of Unidentified Flying Objects" Bantam Books New York (1969)
- (3) J.A. Hynek "The UFO Experience: A Scientific Enquiry" Regnery Chicago (1972)
- (4) Dornbos N., Ed. "1976 CUFO Proceedings"
- (5) Sagan C., Page Th. Eds. "UFOs: A Scientific Debate" Cornell University Press New York (1970)
- (6) Sturrock P.A., Carlson J.B. "Stanford Workshop on Extraterrestrial Civilization: Opening the Dialogue" Origins of Life, Vol.6, No.3, 459 (1975)
- (7) Question with written answer - 20 November 1978
ACCAME to the President of the Cabinet

Una ricerca scientifica sul fenomeno UFO
A scientific research on UFO phenomenon

This request was signed by thirty-two researchers, including Italian and foreign university teachers. It did not certainly mean to ask for the establishing of an ad hoc committee in the ambit of a research civilian organization. The point is that under the term "civilian organization", as it is usually conceived by political organs, one can only mean, in Italy, an organization like the "Consiglio Nazionale delle Ricerche" (CNR) [National Research Council]. The choice of such an organization, in the Italian reality, would turn out to be only an unsuccessful atte-

mpt: this especially if we consider the CNR paucity of funds per year and the general lack of availability to wards new aspects of the research.

Needless to say that the bureaucracy is always present.. Thus, the answer given by the Principal Private Secretary of the Ministry of Defence is not about the liberalization of data collected by that Ministry. Rather it is related to an institutional choice that therefore can be directly operated by the "high organs" to whom devolving the study on UFO problems.

This would be only a transfer of data so far collected by means of traditional praxis to an organization formed by unqualified researchers. The term unqualified is not addressed to their professional "incompetence" in different scientific disciplines (physics, biology, astronomy, chemistry, psychology, etc.). On the contrary it is due to their lack of information and to their unacquaintance with UFO phenomena. They showed this "incompetence" making some statements during the recent Italian "flap", referring, for instance, to what Edward Condon said, without having ever read just beyond the "Condon Report" recommendations. As well as we had the opportunity to read or to listen to statements such as "Astronomers never saw an UFO", not even knowing which is the reality of the facts.

On the basis of what so far said, we decided on one hand to urge the Ministry of Defence to search for this "civilian organization", on the other to propose at least the establishment of a research group similar to the French GEPAN, where the adjective similar has its basic importance and meaning. In fact we cannot disregard most of the questions surrounding the future of GEPAN both in terms of correctness and capability.

We achieve our goal sending a telegram not only to our Prime Minister, but to the President of the Italian Republic too. The choice of addressees was not surely a random one. At present they are the two "steady points" of Italian Institutions, within a country which is troubled by the intrigue of political parties, resignations, establishment of new majorities, anticipated general elections, and so on and so forth!

A possible failure of our initiative would not create big problems indeed: a good number of Italian scientists begins to realize the terms of the UFO problem. These scientists appreciate, when they are aware of it, the work of those who are able to overcome all the difficulties of old methods in UFO research, bound to obsolete equations as $UFO=ETH$ and who re-propose the problem under more various points of view which are nearer to the right use of the scientific methodology.

Renzo CABASSI
Roberto FARABONE
Francesco IZZO

STATE OF ART

It is with great pleasure and honour we present here a challenging contribution by David M. Jacobs. He, author of the by now classic UFO "textbook" titled *The UFO Controversy in America* (Indiana University Press, 1975) currently teaches at the Department of History, Temple University, Philadelphia, USA. A grateful thanks to him for having accepted our invitation to write the 1978/1979 UPIAR *State of Art*.

by David M. Jacobs
Dept of History
Temple University

It is extremely difficult to understand the UFO phenomenon. From the beginning awareness of the problem in the 1940s, people interested in UFOs have attempted to discern the origin and purpose of the phenomenon. Between the 1940s and the 1970s the task seemed self-evident. Most UFO researchers accepted without question the theory that UFOs were extraterrestrial (although some supposed them to be earthly secret weapons). Since the late 1960s, we have learned that the phenomenon is far more complex than we had previously imagined. This knowledge has come from a refinement in investigative techniques that has allowed us to accumulate a large "file" of cases with the reasonable expectation that they are UFOs. In addition, UFO researchers have changed their attitudes about the legitimacy of cases previously considered "crackpot".

The refinement of investigative techniques has indicated that the number of unidentified cases is perhaps lower than had been previously estimated. The Center for UFO Studies in Evanston, Illinois,

has found that only about six percent of its raw reports are UFOs. And even then UFO researchers cannot be absolutely positive that each UFO case is truly anomalous. But it is the great number of these cases collected over the years that has convinced UFO researchers that UFOs represent an unconventional phenomenon. Yet there is no such thing as the "perfect" single case, and this is the weakness in UFO research of which debunkers have taken most advantage. At the same time, however, it is the single cases that give us the most insight into the complexities of the phenomenon and provide us with clues to speculate on its origins and behavior.

We have also learned that our clues for speculation can be culture-bound. In the 1950s and 1960s it was not advantageous to publicize or study the bizarre and incomprehensible aspects of UFOs. Invisibility, materialization, nonrational activity, and illogical occurrences were unsettling to UFO researchers who found a comforting logic in the idea of "flying saucers from outer space". They "flew" here from "there" and were probably on reconnaissance missions preparatory to either full contact or revelation of some sort. This "nuts-and-bolts" idea remains a real possibility and is one of the most attractive and enduring belief systems. As bizarre cases increased and intruded into our thought about UFOs, and concurrently as it became more acceptable to take cases seriously, our understanding of the phenomenon began to lose its clarity. The abundance of apparently incomprehensible facts clouded the underpinnings of the old theories. Moreover, the long-awaited full contact and revelation did not occur, and the continual repetition of UFOs' nonrational behavior became a barrier to a logical analysis of the phenomenon. The more that UFO researchers learned, the less they seemed to know.

As a result, researchers have begun to re-evaluate the "nuts-and-bolts" theory and subscribe to more exotic ones. Some researchers have suggested that UFOs come here from a "parallel universe", or that

they travel on the "astral plane", or that they pop in from "another dimension", or that they are "time travelers". Some see logic in bizarre UFO activity: UFOs display themselves deceptively in order to confuse humans and thereby control the amount of information that is known about them for their own reasons. These theories have taken hold with a large segment of the UFO research community, and they have provided alternatives to the nuts-and-bolts extraterrestrial hypothesis.

But do these new theories really add to our understanding of UFOs? It is impossible to tell. Perhaps the central question is whether UFOs are, in fact, amenable to rational study. If we are dealing with an extraterrestrial phenomenon of an advanced technological nature, has our intellectual achievement evolved enough to comprehend the phenomenon in its technological and cultural aspects? Or is the problem so advanced, so far beyond the state of the art of all our intellectual disciplines, that it will not be understood until we have progressed through many stages of scientific and cultural advancement? Once again, we do not know, but this may be a very real possibility.

Part of the problem of UFO research has been the continuing lack of recognition by the established scientific community of the legitimacy of UFOs. Although UFO researchers have succeeded in stripping away some of the ridicule that has surrounded the subject for many years, it still languishes on the fringe of scientific respectability. This has had two important consequences: funding to study UFOs is virtually nonexistent, and fresh intellectual viewpoints from the academic community have not appeared. The lack of money insures that UFO research will remain in the hands of volunteers using personal funds and spare time. And since the academic community has chosen not to participate in UFO research, new insight has come at a slow pace. For example, a rational, logical, taxonomic system that is absolutely essential for scientific research has yet to be developed.

The academic community's abrogation of its responsibility has been a problem since UFO research began. The national and international UFO organizations have filled the gap and served to organize and contribute UFO research as best they can. Private individuals have given great amounts of their time and talent (oftentimes risking their reputations and careers) to not only studying UFOs but to trying to convince the academic community of the phenomenon's validity. Although progress has been made in this regard, the goals have not been achieved. Recently the United Nations refused an opportunity to coordinate UFO research and disseminate knowledge about UFOs on a world-wide basis. In the United States, the National Aeronautics and Space Administration (NASA) passed over the opportunity to study the phenomenon. Yet we have tantalizing facts that suggest the American government has, indeed, been monitoring UFOs. The Central Intelligence Agency (CIA) released a series of documents showing that the Agency had been far more interested in UFOs than we had previously believed. The CIA investigated cases and mounted several minor studies of the subject. This has given rise to speculation that perhaps the American government might eventually make a pronouncement about the reality of UFOs. But this is still unlikely. In spite of all obstacles, UFO researchers have proceeded without outside help and they have given us what little knowledge we possess about the phenomenon. They have uncovered new areas of research which have extended our view of the complexities of the phenomenon. Alvin Lawson has experimented with the hypnosis of "real" and "imaginary" UFO abductees. His results have shown that the subjects display a remarkable similarity in their "accounts". William Spaulding and Bruce Maccabee have used sophisticated techniques of photogrammetric analysis and they have enabled us to identify hoaxes and other spurious photographs with a greater degree of certainty than before. David Saunders's statistical analysis of wave patterns may reveal a predictability about them that has so far eluded us. Studies in the politics of science have given us greater insight into the problems of "borderland" scientific topics gaining acceptance in the

established scientific community. Many other dedicated researchers around the world are delving into the UFO mystery in the hopes that they might make a contribution to our knowledge. Compare this activity to the activities of a handful of researchers ten years ago who spent most of their time trying to convince the public of the objective reality of the phenomenon. We have advanced in our techniques of acquiring data and hence in our knowledge of UFOs. But we have still not arrived at the point where we can identify the scope of our ignorance.

SYMPOSIA AND MEETINGS

“1978 BUFORA Conference”

The 1978 National Research and Investigations Conference, sponsored by the British UFO Research Association (BUFORA) was held on April 15-16, 1978 at the George Hotel, Nottingham, England and was hosted by the Midlands UFO Research Organization. More than 150 people, coming from as far as the United States and Western Europe, attended the many interesting lectures. Papers presented by the 13 speakers included subjects ranging from the extra-terrestrial visitor through various psychological and sociological theories to paranormal causes of the UFO experience. Following is a brief overview of these papers which are presented in their original presentation order.

(1) “Danish Time Law Analysis of UFO Sightings”, prepared by Skandinavisk UFO Information (SUFOI). Sightings appear to reach

maximum frequency about 21.30 hours (local time) with a secondary peak at 03.00 hours. A 43 page handout is available from: Ole Henningsen, % Duegaard, Nakskovvej 5, DK 4920, Sollested, DENMARK.

(2) "Close Encounters of the Second Kind", by Robert Digby. A review of the many problems associated with the assessment of the validity of alleged photographic and physical evidence was presented.

(3) "An Experimental Investigation of Some Aspects of Biochemical Evolution", by Stephen Gamble. The speaker dealt with formation processes of highly complex biochemical structures from simpler molecules. The point was made that just as control techniques are essential in such chemical research control samples are also essential in UFO physical trace cases.

(4) "A New Look at UFO Reports", by John Hind. The audience was challenged to consider some new trends in the direction UFO theory and research should move. Hind suggested that a purely physicalistic theory of UFOs is not able to deal effectively with various emotional dimensions involved, that the research carried out is going to be molded by the investigator's pre-existing theoretical biases, and that our current beliefs in UFOs have tapped man's belief in God and that UFOs may actually fulfill various psychological needs. He summarized by pointing out that UFOs are "wholly human in nature" representing a modern social phenomenon.

(5) "Exobiological Concepts and the Search for Extra-Terrestrial Life", by John Armitage. Numerous extra-terrestrial ideas and current space probe efforts to detect the presence of life-forms on other planets were presented.

(6) "UFO Events in Pembrokeshire, 1977", by Anthony Pace (BUFORA director and co-organizer of the conference with Charles Lockwood), Lionel Beer, and Randall Pugh. Close encounters of the third kind and a general UFO "flap" that took place in West Wales during the first six months of 1977 were reviewed. Several witnesses claimed silent encounters with tall, visored, silver-suited humanoid figures.

(7) "An Analytic Review of UFO Shapes", by Richard F. Haines. An overview of results of UFO shape drawing tests given to both UFO witnesses and non-witnesses was presented. Clear evidence was provided that the drawings by the two groups do not differ and that the eye witness should always draw the UFO shape sketch rather than the investigator or an artist because the latter add details and make the drawings more symmetrical. Finally, all drawings should be dated and initialed (or signed) by the witness.

(8) "Comments on Recent Experiences at the Center for UFO Studies-USA", by Douwe Bosga (now living in Arnhem, Holland). The 24-hour telephone "hot line" for receiving sighting reports from police, aviation officials, and the F.B.I. was described; it was also pointed out that the number of reports of alleged abductions of people was increasing in the U.S.A.

(9) "The Nature of Starships", by David Viewing. The speaker outlined details of two basic kinds of interstellar vehicle propulsion systems: "energetic" (using fission, fusion, or annihilation processes) and "innocuous" (for example a miniature planet, asteroid, or world ship). Outlining the basic principles and limitations of these starships, Viewing also dealt with some techniques one might use to detect their presence.

(10) "The Zeta Reticulans", by Anthony Pace. The now famous star map of Betty Hill and subsequent research by Marjorie Fish was reviewed along with conjecture on possible visitors to Earth from the region of Zeta Reticuli.

Three group discussions (workshops) were held concurrently on the afternoon of the second day of the conference. One group was led by Geoffrey Falla and Arnold West on the important subjects of "principles of radar", and "radar cases". A second group was convened by Robert Digby on how to improve cooperation and communications among the various UFO groups in the United Kingdom. A third group was led by Charles Lockwood and Larry Dale on a "radio-noise monitoring project" including a magnetometer-based detection network that is now underway.

As Mr. "Tim" O'Brien, the President of BUFORA, remarked at the end of the conference, "there are far more facets of the UFO phenomena than we generally realize". We must keep an open mind to them all. This writer felt that the program reflected this sense of open mindedness and understanding of the need for a truly interdisciplinary approach. Not until this interdisciplinary approach is taken by all of the serious UFO organizations around the world will we begin to unravel the many interwoven threads of the UFO phenomena. I continue to look forward to the day when this will take place as I will look forward to participating in the next BUFORA conference.

Richard F. Haines

RECENT DEVELOPMENTS IN SPANISH UFOLOGY

The First National Congress of Ufology was held in Barcelona during December 1977. The organizer of this event was the well known Spanish writer Antonio Ribera, who was kind enough to offer me the Vicepresident's chair. In spite of the initial reticence on the part of my associates, fellow colleagues and myself, - who are striving to set up scientifically valid guidelines for UFO research -, once a commitment was reached on a certain threshold of "seriousness", I finally accepted Ribersa's invitation. These conditions being established then encouraged the participation of several outstanding scientists and researchers, who had also been invited to share the Chairman's table.

Although it was anticipated that several "schools of thought" would be present, as usual in every meeting on this controversial subject - where the intellectual origin of lecturers varies so widely - no one

really guessed that the original agreement would not be respected unilaterally, and literally several “tribes of wild speculation” appeared to our surprise. In the meantime, our university backgrounds and titles had been used for publicity purposes in order to support the credibility of the Congress.

The resulting heterogeneity of the group of people delivering speeches was so evident, and the difference of level and approach among participants so marked, that we lost our enthusiasm towards the very congress concept for the future, unless technical symposia were organized.

The emergence of the two classical and contradictory “methodologies”, namely the speculative versus the scientific, was dramatic. On one hand, there were the “propagandists” (cultists, artists, writers looking for profit, publicity seekers, armchairs philosophers, etc.), on the other, there were the “scientists” (industrial, telecommunications and aeronautical engineers, physicists, statisticians and expert investigators).

Nevertheless, the aftermath of the Congress was very positive. As a first reaction to the mistreatment of the UFO problems by a part of the Spanish ufological movement (people who is normally *modus vivendi* – related to the newspaper and publishing business), the Centro de Estudios Interplanetarios (CEI) of Barcelona, the most authoritative and solid UFO organization in Spain (founded in 1958 but reanimated from inexistence in 1968 by its current leaders), jointly with the staff of the specialized journal *Stendek*, the review of the CEI, decided to launch a publication containing the technical speeches prepared for the Congress.

The proceeding, a 108-page report, gathers together the texts written by a group of specialists who are associated to the CEI in a way or another. The titles and authors of the lectures are the following:

“Ufology in the Decade of the 70’s”, by Vicente-Juan Ballester Olmos (pages 3-19 of the proceedings).

“A Tool for the Scientific Ufology: The Statistical Techniques”, by José-Tomás Ramírez y Barberó (pages 20-29).

“New Technical Aspects on the Case of Javier Bosques”, by Alberto Adell Sabatés (pages 31-41).

“Possibility and Impossibility of the Processal Paradigm”, by Miguel Guasp (pages 43-56).

“Bases for a Theoretical Modelling of the UFO Phenomenon”, by David G. López, Félix Ares de Blas and Angel Salaverría (pages 59-106).

Then, with the aim of improving the scientific dialogue among those analysts and researchers endowed with university or technical qualifications, who devote time and resources to the investigation of the UFO phenomenology, an informal working group was created in June 1978 under the name of *Consejo de Consultores de Stendek* or Council of Consultants of *Stendek*. This is a collective body of scientifically-oriented ufologists that receives bureaucratic, material and organizative support both by the CEI and *Stendek*, having implemented a speed system for written intercommunication among its members.

The Council attempts to reflect the same interdisciplinary nature of the UFO problem, and at the time of writing the division of professional careers amongst the 27 components of the panel is as follows:

Engineering:	8	Computer Science:	2
Physics:	4	Psychology/Psychiatry:	2
Medicine:	4	Geology/Geophysics:	2
Statistics:	3	Paleontology and Chemistry:	2

Besides their academic education, all of the consultants have in common many years of analytical and field investigation experience, sharing a deep interest in the study of UFOs. However, no single hypothesis is generally held nor promoted as to the nature and origin of the UFOs within the Council. Discussion of ideas, exchange of data, proposals of projects, scheduling of meetings, etc., are frequently made by the Council's members, who, incidentally, cannot be

foreigners except if their work is closely related to that performed by Spanish counterparts.

Nowadays, Francesco Izzo, the Managing Editor of *UFO Phenomena*, and myself, as the originator of the Council idea, are exploring possible links which might be established between the *Consejo de Consultores de Stendek* and the Editorial Board of UPIAR.

Notes

- (1) *Actas del primer congreso nacional de Ufología: Ponencias técnicas*. STENDEK/CEI: Apartado 282, Barcelona, Spain. (\$ 4.50, postage paid).

Vicente Juan Ballester Olmos

READ IN LITERATURE

Starting with this issue we open another important section of the journal devoted to deal with a review of the most meaningful contributions appeared in the international literature on UFO's and related topics in the course of the year. Short but comprehensive commentaries emphasise the contents of each paper. Interested authors are kindly invited to submit reprints of their papers to be properly considered for inclusion here.

Ron Westrum (1977) *Social Intelligence About Anomalies: The case of UFO's* in SOCIAL STUDIES OF SCIENCE, Vol. 7, 271-302.

Westrum is an American sociologist with a specialization in sociology of science and knowledge. He depicts with scholarship and sharp inferences the process of the rise of an anomaly, its nature and implications inside a well-established body of knowledge. The nature of a typical *anomaly experience* (e.g. the UFO one), its transformation into a report, and the successive step, that is the passage of the report through social channels are exhaustively reviewed. The chapter dedicated to the influence of *social intelligence* (i.e. the public information) on the scientific opinion and research stands as one of the most attracting sides of this fine work which reading is especially recommended to the behavioral scientist.

Ron Westrum and Marcello Truzzi (1978) *Anomalies: A Bibliographic Introduction With Some Cautionary Remarks*, in ZETETIC SCHOLAR, Vol. 1, No. 2, 69-78.

A new scientific journal of high quality. This is the immediate comment to the reading of *Zetetic Scholar* that derives its name from

a Greek word, Zetetic, which roughly stays for "skeptical". Recently founded by Marcello Truzzi, Head of the Department of Sociology at the Eastern Michigan University, Ypsilanti, *Zetetic Scholar* aims to enhance serious communications between critics and proponents of claims of the paranormal. Also one of its principal goals is to establish a collegium of responsible researchers eager to make an unbiased inquiry and discourse on such claims.

For subscriptions and further details on this excellent journal we suggest our readers to write to the address listed below (*).

Anomaly as a powerful defiance to current scientific paradigms: that's an ideal field of study and meditation for Truzzi and his colleague Westrum, both authorities in the analysis of psychological and sociological context of "borderland" phenomena such as the occult, the folklore, the astrology, and so on.

An anomaly is something actually perceived, validated, but not explained by an accepted scientific theory, demanding an explanation, and finally contradicting what one may expect from that theory.

Thus an anomaly paradoxically plays the healthy and disturbing role of the uninvited guest to the banquet of Thomas Kuhn's Normal Science.

Highlights on the available literature sources and their reliability follow. Authors justly deprecate the widespread attitude of many high-credentialed academics when they approach a certain anomaly and often "forget" those standards of intellectual rigor and honesty usually applied to their own scientific work. *A Ph. D.* — Truzzi and Westrum bluntly say — *is not a fixed quantity*. A sentence, this, which should deserve to be quoted every time that we have the ill luck to read or listen to opinions of would-be scientists about UFO's...

Charlatans exist everywhere, in the scientific fraternity too! An essential bibliography for the beginner concludes an absorbing article.

Francesco Izzo

(*) The Editor, ZETETIC SCHOLAR, Department of Sociology, Eastern Michigan University, Ypsilanti, MI 48197, USA

PIERRE VIEROUDY (1978) *Logique et Recherches Ufologique*
in L.D.L.N. n. 180.

The Pierre Viéroudy's article, published in the December issue of the French review *Lumières dans la nuit*, certainly is one of the most interesting among the articles recently appeared in the UFO literature. The Author mentions a delicate argument which is an important point in ufological scene: that of the possible rational approach to the problem. Therefore he exposes some witty epistemological remarks. The first consideration deals with the operational way to make up science: it is a continual succession of questions and answers to the questions posed.

"But - the Author points out - one can pose these questions in many other ways and so one will have many other answers". This fact raises the big problem of the fundamental point which involves the procedures to be followed in order to interpret the surrounding reality: which logical procedure we have to use?

Since the beginning of our life, as inhabitants of the western countries, we are accustomed to consider all as if it could be arranged only by our logic, the so-called "*logic of the third excluded*" which consciously prevails since the Aristotle's age.

The Author reviews the characteristics of this logic (*identity principle, contradiction principle and third excluded principle*), and he establishes that inevitably, using this logic, one reaches contradictory statements excluding each other, also in the UFO studies: e.g. the phenomenon could be of physical kind and not a psychological one, or vice versa.

But the evolution of science, particularly physics, taught us that the logic we usually utilize, doesn't ever permit us to exactly explain the surrounding phenomena.

We can see an example, as I have just said, in Physics. As long as we confine ourselves to macroscopic phenomena, our usual logic seems to be working well, but if we want to go more into details, it does not succeed: in fact it does not permit us to account consistently for

the events. So, if we examine the waves or the elementary particles behaviour, the physicists faced an absurdity: the same thing sometimes appeared as a wave, sometimes appeared as a particle according to the way they observed it.

It is a stimulating thing to make an analogy with the UFO studies: also in our matter we face phenomena which sometimes have a material aspect (even if we cannot experimentally influence this fact, at least for the moment), sometimes they have a psychological aspect, and one cannot turn them one to the other, since one fits the third excluded logic.

According to this analogy and using the works of the French physicist Stéphane Lupasco, the Author refers it is possible to avoid the contradictions, fitting a wider logic, which includes the third excluded logic as a particular case. This new logic presumes to consider contradictory events as possible situations which don't exclude each other and it distinguishes between a POTENTIALITY phase and an ACTUALITY phase. The second phase corresponds to put into practice a situation, while the first one refers to a condition not yet effective, not yet disclosed.

In this way we can see that, for each couple of contradictory situations, to make effective a condition means to have the other in potential status. In any case both exist, even in different status. This fact implies that a set of intermediate situations (absolutely unknown in the classical logic) can exist.

One can invoke this possibility for the UFO phenomenon, which is often considered as absurdity because of its dual appearance of physical or psychological phenomenon. In fact if we consider the UFO phenomenon both from the physical and the psychological point of view, we can see, fitting this new logic, that *by logical necessity*, it will show up sometimes as a physical event, sometimes as a psychological one: we know this is just what is collected in the abundant UFO case histories.

We can conclude with the words of Viéroudy himself: "The UFO

phenomenon exists; nobody now doubts again of it; it forces us to change and to enrich our mentality. Its development is not a mystery, because it is enough we change our way to think, so that it will be in our mind. 9

Roberto Farabone

BOOK REVIEW

Ces OVNI's Qui Annoncent le Surhomme

Pierre Vieroudy

(Paris , Tchou, 1977)

In spite of the sensational title, this is a serious book. The quality of its contents is, however, mixed. While there is no question that it is worth reading, there are many points at which one is led to object. For instance, while the first chapter is a basically competent survey of different types of UFO cases, it has some problems. There are hoaxes, for instance, of whose exposure the author seems unaware (e.g. the 1897 Alexander Hamilton case). Nor does the author offer us any appreciation of the difficulties of using historical records of anomalous events. Now of course these are both common defects of books on UFOs; but it is time that both were corrected.

The author's analysis of UFO behaviour in subsequent chapters contains many useful observations. He remarks on the phenomenon's questionable materiality, its evident intelligence, its almost cybernetic reaction to witnesses. Indeed, he suggests, it is even "responsive" to witnesses in a quasi-biological way. He argues cogently that many sightings seem purposely "staged" for the witnesses.

Are those who see UFOs certain kinds of people? The author thinks they are, particularly in regard to personality characteristics. They typically display a difficult childhood and a conflictual adult life. They tend to have some "psi" abilities and to have had anomalous experiences. His evidence for this assertion, while more than anecdotal, falls short of a carefully drawn sample. Still, the same feeling about the nature of witnesses *is possessed many other experiences investigators*. This chapter definitely deserves attention, since it tends to confirm and expand upon many of John Keel's arguments.

In the chapter on f UFO waves, the author makes a very ingenious argument. UFOs tend to respond, he says, to human needs: when people are more worried, they are more likely to see UFOs. He brings together a considerable amount of numerical evidence that mounting human concern, such as political crises, unemployment, and so forth tend to coincide with UFO waves. Some of this evidence is fairly convincing, other parts of it are subject to alternative explanations. One must concede, however, that the author has done a very useful chore in bringing together a number of isolated pieces of data.

One problem with the chapter is that the author does not give sufficient attention to the role of the press in bringing cases to light. It is not at all impossible that the reporting behavior of the press might be affected by the state of the economy. It is definitely the case, for instance, that there is no correlation between national press coverage of UFOs in the United States and the number of cases reported to the U.S. Air Force in a given year. While it may be true that the various processes which bring UFO cases to light (of which press coverage is only one) may combine to give a good representation of cases in a given year, this is far from proven. The last part of the book contains the records of the author's own personal experiments with the UFO phenomenon. They make fascinating reading, especially in view of the various "coincidences" with the author's experiences, including psychological effects on the

author and his wife, and variation in the local geomagnetic field. Finally the author undertook photographic and spectroscopic examination of the phenomena witnessed. Since I am not a physicist, I cannot comment on the validity of these last aspects. While the author's experiences are suggestive, they are experiments in the existential rather than the scientific sense. They were not rigorously controlled, and while there is no reason to doubt the author's good faith, there is much that one could have wished him to do that he did not. It would be interesting to compare his experiences with those of Dr. Harley Rutledge, a physicist who has performed many of the same experiments under more controlled conditions, but has yet to publish any of his results. The "superman" makes his appearance in the conclusion. UFOs respond to human needs, the author argues, because they are human creations. They are not the creation of the imagination, but on the contrary testify to great human paranormal powers which up to this point have been largely unexploited. While this conclusion is not original, the author makes a very persuasive case for it.

Ron Westrum

IN SHORT

This new column of UPIAR is born to give proper hospitality to short communications, announcements, and other information that might be of some interest for our readers.

ABOUT *OVNIs: EL FENOMENO ATERRIZAJE*

Echoes of a contagious success and projects of translation in many languages. Such an exciting atmosphere is surrounding a momentous book which is causing a stir in UFO circles.

The author, Vicente-Juan Ballester Olmos, is the diamond's point of Spanish UFO research. Also he is one of most active UPIAR Editors.

The volume of 382 pages is entitled in the Spanish version *OVNIs: El Fenomeno Aterrizaje* ("UFOs: The Landing Phenomenon"). It already won praise in a detailed review by J. Vallée appeared in this journal (see UPIAR, Vol. 2, No. 1, 1977, pp. 188-189).

Those readers concerned with obtaining a copy of such work should address a note or short letter to:

Export Department
Plaza & Janes, S.A.
Virgen de Guadalupe, 21-33
Esplugas de Llobregat
BARCELONA
(Spain)

In addition they should enclose a check, payable to Plaza & Janes, S.A., or an International Postal Money Order, by the amount of \$ 9.00 or equivalent currency. The price covers both handling and registered mail.

Francesco Izzo

BOOKS AND JOURNALS RECEIVED

Publications presented here may be fully reviewed afterward

AA. VV.

Actas del Primer Congreso Nacional de Ufologia
Ponencias Tecnicas
Stendek-CEI, Barcelona, Spain (1978)
pp. 108, Ptas. 300

Jennie Zeidman
A Helicopter-UFO Encounter Over Ohio
CUFOS, Evanston, Illinois, USA (1979)
p. 122.

Coral and Jim Lorenzen
Abducted! Confrontations with Beings from Outer Space
Barkley Pub. Corporation, New Jersey, USA (1977)

AA. VV.

Project URD, Report No.1, Characteristics of a UFO Report File
International URD Foundation, Stockholm, Sweden (1978)
pp. 107 Sw. kr. 49

Marco Marianti
Visitatori non Invitati
SugarCo Edizioni, Milano, Italy (1978)
pp. 420, Lit. 5.500

MUFON UFO JOURNAL
ZETETIC SCHOLAR
UFO INFORMATIONS
PANORAMA UFO
UFO INFO
CENAP REPORTS
AFU
UFO NYT
UFOLOGIA

INTERNATIONAL UFO REPORTER
LUMIERES DANS LA NUIT
OVNI APPROCHE
STENDEK
FLYING SAUCER REVIEW
LES EXTRATERRESTRES
NOTIZIARIO UFO
UFO INVESTIGATOR

LETTERS TO THE EDITORS

The "Letters to the Editors" section of UFO PHENOMENA provides the scientific community and UFO amateurs with a central forum for debate and comment, criticism, both favourable and otherwise, of published works (not only in UFO PHENOMENA) are which are welcomed, as are announcements and brief reports of conferences, workshops, summer schools and meetings.

Eventual fellowships in the field of UFO phenomena studies can also be announced through this channel. Other possible subjects for this section include "appeals for help" e.g. requests for information on a particular (technical) problem.

A RESEARCHER WRITES

Dear Editor,

Please accept our compliments upon your enterprise in publishing scientific papers on UFO phenomena.

During the three years in which you have been active, your policy of rigorous selectivity has resulted in the appearance of interesting work and we hope that this policy will be maintained in the future.

We have found your review of substantial assistance in our efforts to present UFO phenomena in a serious way to the scientific community of Euratom at Ispra, where towards the end of 1977 we first set up a society dedicated to informing that community about unidentified aerospace phenomena. An essential point of departure for

scientists wishing to collaborate in research in this field, is a basis of valid information. For this reason we have concentrated most of our efforts upon the setting up of a codification scheme for sightings, so that a computer-aided statistical approach may then be taken. The codification scheme is a significant extension of the CNIFAA and CUN project of 1977. The first practical application will be to an attempt of analysis of the "*Italian*" UFO year 1977. It is probably too early to predict the reactions to our enterprise but we hope that, in the next years, a better information will result in a change of attitude, in the sense of an opening of mind, towards UFO phenomena, on the part of the scientific community. For this change an essential prerequisite

is the quality of information. We consider that your review is making a significant contribution to this process. Best regards.

M. Delaval
President of CUFOC
CCR Euratom/Ispira
Italy

BALL LIGHTNING

Dear Sir,

“Ball lightning” is a short-lived, rare phenomenon often observed in connection with thunderstorms, but also seen occasionally under other atmospheric conditions. Its lifetime is of the order of second. It is often spherical, with a diameter of several centimetres. Because of its unfamiliar nature and rare occurrence, ball lightning may sometimes be reported as an unidentified flying object, particularly since it can share many characteristics with those reported for UFOs, such as odours of sulphur or ozone, interference with electrical apparatus, burns, ground marks, etc. I would be most interested and grateful to receive reports of any

observations of ball lightning known to readers of your Journal. First-hand accounts are, of course, especially useful. A report form on which details of events may conveniently be recorded is available on request.

Yours faithfully
Mark Stenhoff

Note: Whatever alleged ‘ball lightning’ reports should be sent to EDITECS address. Then we shall provide to forward them to Dr. Stenhoff as requested from him.

ABOUT UFO DRAWINGS

Dear Sir,

In the articles by Richard Haines on UFO drawings, I believe the author ignores an important point. In his comparison of UFO drawings by observers and non-observers, he seems to have forgotten that the majority of UFO sightings, even “valid” sightings, are nocturnal lights without real form. Hence, most of the “witnesses” are not drawing what they have seen, but — as in the case of non-observers — what they believe typical UFO’s to be like. Hence one cannot conclude

that what is imagined by non-observers coincides with what is seen by observers. Furthermore, as the comparison of the "test" drawings with UFO drawings in the literature shows (the majority of drawings in the literature do *not* represent nocturnal lights), imagined UFO seldom fall into some of the shapes that are frequent in the literature.

Hence what appears to be Haines major point, that drawings by non-witnesses represent the same population as those of close encounter witnesses is not supported by the evidence he presents.

Sincerely,
Ron Westrum,
Dept. of Sociology
EMU, Ypsilanti, USA

Writer Ron Westrum raises an important point that "... one cannot conclude that what is imagined by non-observers coincides with what is seen by observers". I agree with this statement. Regarding the matter of angularly large and small UFOs, the present "Have Seen" participants may be divided into

two sub-groups, i.e., those who perceived very small (point) light sources (statistically the majority) and those who perceived angularly large phenomena which could be reproduced in a drawing. While both participant groups could draw what they saw the test instructions did not ask them to do so. Thus, it is not possible to unambiguously separate for the "Have Seen" participants those drawings that are based only upon media representations of UFO (almost always angularly large) while the witness had seen point sources of light and those drawings of actual, angularly large UFO. Future testing should ask all participants to indicate if they saw an actual UFO(s) that was angularly small or an angularly large UFO. A continuation article on this same subject by the writer in this issue of the Journal discusses further the need to control for instructional bias in both participant groups. Regarding Westrum's comment about drawings in the literature, it goes without saying that most printed media such as newspapers, magazines, and books will not print an illustration of a point source. This fact imposes a strong biasing

factor upon the general public who read this literature in favor of angularly large UFO shapes; often with lots of detail. Still, the majority of UFO witnesses report point sources of light without appreciable detail. As was hypothesized in my first article (Vol.2) and supported by findings in my second article (Vol.3), drawings by the "Have Seen" participants do tend to possess fewer details than drawings by "have Not Seen" participants. Perhaps this finding can be interpreted as supporting the view these two participant groups do represent different observer populations. However, this writer would prefer to keep an open mind for the time being until further research has been conducted. This writer also wishes to thank Ron Westrum for his comments.

Richard F. Haines

ON HYPOTHESES

Dear Editor,

after reading the first two volumes of UFO PHENOMENA, I think it is possible to draw some

general impressions on the papers you published.

When speaking about UFO with somebody expert, it happens often to discuss about the problem of UFO origin and usually ETH is said to be one of the probable hypothesis and not even the more qualified. Certainly there are many others able to give a better answer to UFO phenomena as we know it. I do not know if it is an editorial choice or because papers on the subject are stopped by referees or may be (why not?) the authors themselves do not want to deal with the subject, anyway the results are that in what published there are no theories on the phenomenon. I agree that it can be too early to make a theory, a functioning pattern with no errors, but I think it is time to start suggesting some interpretation, even if at an initial stage and therefore approximate.

I do not mean to propose some particular hypothesis. I would not know where to start. I think it is an interesting subject from the general point of view and that it is present in science history. Science, in fact, during the years, showed us that researches flourish or die depending

on the direction towards which they move. I think that, generally speaking, it is not advisable to judge an idea a priori on the basis of what one likes or dislikes.

In a few words I think that not only science does not have to retroceed or stop, only because the hypothesis can be unusual, but it has to be kept in mind that also phenomenology is unusual. It is not then the case to judge a priori hypothesis to be considered valid: only the evolution in handling arguments and various experimental tests will be the real judge of the research line validity.

I think this is possible with jobs which are not only a description of the situation but which tend to give an interpretation and make forecast; these could be utilized to test the validity of interpretation pattern. It is by means of this method that one can think to grow gradually the knowledge of the phenomenon, rejecting step by step the patterns which are in some ways not confirmed. It is understood that those patterns should not be improvised and created only according to the preferences and expectations of the author. It should start from real and confirmed data with an internal

consistency (according to our logic) and bring to experienced consequences.

I underlined that patterns should in any case follow our logic, as, in order to face the knowledge of the world around us, we actually use our brain, which works following schemes and categories which permitted us to build ideas during the past centuries. Besides that, it is not said that even if we make hypotheses on the phenomena to be studied with a different logic, different to ours, it should not be possible to examine problems looking for a shared dominion with our logic. What reported is difficult to reach, but I think that difficulties we will face could be a good stimulus to touch this new and wide branch of knowledge.

Finally I think that it is necessary to move towards those researches seriously and try to be correct and precise, but in the meantime it is necessary to act without letting all the "a priori" or strange hypotheses stop the researches, provided they are submitted consistently and they can be verified.

Roberto Aristarco
Milano, Italy

SUBJECT INDEX

This is a cumulative Subject Index for the first, second and third volume of UPIAR, covering the years 1976, 1977, 1978 and 1979. The number of page referring to each subject, is followed by the suffix I, II or III respectively referred to the first, second or third volume

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