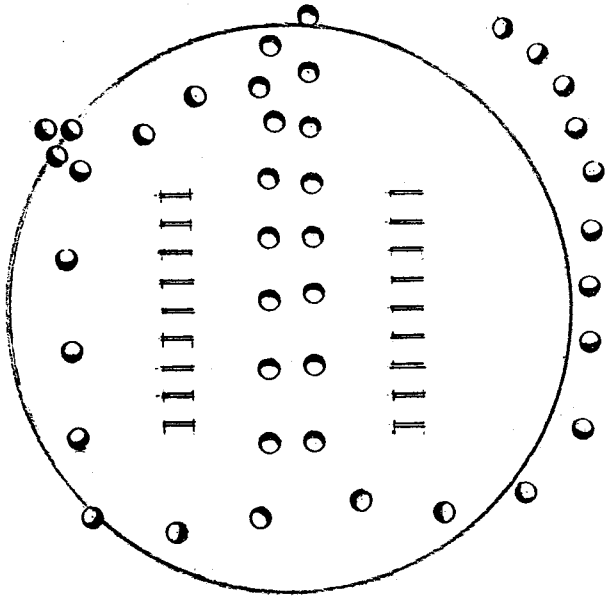
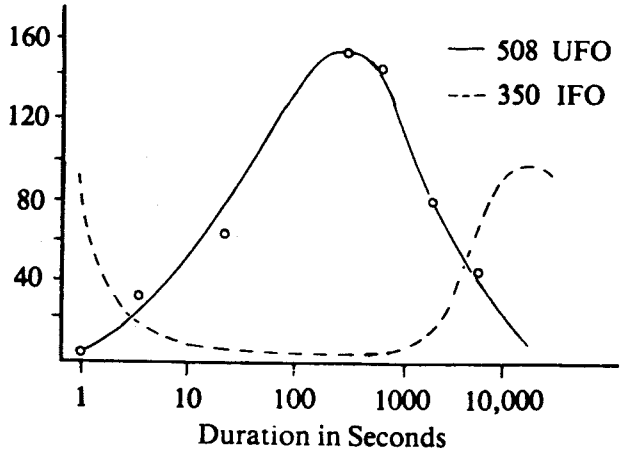
Journal of TRANSIENT AERIAL PHENOMENA



SITE MARKINGS FROM POLICE MEASUREMENTS
LIVINGSTON - 1979 NOV.09



POHER'S SAMPLE OF UFO VS.
IFO DURATIONS

Definitions now standardized -

"UFO Report: a statement by a person or persons judged responsible and psychologically normal by accepted standards, describing a personal, visual or instrumentally aided perception of a phenomenon and/or its assumed physical effects, that does not specify any known physical event, object or process, or any psychological event or process.

UFO: The stimulus giving rise to the UFO report."
PROVISIONAL INTERNATIONAL COMMITTEE FOR UFO RESEARCH

UBATUBA MAGNESIUM FRAGMENT
ANALYZED BY MIT

CONTENTS

Vol.1 Nº2 MARCH 1980

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The Research Department of the
British UFO Research Association (BUFORA LTD.)

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Title	Members	Non-Members
An Engineer's Look at UFOs *Leonard Cramp, ARAeS, MSIA*	30p	50p
Close Encounters of the Third Kind *Ted Bloecher (ed C F Lockwood & A R Pace)*	60p	70p
Guide to the UFO Phenomenon	45p	65p
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1976 Conference Proceedings	£2·50	£3·50
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Bufora Journal (specimen copy—our choice)	50p	70p

All the above publications post free from:
Arnold West, Bufora Publications, 16 Southway, Burgess Hill, Sussex, RH15 9ST.

Editorial

Whats in a name?

The first issue of the Journal of Transient Aerial Phenomena met with a small and mixed response. Two favourable letters are printed after the article "Why the Journal of Transient Aerial Phenomena?". This article gives the background to the adoption of the title and describes the aims of the new publication.

Provisional International Committee.

Perhaps the most significant single devel--opment since the first issue has been the establishment at the August '79 Congress Working Party, of a Provisional International Committee for UFO Research. A report of this meeting and the aims of the new Committee are given in the Working Party Report.

Close Encounter.

A close encounter event with associated ground traces occurred in November 1979 at Livingston, West Lothian and was covered in great depth by our regional investigations co-ordinator for the area, Stuart Campbell. A summary of this intriguing case is included in this issue, but a full report will be published separately as BUFORA Case History I.

Ubatuba again.

In spite of the age of the report further analysis has been performed recently on a fragment of pure magnesium allegedly part of the remains of an exploded UFO which was said to have disintegrated over a beach at Ubatuba, Brazil in 1957. We report on the conclusions of a new study by MIT.

After reading the second edition of Journal TAP I am sure our members will begin to appreciate the object of the exercise. Don't you think it is now time we took a more realistic and factual view of UFO phenomena. In spite of the odds, the common--sense approach must eventually prevail,and UFO research will become a scientific discipline.

Anthony Pace.

DATE AGREED FOR NEXT CONGRESS

The Second London International UFO Congress will be held over the 1981 Spring Bank Holiday — **Sunday/Monday, 24/25 May 1981.**

Keep these dates free!

Details in future issues.

WHY JOURNAL OF TRANSIENT AERIAL PHENOMENA?

By Steve Gamble and Robert Digby Newchapel Observatory, NEWCHAPEL, Staffs.

INTRODUCTION

During August 1979, the new 'Journal of Transient Aerial Phenomena' referred to as JOURNAL T A P was sent out to the BUFORA membership for the first time. The purpose of this article is to look at the back--ground which led to the creation of this new journal.

The BUFORA membership is now being offered two types of journal. The BUFORA Journal has and continues to be a general interest publication covering such things as meeting reports, AGM papers, sighting summaries and reports, readers letters and so on.

However, JOURNAL T A P is designed as a forum for research orientated material, articles of serious scientific interest and more detailed studies of selected case histories. Readers of the first edition might have noted the comments of Dr. Joachim Kuettner on the subject of UFO literature[1] "We dug through the literature, if you can call it that - there is really no literature on UFO's that you can take seriously - very little scientific literature".

The authors agree with this viewpoint and in common with other serious enquirers it is hoped that JOURNAL T A P will contribute towards fulfilling this need. For too long the bulk of UFO literature has been slanted towards sensationalism with a view to mass appeal. However, one must bear in mind that these publications are produced to sell. The publishers can not always be relied upon to publish retractions, when cases previously published, are shown to be hoaxes or have more mundane explanations. By not setting the record straight, many generations of researchers, past, present and future have or will be, mislead by erroneous reports in the UFO press. We have even heard of an instance of deliberately publishing fraudulent material in the hope of boosting sales.

WHY TAP ?

Some readers may find a title like JOURNAL T A P rather strange. However, the fact is that the subject matter to be cover--ed does not all fall under the heading of 'UFO'. It includes IFO's (Identified Flying Objects), Ball Lightning and other atmospheric or meteorological phenomena. Also there are the effects of some of these phenomena on the environment. There is a school of thought that suggests 'Ufologists' should not concern themselves with these other phenomena. But that is not the view of the authors and add--itionally we would stress that there is no serious science called 'UFOLOGY'.

Detailed reports of new empirical obser--vations could prove to be extremely valuable to science.
We are particularly anxious to stress that T A P is not a replacement for the emotive term 'UFO', but is an umbrella term to encompass other phenomena which may be of interest to the serious enquirer into short lived aerial events of an anomalous nature.

It is hoped, therefore, to provide a reliable source of information. JOURNAL T A P is a departure from Flying Saucer literature on several counts. Explicit instructions to authors[2] have been issued. Ultimately, all papers will be refereed. A modern format has been adopted (i.e.A4) using a reduced print size, allowing twice the normal amount of information per page. This is equivalent to 96 pages of the existing BUFORA JOURNAL. In addition to which advertising has been cut to a minimum. Lastly, it is economically priced in com--parison to typical Flying Saucer magazines.

So it can be seen that at least there is a serious attempt to produce a sober and credible publishing vehicle which has the capacity for long,detailed accounts to be accurately and reliably reported.Initial feedback has been very encouraging and with the right support JOURNAL T A P will provide the opportunity to make scientists aware that the UFO subject can be taken seriously.

REFERENCES:

I) JOURNAL T A P Vol I. No I. pp I6 - 2I
2) Pink sheet 'Instructions to Authors' issued with JOURNAL T A P Vol I. No I.

RESPONSE FROM READERS

I should like to request life Membership of BUFORA. Any remission of the annual membership fee which I have recently paid should be retained as a donation to the general funds.
I should like to add that as an engineer used to reading professional research journals I found the first issue of the Journal of Transient Aerial Phenomena to be of a quite high standard. Keep up the good work.
Gerard Butler,
DUBLIN.

I was pleased to receive a copy of the Journal of Transient Aerial Phenomena recently and wish you every success. Have you taken the opportunity to bring its existence to the notice of scientific and other libraries around the country.

I agree strongly with Dr Kuettner's remarks in Journal T A P regarding the problem of scientists having no where to read about UFO's-perhaps this Journal is the opportunity to make more British scientists aware that the UFO phenomenon is taken seriously by someone.

Philip Taylor,
Astronomer,
POLEGATE.
East Sussex.

THE DURATION OF UFO EVENTS

By Dr. J. Allen Hynek

THE FOLLOWING ARTICLE IS REPRINTED FROM CUFOS BULLETIN - SUMMER 1979, PUBLISHED BY THE CENTRE FOR UFO STUDIES EVANSTON, ILLINOIS, U.S.A.

The isolation of one "observable" and its study can often lead to productive scientific results. In the observation of UFO events, there are many "observables"; apparent size, trajectory, nature of motion, colour, sound, duration etc. Now it would seem that duration is a fairly definite "observable". "How long did the sighting last" seems like a pretty definite question that ought to have a fairly definite answer, especially if one is not too precise and merely wants to know whether the sighting lasted in the order of seconds, minutes, or fractions of an hour.

It comes as a surprise, therefore, that four separate studies of UFO durations give rather widely different results! These studies are :

1. Battelle Memorial Institute's study cases in the first 4½ years of Air Force date collection, presented in Blue Book Report #14, 1720 cases (434 UFOs vs 1286 IFOs).

2. Dr. Phoer's study of 658 cases, (308 UFOs vs 350 IFOs).

3. Allan Hendry's study of 1271 cases (113 UFOs vs 1158 IFOs).

4. Fred Merritt's discussion of 7539 UFOCAT cases (out of some 60,000) for which durations were given.

The relevant graphical results of the first three studies are presented in THE UFO HANDBOOK by Allan Hendry, and the fourth is from a Center for UFO Studies UFOCAT investigation by Fred Merritt, the major portion of which has been incorporated here.

In UFOCAT there is no attempt to specify which of the reports were most likely due to UFOs and how many to IFOs, since the material is extremely heterogeneous, having been garnered from a great many sources of widely divergent reliability. UFOCAT codes the reports, (see below) according to type of motion and trajectory, and closeness and type of the encounter (although the terms CE-I, CE-II and CE-III are not used). Indeed, the reverse process was used: an attempt to infer from the duration-distribution graphs for each of the nine code classes attributed to how many reports in each code class might probably be IFO's and how many to true UFOs.

In all three previously noted studies, judgement based on the nature of the report (and to some extent on the experience of the particular author in making such judgements) was used to separate the IFOs from the UFOs at the start. In all but the Hendry study, we do not know the criteria for these separations. In the latter, unlimited access to the telephone generally made an IFO identification quite definite, and the high number of IFOs (1158 as against 113 UFOs) probably indicates that when less care is used in tracking down IFOs, many slip into the probable UFO category. However, it must be remembered that Hendry's UFO reports came largely through the CUFOS Police Hot Line, and therefore that the majority of the reports came from urban or suburban areas rather than from rural areas. It might therefore be argued that many of the higher strangeness cases which seem to favour rural areas are not reported through the hot line. Be all that as it may, we are faced with four different sets of results. Do they have anything in common?

In the three studies that purport to separate IFOs from UFOs at the start, the UFOs in all three show a peaking at durations of just a few minutes (see figures 1, 2 and 3). This is something I have qualitatively observed throughout my years of experience. These cases for which there seemed no obvious (IFO) explanation seemed predominately to have durations of the order of minutes rather than seconds or large fractions of an hour. Indeed, I pointed this out some time ago in my paper, "UFOs as a Space-Time Singularity", in which I made a case for UFOs being isolated or localised in both space (a UFO is generally seen in just one location rather than in a series of locations before it disappears) and in time (UFOs that remain visible for a relatively short time). The Battelle, Poher and Hendry studies all bear this out.

But when we consider the distribution of the IFOs, only the Poher graph shows a clear-cut difference, and a remarkable one at that. The other two indicate that IFOs and UFOs have about the same distribution of durations. I personally wish the other studies had borne this out! Where the UFOs peaked, Poher indicated the IFOs had a minimum. But neither the Battelle nor Hendry studies bear this out, and I have heard privately from other French workers that some recent studies also failed to support this striking result. What a pity! But, as we shall see, the recent work of Fred Merritt, which takes a different approach, tends to support Poher. It is too bad that statistics are so tricky, and mean little unless one knows exactly how the statistical samples have been chosen.

The Merritt study based on UFOCAT makes no attempt to separate UFOs and IFOs at the start. UFOCAT merely codes UFO reports into the following nine types, or "strangeness classes":

Type 1 Lights or objects that are stationary, or moving with the same apparent rate as astronomical bodies.

Type 2 Lights or objects in continuous motion.

Type 3 Lights or objects with a single discontinuity of motion. This could mean one definite turn while in motion, or moving after being stationary, or

stopping after continuous motion.

These can be characterised as "low strangeness" sightings:

Type 4 Lights or objects with multiple discontinuities of motion; that is, with more than one stop or turn in the apparent flight path.

Type 5 Synonymous with Close Encounters of the First Kind, that is, within 200 yards but with no occupants or having any tangible effects.

Type 6 Landings. Thus closely related to CE-II except broader. The landing need not have left any tangible effects.

Type 7 Reports of occupants seen outside the object (sometimes of occupants minus the presumed UFO). This is thus included in CE-III.

Type 8 Reported contact, with two-way intelligent communication between witness(es) and an entity(ies). These would thus include most abduction cases.

Type 9 Reports of interference, including injuries to witnesses or animals,

TABLE I

UFOCAT TYPE

MINUTE DURATION	1 #	1 %	2 #	2 %	3 #	3 %	4 #	4 %	5 #	5 %	6 #	6 %	7 #	7 %	8 #	8 %	9 #	9 %
< 1	53	6	1629	66	133	15	72	9	267	15	75	17	62	26	3	9	6	6
1 - 4	66	8	404	16	253	29	148	19	355	21	88	20	33	14	2	6	5	5
5 - 14	154	18	221	9	252	29	239	31	487	28	126	29	71	29	15	44	24	26
15 - 29	167	19	86	4	107	12	126	17	218	13	54	12	24	10	1	3	7	8
30 - 59	163	18	69	3	75	8	79	10	177	10	40	9	25	10	2	6	15	15
60+	277	31	52	2	63	7	105	14	228	13	57	13	27	11	11	32	37	40
	880	100	2461	100	883	100	769	100	1732	100	440	100	242	100	34	100	94	100

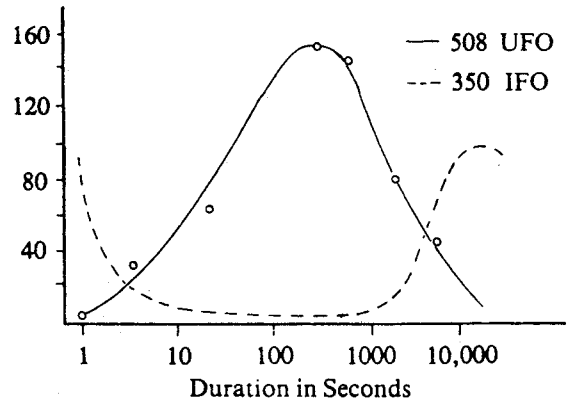
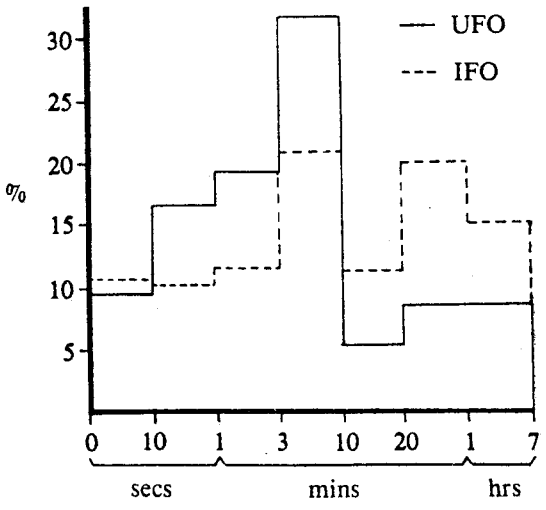


FIGURE 1: POHER'S SAMPLE OF UFO VS. IFO DURATIONS

FIGURE 2: AIR FORCE UFO VS IFO DURATIONS (1ST 4.5 YEARS)



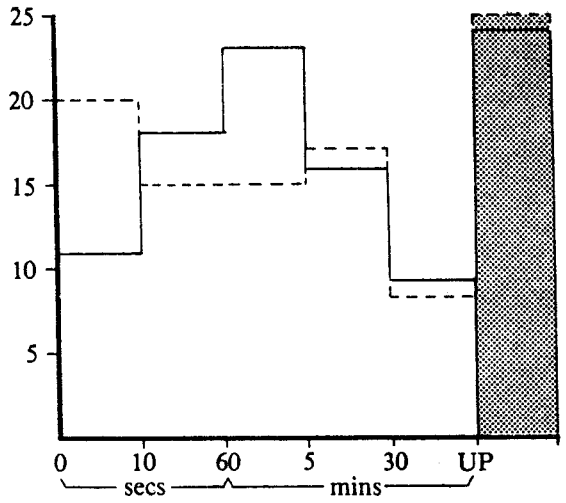


FIGURE 3: HENDRY "IFO" VS. "UFO" DURATIONS

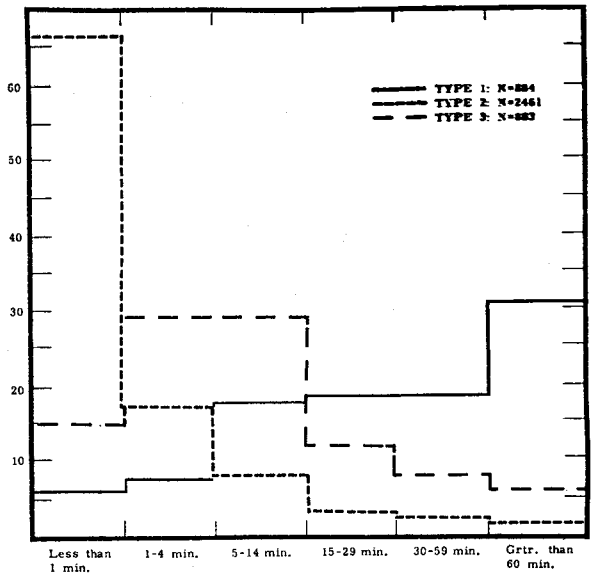


FIGURE 4: DURATION OF LOW STRANGENESS REPORTS

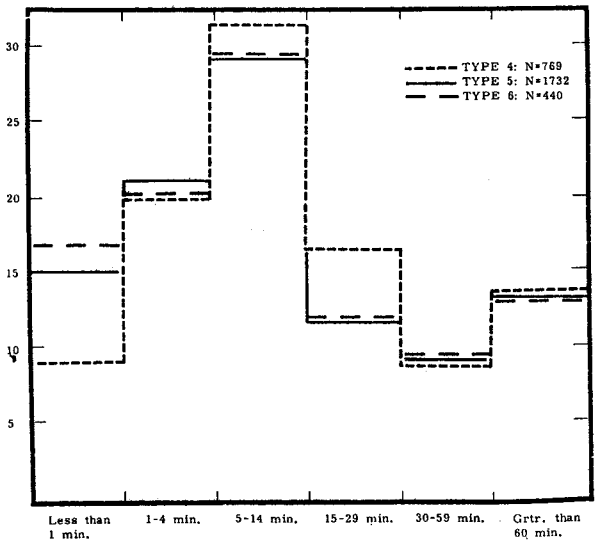


FIGURE 5: DURATION OF MEDIUM STRANGENESS REPORTS

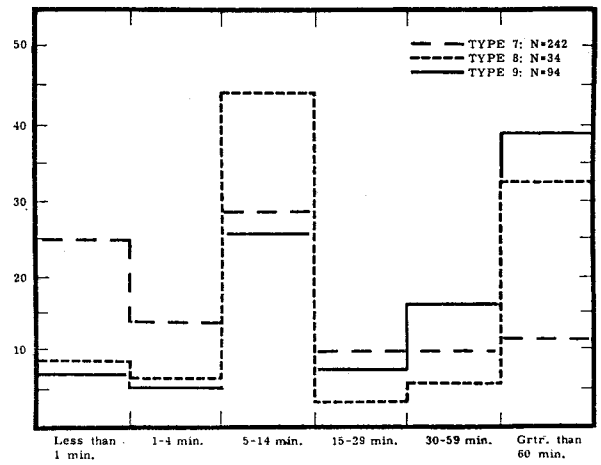


FIGURE 6: DURATION OF HIGH STRANGENESS REPORTS

time lapses, abductions etc.

It is questionable which of the two (8 or 9) have the highest strangeness. In some respects 8 should come before 9 in Dr. Saunder's classification according to "strangeness". In any event, Type 8 and 9 certainly have very high strangeness in themselves, and one need not quibble.

Mr. Merritt undertook to query UFOCAT about the durations of the sightings in each of these nine classes to see whether significant differences existed, and what the physical interpretation of such differences might be. Such differences do exist, and together with strangeness types, can be useful in making other statistical studies using UFOCAT more meaningful as a method is afforded of removing entries which in themselves have a high probability of being IFOs.

In the analysis of high strangeness cases, a preliminary screening was made to eliminate all reports for which a non-UFO explanation had been suggested by any given source. To explain this, recognize that UFOCAT has Entries and Cases. Any given case (that is, one specific UFO case) may have many entries. That is, the case may have been reported from many sources (books, letters, Blue Book, articles etc.) and one case may have as many as ten entries, all referring to the same case. When any one of the entries for a case suggest that the UFO report may indeed be an IFO, that case has been eliminated from the statistical study ... for the high strangeness cases only. Actually, and statistically, this was really found to make little difference, since the probability is high that high strangeness cases are by their very nature Unidentified ... and so are bona

fide UFOs (for, as I continue to point out, the "U" in UFO merely means Unidentified), not IFOs.

Let us now look at Fred Merritt's results: Some interesting inferences can be drawn IF the recorded duration times are reasonably correct. Hendry, in his book, THE UFO HANDBOOK, has shown that recorded duration times can be subject to large systematic errors. But, let's assume for the moment that the UFOCAT durations are reasonably O.K. What then do the graphs suggest? (Figure 4).

Now looking first at the very short durations, less than a minute, the very great majority of these are Type 2 (continuous motion) and can easily be dismissed as meteors or as planes or satellites seen for only a short part of their paths. It is interesting that Type 2 steadily declines as duration times increase, there being more than thirty times as many reportedly observed for less than a minute than those observed for more than an hour. One wonders what the latter could be. How can one observe something in continuous motion across the sky for more than an hour? Most likely these were stars and the witnesses just got tired of watching!

Type 1, (stationary, or moving as stars do) observations do just what one would except them to do -- increase in number with duration times. Here clearly the duration was simply a matter of the endurance of the witness, or the time before it got cloudy!

When we get to Type 3 (single discontinuity in motion) we have the first signs of a peaking. Types 1 and 2, which are almost certainly nearly all IFOs, behave as we would except. If we had many untutored observers watching, first, meteors, high flying jets and satellites, and second, stationary objects like stars or television tower lights, we'd get the curves shown. If Type 3 are also made up of IFOs (helicopters or other aircraft that make one turn before disappearing) we'd except that on the average they'd be observed for periods of one to fifteen minutes also.

But let's not linger on the low strangeness cases which are most likely IFOs unless UFOs are becoming so clever that they masquerade as stars and aircraft! Let's look next at the "medium strangeness" cases, Types 4, 5 and 6. These are, essentially, Nocturnal Lights and Daylight Discs that do a bit of manoeuvering in the sky, Close Encounters of the First Kind, and "Landings". Here we are more apt to meet true UFOs.

We deal here with 769 cases of multiple discontinuous motions, 1732 Close Encounters of the First Kind, and 440 Landings.

Thus these are both sky and land observations, and yet the duration curves are extremely similar. Why? Figure 5 shows these three graphs. They could almost be shown as one graph!

Is this the result of some quirk of human observations, a "span of attention" problem, or do UFO sightings of these types actually have a strong preference for lasting just about ten minutes? Relying on my memory over the years, I would say the effect is real in that many of the witnesses I have interrogated were very much on hand when the UFO event was over. Typically, they are startled by the sudden appearance of the UFO (as in landing cases and CE-IIs), and they do "stick around" until it is over. This bears out once again the "localization in time" of the typical UFO event. It is dangerous to generalize, but it has been my experience more often than not when witnesses were present the duration of the event was not long, nor was it very short. In fact, more often than not, when durations were very short, or very long, the UFO turned out to be an IFO.

Let us now look at the cases of highest strangeness, Types 7, 8 and 9, (Figure 6). Unfortunately, there are altogether eight times less of all these cases than for the previous set we examined, and so the conclusions have lower weight. Nonetheless, for all three there is still a strong peaking in the 5-14 minute range. For Type 7 (occupants seen outside) there are almost as many of duration less than one minute than there are in the 5-14 range. These undoubtedly refer to those cases (and I have investigated many) in which the witnesses state the creatures, upon discovery, scampered away or took off.

For Types 8 and 9, there are only 128 cases in all, and any statistics must be regarded with care. Of these 39 fall in the peak region (5-14 minutes) and 48 are an hour or more long. These latter clearly refer to the abduction and time lapse cases; of necessity these would be long.

Note in Figure 3, the near absence of long duration visibility of occupants when no communication or interference takes place.

The work of Mr. Merritt is an example of what can be done in seeking patterns in the many thousands of cases in UFOCAT, but it also illustrates the great care that must be taken to allow for the heterogeneous nature of that magnificent collection. But, by careful consideration of the high probability of IFOs within UFOCAT, along with working within a given UFOCAT type, or by comparing one type with another, many valid inferences can be drawn from UFOCAT.

Should any readers wish to undertake studies of this sort on their own, UFOCAT readouts can be arranged for at a nominal cost, basically that of computer time required for a computer printout. Mr. Merritt is the person to contact for such arrangements.

Returning to the question of UFO sighting durations, we see that, so far, different studies give ambiguous results save for the peaking in the 5-10 minute range. Since some of the studies

show that there is no clear cut distinction between the reported durations of IFOs and UFOs, we must probably ascribe this to the characteristics of the observers rather than to those of the observed. However, the strong peaking of the high strangeness cases in UFOCAT and the quite different nature of the low strangeness cases gives strong support to the general observation that genuine UFO events tend to be of short rather than long duration, and this seems to go hand in hand with their very strong tendency to appear in just one location at a time rather than in a sequence of locations. It seems clear from the above discussion that further work, with much greater care to human ele-ment in the reporting of duration (and of other observables too) of UFO events, is necessary before we can say definitely that UFOs have a time-duration distribution significantly different from IFOs. The UFOCAT results for high strangeness cases, however, strongly support the earlier work of Poher since low strangeness cases, which can largely be ascribed to IFOs, from UFOCAT do show a decidedly different time distribution from the high strangeness cases, which can be predominantly ascribed to UFOs.

ON THE RIGHT TRACK ?!

Dear Mr Pace,

Thank you for the excellent J.Transient Aerial Phenomena.After over 30 years of arguing about the credibility of the UFO witnesses, with the publication of J.TAP in Britain and J.UFO Studies in USA, we have at last achieved the stage of being truly scientific in our approach to the UFO problem. I wish all the best to J.TAP and all your future undertakings.

Ahmad Jamaludin
Makmal Diagnosa
Veterinary Dept.
Kuantan,Pahang
MALAYSIA

VEHICLE INTERFERENCE PROJECT REPORT

By Charles F. Lockwood and Anthony R. Pace
Newchapel Observatory, Newchapel, Staffordshire

AT THE END OF AUGUST 1979 BUFORA PUBLISHED ITS LONG AWAITED VEHICLE INTERFERENCE PROJECT REPORT. THIS IS REVIEWED IN THE FOLLOWING ARTICLE.

INTRODUCTION

When in 1973 BUFORA Research Department were concluding the first project of Phase 1 - the study of Field Investigation Kits,[1] we began planning Project S.2 involving research into cases where vehicle malfunction was reported during UFO sightings i.e. vehicle interference effects were recorded. This project was adopted by BUFORA as a continuation of a smaller independent study begun some years earlier by Geoffrey Falla, a member from Guernsey. Mr. Falla has continued to play a key role in the study by summarising all relevant cases extracted from the reference sources. Charles Lockwood, BUFORA's Project Officer was responsible for organisation, and compiled the Project Report.

Our preliminary aim was to produce a basic catalogue of summarised cases involving motor vehicles or other devices using the same motive power. These included aircraft, railway engines, boats and fixed engines, driving such things as generators. The project report is produced along similar lines to the Physical Traces Catalogue by Ted Phillips published through the Centre for UFO Studies in the U.S.A.

This introduction is essentially the same as that in the Report itself. Pages 4 to 80 contain the major part of the report - the catalogue or listing of summarised cases in chronological order. A more detailed treatment of two cases is given in the next section concerned with Case Studies. Pages 91 to 93 are devoted to some simple "statistics" and an interesting case from Alaska involving a diesel engine. Comments from the Project Team are summarised in pages 94 to 98 and the Report is concluded with some brief recommendations and a copy of the Vehicle Interference Supplementary questionnaire form R.4.

Individually most students of the UFO subject are well aware of many cases of the type which concern us in this report, but it was only when we began to catalogue and collate all the reports, that we realised the enormous extent of the UFO phenomenon, and how vast was the new study we had undertaken.

CASE TYPES

In the literature and in the files of UFO organisations throughout the world there must be details of several thousand cases where a UFO has been witnessed from a motor vehicle (or aircraft/boat/train). These cases we have categorised tentatively in the following way.

Case Type 1

Cases where the occupants of the vehicle simply observe a UFO at a distance which performs in such a way as to indicate no apparent deliberate interest in the vehicle or its occupants. No effects of any kind are recorded.

Case Type 2

Cases where there seems to be a definite interest in the motor vehicle and its occupants because the UFO follows, leads or paces the vehicle, though no effects are recorded or reported. In this category the UFO may come very close and even hover above the moving or stationary vehicle without apparently causing any effects!

Case Type 3

Cases where the circumstances described are as in Types 1 and 2, but where physiological or physical effects only are recorded i.e. effects on the occupants such as burns, a feeling of weightlessness, numbness, "electric shock" and paralysis, and effects on the vehicle including involuntary movement, buffeting, scorching of paintwork, physical damage etc.

Case Type 4

Cases similar to Type 3 with or without physiological/physical effects and where the vehicle's engine and/or lights (and often radio) are effected in some way - i.e. the so-called "E-M"effects (Electromagnetic effects) are reported.

The preliminary project draws its information from the cases falling into Case Types 3 and 4. In a second project report, it is hoped to include those cases which fall into the first two categories also. This may not at first seem relevant to the study of vehicle interference effects, but taking the situation as a whole, one might ask why no effects are recorded or reported when a UFO is in close proximity to the vehicle. This then presents an additional problem in the study of the characteristic effects of UFOs on vehicles.

A COMPARATIVE STUDY

This project is a comparative study of the effects of the UFO phenomenon principally related to motor vehicles and has been conducted on a global scale to give more meaningful results. The report spans 30 years and the number of cases included is in excess of 420. This provides an acceptable sample but it is plainly obvious from our researches that there must be many more reports of the types described in categories 3 and 4 which remain "undiscovered" in the literature and on the files of UFO investigation organisations throughout the world.

INVITATION TO RESEARCHERS

This latent pool of data must be taped, and BUFORA's Research Director would be interested to hear from anyone who has details of cases of types 3 and 4 which do not appear in the

catalogue. Similarly, more detailed data on cases already included would help to update and improve the accuracy of this Report. To those researchers and UFO organisations who can prove a genuine interest in this aspect of research, BUFORA is prepared to forward a copy of the Project Report free of charge in exchange for data on new and existing vehicle interference cases. The cost of the report is £2.50 including postage to BUFORA members and £3.50 to non-menbers.

NOT JUST A CATALOGUE

In this project it was not only our intention to simply catalogue reports, but also to take a preliminary look at the problem of vehicle interference effects and obtain comments from members, who through their professional knowledge and experience, could offer suggestions as to the possible mechanisms involved. The team which we assembled for the project contained originally eleven members together with the Edinburgh University UFO Society. Two of the team were compelled to withdraw but the details of the remaining nine members appear in the section 5 - "Comments from the Project Team".

We are very grateful to all the team who have contributed in various ways towards this report. We also hope that in our acknowledgements we have included all major contributors and we thank all others who have rendered some assistance in this broad study.

We must point out at the onset that this report does not answer the question - "How does a UFO cause vehicle malfunction?". If we could answer that we would indeed have taken a tremendous step forward. Some may say that we have not even proved that UFOs do sometimes cause vehicle interference. It is difficult to set up an experimental procedure to test statistically the hypothesis that some UFO sightings have involved vehicle interference from causes connected directly with the UFOs themselves. It is difficult because the witnesses are human, they are subject to errors in observation, and usually lacking in technical expertise which would make their evidence really reliable. What is attractive about the vehicle cases, however, is that the probability of error can be reduced when questions are directed to specific changes in the operation of a machine. "Is your lorry a petrol or a diesel engined vehicle?" is a question which can be answered exactly, but"How big was the UFO?" is a question which may be answered inprecisely. We realised early in our researches that the more objective data can only be collected if we ask the right question.

WHAT HAS BEEN ACHIEVED?

The major achievements of the project are the extensive catalogue of vehicle interference case summaries, largely the work of Geoffrey Falla; the new questionnaire listing supplementary questions which investigators may need to ask in cases of this type[2]; - and the wide ranging discussions on possible solutions to this problem.

In the last section of this report we freely admit the shortcomings of the project, but we feel that it is better to publish now and hope that others can help us to build upon the foundations which have been laid.

REFERENCES

1. Phase 1 also included the design of a series of new report questionnaires and culminated in the production of the Investigator's Handbook in 1976.

2. This questionnaire is already published as BUFORA Supplementary Form R.A and is included in the Investigator's Handbook.

SUPPLEMENTARY INFORMATION ON THE VEHICLE INTERFERENCE PROJECT REPORT.

We are pleased to say that already information is being sent to us concerning some vehicle interference cases of which we have so far few details or no record at all. Jan Eric Nerr of San Diego, California has kindly provided preliminary data on two sightings in which diesel-engined vehicles were apparently affected. These may indicate that there is more than one mechanism involved in the interference. If there is only one mechanism responsible for engine failure, which is common to petrol and diesel vehicles then the line of solution may be more clearly identified.

One explanation which would apply to both petrol and diesel engines is that suggested by Aime Michel. He proposes that a UFO may be able to inhibit chemical re-actions which are occurring at a high temperature. If this were so, it might explain the futility of firing guns at UFO's, says Michel, since the combustion process once begun would not be completed properly.

However, this explanation does not fit those cases where diesel engines have continued running, and headlights have failed. In fact the vehicle effects noted seem to be general environmental field effects, not simply effects on certain parts of the vehicle. However, large changes in electric currents flowing during sightings appear to be very common.

James McCampbell[2] has argued that headlights failures occur when a UFO is directly in front of a vehicle at low altitude. In his very carefully argued paper he suggests that the headlamp reflector can act as a miniature dish antenna focusing radiation on to the tungsten filament, resulting in a depletion of conduction electrons in the filament, and a consequent fall in light output.

Both of these suggestions have weaknesses, but the latter can be more easily tested by experiments in due course.

Whatever the true explanation for the inter-

ference the latest research does show how detailed needs to be the investigation in a case of this type.

REFERENCES:

1. The Crack in the Universe; Jean-Claude Bourret published in translation by Neville Spearman Limited, p.249

2. UFO Interference with Automobile Electrical Systems; Part I Headlights, James McCampbell - Proceedings of the 1976 CUFOS Conference, p164-p182.

How To Fingerprint An UFO And 'Hear' Its Light

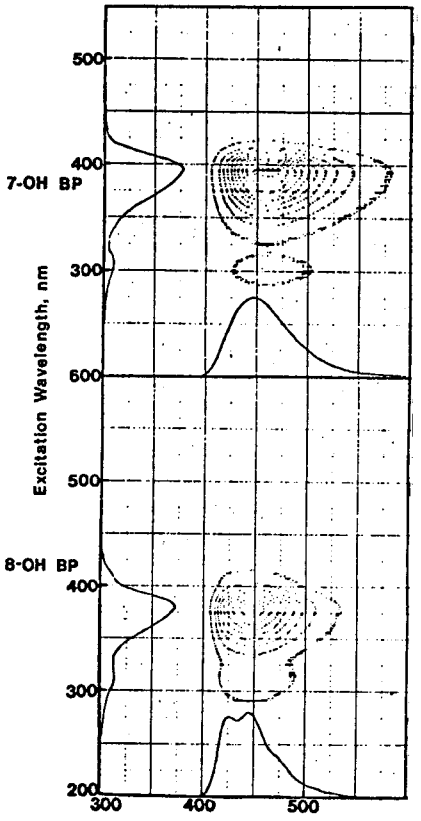


Figure 2.
A UFO light "fingerprint" would be printed out like this by the photomultipliers' pen contour plotter.

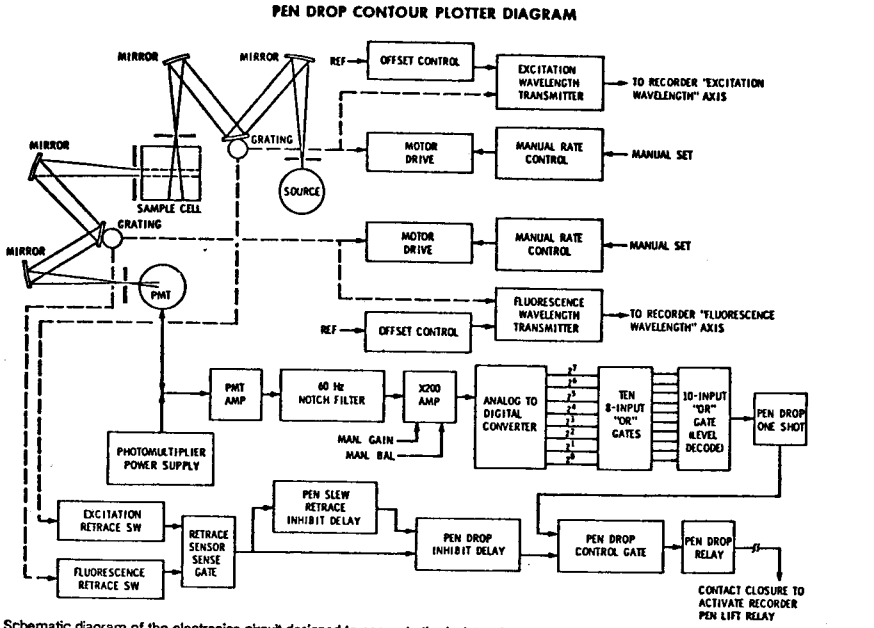


Figure 1. Schematic diagram of the electronics circuit designed to generate the isointensity contour plot. PMT: photomultiplier; Source: excitation light source

A commercially available electronic device, a photomultiplier, could take us a lot further down the UFO road by identifying the origination of its light. For example, when focused on a glowing light bulb, the photomultiplier not only correctly identifies the source of excitation wavelength as tungsten on its meter, but also draws the individual tungsten "fingerprint" on its pen drop contour plotter-recorder (Fig.2).* I should like to know that 24 hour ground bases (and airborne) equipped with this be operational where so many UFOs are sighted.

The photomultiplier is waiting to contribute to the solution of a baffling enigma.

As you know tungsten and the hundreds of other light sources each have set wavelengths of light emission (Angstrums). They are easily detected and fingerprinted by this equipment. Even holograms. Thus when pointed at a UFO, the source chemical element (or whatever) causing UFO red, blue, orange, white, or green light, would be identified, contour mapped, and heard.

Heard? Yes! A photomultiplier can be hooked up to an audioamplifier which converts light vibrations -per-second into sound. And each light source has its own individual tone or hum on the musical scale. So as a UFO changed colors, it would literally write its own song! And since we could then 'hear the light', it might help us see the light, if you get my drift? I expect a photomultiplier with its moving finger to paint out a lot of the mystery behind those unknown lights. Why it would almost amount to Physical Evidence wouldn't it? The only trick would be to 'be there' with this equipment.

Regardless, the photomultiplier is available in the USA from EMR Photoelectric, Princeton, NJ., 80540 (image dissector detector system Model 658A). Or from Nye Optical Co., Spring Valley, CA. 92077 (spectral range from below 2000 to above 7700A). The photomultiplier with the pen drop plotter (Fig. 1)* is an Amino-Bowman Spectrophotofluorometer Catalogue No. 4-8106.** Audioamplifiers are available from the "Fisher" or the "Edmund's" electronics supply catalogues.

These assemblies with their proven fact-finding potential should be added to our arsenal of motion pictures, Videotapes, still photos, radar scans, computer enhancements, etc., of UFOs. I've described the state of the art of identifying the sources of light. Whereas, the present state of the art of identifying unknown flying objects is dark: let it be resolved that it won't be too long before one among us armed with this equipment will show us the right insight in sound and fingerprints of UFO light, right here on these pages.

**(Both the increment of the excitation wavelength and the scanning speed of the fluorescence are manually adjustable. In this way, the entire excitation vs. fluorescence wavelength domain will be scanned within 10-15 minutes. The photomultiplier will sense the emission intensity level at every point in the scanned wavelength domain.)

Russ Reardon

Bibliography

Analytical Chemistry, Vol 50, No. 4, April 1978

ARE UFOs AN ATMOSPHERIC PHENOMENON?

By Stuart Campbell
4 Dovecot Loan, Edinburgh, EH14 2LT

THE HYPOTHESIS

IT IS SHOWN THAT THE REAL INCIDENCE OF UFOS IS RELATED TO COOLING OF THE ATMOSPHERE, AND THAT THIS IMPLIES THAT UFOS ARE A METEOROLOGICAL PHENOMENON. A MECHANISM IS DESCRIBED BY WHICH CONTRACTING AIR COULD FORM UFO PLASMAS, AND IT IS SUGGESTED THAT THE SAME MECHANISM PRODUCES BALL LIGHTNING. THIS LEADS TO THE CONCLUSION THAT UFOS AND BALL LIGHTNING ARE MANIFEST ATIONS OF THE SAME PHENOMENON. TO PROVE THE HYPOTHESIS, STATISTICAL AND PHYSICAL TESTS ARE PROPOSED. AND PREDICTIONS ARE MADE CONCERNING THE INCIDENCE OF UFOS.

One hypothesis to explain UFOs is that they represent a type of atmospheric phenomenon unknown to science, although it would be surprising if this were the case. Meteorologists believe that they know most of the phenomena that the atmosphere can create, although not all of them are prepared to accept the real existence of ball lightning. However, we may ask whether, amongst existing data on UFOs, there is any evidence that they are an atmospheric phenomenon.

THE EVIDENCE

Claude Poher and Jacques Vallée have revealed many basic patterns in UFO events[1], and one of these relates them to time of day. But they noted that the typical daily pattern of UFO reports may be related as much to the number of observers available, as to the number of UFOs to be seen. Most observers are at home by midnight, and so it is not surprising that the number of UFO reports falls away rapidly towards that time.

In order to reconstruct the actual level of UFO activity, Poher and Vallée divided the number of reports (on their files) by the proportion of potential witnesses, defined as the percentage of the working population that was not at home at each hour of the day. Statistics on time budgets were taken from Szalai's 'The Use of Time : Daily Activities of Urban and Suburban Populations in Twelve Countries (1972).

The result was a graph showing the number of reports that they would have on their files if people did not go home at night; see Fig.1.

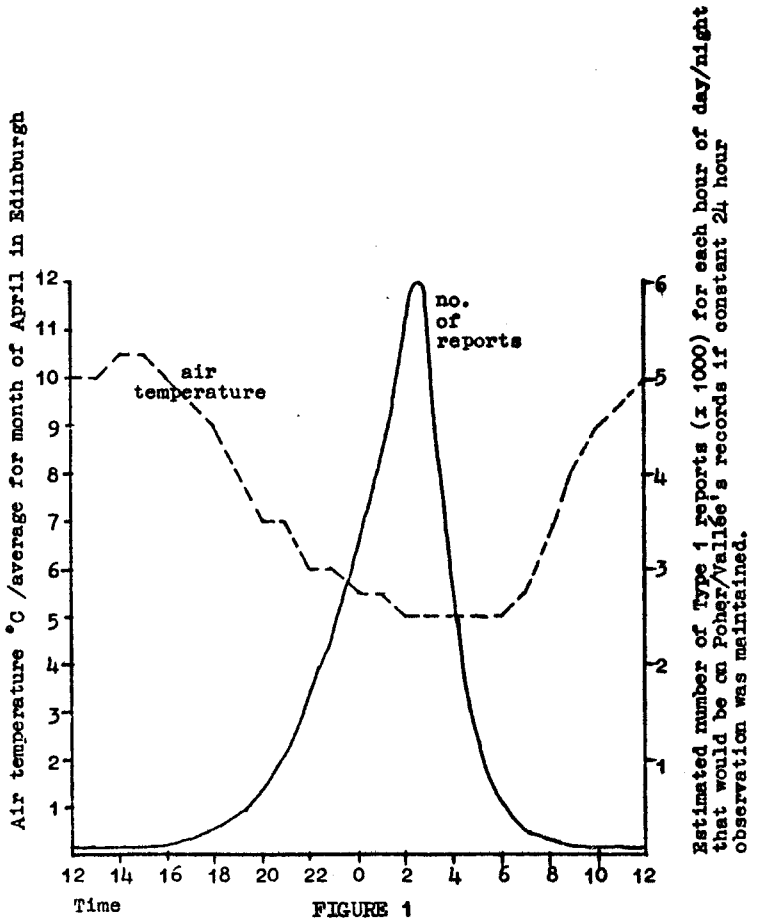


FIGURE 1

ESTIMATED NUMBER OF ACTUAL TYPE 1 UFO EVENTS COMPARED TO AVERAGE AIR TEMPERATURE.

It represents the real level of UFO activity through 24 hours, and is a surprisingly coherent pattern with a peak between 0200 and 0300 hours. Although Poher and Vallee did not proceed to draw conclusions, we can see immediately that we seem to be dealing with a real and consistent phenomenon. Instead of the random distribution of the recorded UFO reports, we see an integral pattern rising and falling according to exponential rules. This must represent a meaningful activity and could indicate the influence of natural agencies.

To explain the timing of the peak, one only has to point out that it is at that time that the air temperature has fallen to its lowest point. As shown in Fig.1, the number of UFOs starts to increase just as the air temperature starts to fall, and goes on increasing with the temperature drop. Then, the number of UFOs suddenly ceases to increase when the temperature ceases falling, and the number of UFOs falls away as if it were not influenced by the subsequent temperature, whether it is stable or rises. Only cooling of the air seems to produce UFO activity. (The average temperature profile is taken as typical of all daily air temperature profiles)[3]

In fact, not only may more UFOs be seen when the daily air temperature is falling, but from my own files I conclude that more UFOs are seen in cold weather, or at least when there has been a sudden onset of cold weather. Clearly a relationship between the incidence of UFOs and cold or cooling air would point to UFOs being an atmospheric phenomenon. But how can cooling air produce UFOs? Cooling produces condensation and contraction, either or both of which mechanisms may be involved in UFO production. Burrows has already proposed that UFOs, like many other meteorological phenomena, such as tornados or whirlwinds, are vortices[2] and vortices can be produced by contracting fluids or gases. Perhaps influenced by the Coriolis Force, contracting fluids or gases tend to rotate, and this rotation accelerates with continuing contraction. It is possible that contracting air does so unevenly, producing localized concentrations of severe contraction which lead to rapid rotation of the air. A similar mechanism is thought to be the means by which primordial stars evolve and rotate. In this sense UFOs would be miniature 'stars', although that does not mean that there is any other similarity.

Such a rapidly rotating mass of air could induce electromagnetic action, including ionization, and this may be the way in which ball lightning is formed. Indeed, it may be that UFOs are ball lightning seen in conditions or circumstances that are not yet usually associated with the phenomenon.

The mechanism proposed above would produce plasma UFOs (or ball lightning) in the absence of storms or lightning. In fact it may be that the ball lightning associated with lightning strikes is a special case of the plasmas that may be formed by air contraction. A lightning flash heats the ionized air path very rapidly, and this must be followed by contraction of the air around the path. This contraction of ionized air may be the mechanism that produces ball lightning in those circumstances.

It seems obvious that a contracting mass of air could only form a coherent rotating circulation under relatively calm conditions; high winds would prevent the necessary circulation. Thus more UFOs should be seen in calm conditions than at other times. In fact, we could predict that UFO activity will increase in, and especially at the start of cold, calm weather. This is a verifiable relationship.

TESTS OF THE HYPOTHESIS

Whether or not UFOs are associated with cold, calm weather can be ascertained from BUFORA's sighting reports, which record four degrees each of temperature and wind. Although the existing punch-card contains no location for these parameters, it is expected that they will be handled by the anticipated computer processing of UFO data. It is expected that this will show a close association between UFO incidence and cold, calm weather. It may also be that physical experiments could produce UFO plasmas in the right conditions of contracting, still air. Some laboratories possess chambers that should be capable of producing these conditions.

More arguments that UFOs are a natural phenomenon will be contained in a subsequent article.

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1. 'Basic Patterns in UFO Observation', Claude Poher and Jacques Vallée, Flying Saucer Review, Vol.21 No.3/4 1975 pp 8-13.

2. 'Notes on UFOs', G. Burrows, BUFORA J, Vol.4 No.3, Summer 1974, pp16-18; Letters BUFORA J, Vol.4 No.6, March/April 1975, pp16-17; 'UFOs or NIFOs - Mr. Burrows defends his position', BUFORA J, Vol.4 No.7, May/June 1975, pp 12-14

3. The temperatures in Figure 1 are extracted from Climatological Memorandum No.54A - The Climate of Edinburgh, 2nd ed., J. A. Plant (The Meteorological Office, November 1968).

   The temperatures are hourly averages taken at Turnhouse Airport during the ten years from 1957-1966.

WORKING PARTY REPORT

By David Haisell

THE FOLLOWING IS A SLIGHTLY EDITED VERSION OF AN ARTICLE BY DAVID HAISELL REPORTING ON BUFORA's FIRST LONDON INTERNATIONAL UFO CONGRESS AND WORKING PARTY. THAT APPEARED IN THE "JOURNAL UFO"[1].
IN THE SPIRIT OF UNBIASED INTERNATIONAL CO-OPERATION IT SEEMED APPROPRIATE TO PUBLISH A REPORT ON THE CONGRESS WORKING PARTY COMPILED BY ONE OF ITS MEMBERS FROM OVERSEAS.

CONGRESS OBJECTIVES

At the initiative of the British UFO Research Association a 'giant leap' in UFO research was taken at the First London International UFO Congress held in London, England on August 26 and 27th, 1979. The Mount Royal Hotel, near London's famed Marble Arch and Hyde Park was witness to the formation of the first Provisional International Committee for UFO Research (PICUFOR), reflecting the spirit of co-operation among nations which is so desperately needed in order to achieve any headway toward understanding the pheno--menon commonly referred to as an unidentified flying object (UFO).

Late in 1978, researchers approached the United Nations with the suggestion of setting up some type of'international clearing house' whereby investigators and researchers would be able to "co-ordinate on a national level scientific research into...unidentified flying objects, and to inform the Secretary-General of the observations, research and evaluation of such activities. " The subject was event--ually referred to the General Assembly's Committee on the Peaceful Uses of Outer Space and it remains to be seen whether or not this move proves to be productive.

But UFO research cannot afford to wait for international government to make up its mind since, as Dr Allan Hynek pointed out to the UN's Special Political Committee (SPC), "any phenomenon which touches the lives of so many people and which engenders puzzlement and even fear among them, is therefore not only of potential scientific interest and significance but also of sociological and political significance, especially since it carries with it many implications of the existence of intelligences other than our own." I don't wish to imply that the formation of PICUFOR was a direct result of the lack of enthusiasm shown by the UN, but that it happened at an opportune moment, and provides a means by which necessary international co-operation and communication may flourish.

The London Congress basically had two purposes the first being to present to BUFORA members and to the general public, papers on UFO events and recent research into the phenomenon.

The second purpose of the congress was to convene a Working Party of international researchers to run concurrently to the programe of presentations.Peter Hill, secretary of the Edinburgh branch of BUFORA and chairman of the Working Party, outlined the objectives of the party as being "to attempt to agree upon international standards on the Terminology, Definitions and Classific--ations of our subject. If time permits, this will be followed by discussions on the application of micro-processors (micro-computers) to UFO data, establishing a common data base and possibly, common soft-ware and hardware. One reason for this is to enable exchange of information globally"

Peter added that "this would enable all groups participating in such a scheme to have access to all the information of all the others."

DAVID HAISELL from CANADA (left) discusses a point with PER ANDERSEN of SUFOI DENMARK

WORKING PARTY DISCUSSIONS

During the working party discussions members from various countries took the opportunity to relate the approaches toward UFO research which had been taken by organizations within their own borders, and it became evident that North American groups (and governments) can learn much from the achievements of France and the Scandinavian countries of Sweden and Denmark, to name just a few. In each of the aforementioned countries the research is greatly aided by the co-operation of governments, security forces and/or the co-operation among UFO investigative groups which is sorely needed if any significant advances are to be made in understanding the UFO phenomenon. These countries have their UFO clubs and fanatics much as they do in North America, but the somewhat exaggerated and over enthusiastic claims of a portion of this element have not deterred serious investigators from examining the totality of the phenomenon with which we are faced.

Bertil Kuhlemann, who is head of Computer Services to the IVA Administrative Department of the Royal Swedish Academy of Engineering Sciences, was the representative of 'Project URD'., the Swedish project which its originators hope will provide the means

to "unite all the efforts made by various UFO study groups all over the world." (URD is the acronym for 'UFO Reporting and Datasystem', which is "a system aimed at collection, registration and evaluation of observational data regarding events possibly belonging to the UFO-category"). The devel--opment of URD was initiated in 1973, and was carried out in co-operation with Swedish UFO study groups and scientists from many disciplines.

URD's major objective is to provide sufficient significant statistical data about the phenomenon to convince the majority of scientists from a wide range of disciplines that there is something worth investigating. Once this hurdle is attained URD feels it will then be able to gain access to society's resources, i.e. the co-operation of the general public, in order to gather data in a systematic way. This, they hope, will provide the means to determine what the phenomenon is.

Computer experts - BERTIL KHULEMANN of PROJECT URD SWEDEN (left) and DENSIL HALLAM from the U.K.(right) KEN PHILLIPS of BUFORA (centre) takes notes.

TERMINOLOGY & DEFINITIONS.

The need for flexibility in establishing terminology and classifications was recognised by the Working Party and applied in defining the terms most fundamental to our field, namely the 'UFO report' and the'UFO'. Previous definitions of a UFO have ranged from the extreme of "any sighting that is puzzling to the observer" (Condon Report) to Hynek's "...object or light seen in the sky or upon the land the appearance, trajectory, and general dynamic and luminescent behaviour of which do not suggest a logical, convent--ional explanation and which is not only mystifying to the original percipients but remains unidentified after close scrutiny of all available evidence by persons who are technically capable of making a common sense identification, if one is possible". (p I2. The UFO Experience, J.A. Hynek, Ballentine Books, May 1974 originally pub--lished by Henry Regnery Co., 1972.)

The Condon definition leaves itself wide open for countless events to be referred to as UFO sightings, and obviously a very high percentage can claim easy identification. Hence the implication that since most UFO reports can be explained, all of them could be, given a little more time and effort - exactly what the Condon Committee wanted to imply. The Hynek definition was much more realistic, but at the same time excluded unexplainable phenomena not appearing as an object or not in the sky or on land. For example then, all unidentified underwater phenomena would be excluded, as would many of the reports where no objective sighting data were recorded, yet factors such as time loss, circumstantial physical traces and other characteristics generally associated with known UFO reports were experienced by bewildered percipients.

The Working Party, in fact, expressed dissatisfaction with the term 'unidentified flying object' itself, since reports received by researchers are certainly not restricted to 'flying objects'. Only the word 'uniden--tified' has any real bearing on the phenomena, and it was indicated that the term 'uniden--tified phenomena'would be a much more real-istic one to use. This is the phrase that we use at U.P. Investigations Research Inc., and was, in fact, the term from which we derived the name of the corporation. Never--theless, in spite of the unappropriateness of the term 'UFO' the Working Party recog--nized the futility of promoting its demise, pointing out the continuing use of the term 'flying saucer' in spite of the emergence of 'UFO' in the 1960s. It was thus decided to officially continue the use of the term 'UFO' in view of its familiarity to the public, but at the same time to develop a definition which would reflect more accurately the characteristics of the phenomenon, or group of phenomena, which have come to be known as UFOs.

It was decided to define UFO report first rather than UFO, since the report is the concrete factor on which our study is based, and it was further agreed by the Working Party to stress the character--istics of the phenomenon, rather than the conditions under which it was observed See Figure I.

The third term for which the Working Party hoped to arrive at a definition, namely 'UFO' reporter', proved somewhat more difficult. It became apparent that several levels of 'reporter' existed ranging from original eye witnesses to second or third-hand reporters. Also, persons witnessing physical effects but not their apparent cause, and persons making instrument readings coincident with a sighting (e.g. radar operators) would also qualify as 'reporters' along with the field investigator who might submit the report to a research organization. Terms such as witness, percipient, part--icipant, first and second level reporter, were suggested as possible supplements to

the eye witness reporter, but due to the apparent length of discussion needed to arrive at some conclusions, the definition of 'UFO reporter' was deferred until a future meeting.

UFO REPORT CLASSIFICATION

In order to provide for recording, coding, processing and analyzing of UFO report data it is essential that an effective classification system be developed If international statistical information is to be exchanged and meaningfully compared, participating countries should use the same classification system. Several organizations are in the position where UFO reports they have received and are continuing to receive, are becoming too numerous to file and analyze without the use of a computer, and BUFORA, one such organization, expressed to the Working Party the desire to standardize an inter--national classification system.

Peter Hill further proposed that a classification should I) consist of mutually exclusive categories II) utilize the primary attributes of the report, III) avoid words open to varying interpretation and IV) be easy to remember and apply. He pointed out that the popular classification system of Dr Hynek consisting of Close Encounters of the first,second and third kind, and of nocturnal lights, daylight discs and radar/visual sightings although easy to remember, did not adhere to the other criteria which he proposed. Dr Hynek fully agreed and clarified that those categories were merely for ease of identifying the type of UFO event, and were not meant to be a basis for a classification system.

Since several countries, including the United States, France and Sweden already had experience with computerized processing of UFO reports, consideration was given to the classification systems already in use in these countries. As an example the Working Party looked at an outline of a typical UFOCAT entry, UFOCAT being the computerized catalog of UFO reports set up in the United States by Dr. David Saunders. The point was made that UFOCAT was not inten--ded as a research tool in the way being considered by the Working Party, and was in fact set up as a listing method which could be used as a way to get to the source of a given case (i.e.who has published this or that and where the information is available).

Bertil Kuhlemann then gave a short pre--sentation on the motivation, methods and progress made by URD the Swedish project previously mentioned which utilizes a computer for statistical analysis of UFO reports. The basic principles of URD were formulated in 1973 and the 'International URD Foundation, Sweden' was formed in 1975. Development continued, aided in its various stages by consultation with persons at the Royal Institute of Technology, the University of Stockholm, the National Central Bureau of Statistics and the Research Institute of National Defence, and the project was put into operation in 1978. Kuhlemann outlined the system URD has developed for collecting recording and analyzing UFO data using an IBM/370 computer system. The sample output data were impressive, and it was plain that much worthwhile effort had gone into the project.

1979 FIRST LONDON INTERNATIONAL UFO CONGRESS
WORKING PARTY MEMBERS

COUNTRY	REPRESENTATIVE	ORGANIZATION AND/OR PROJECT/ PUBLICATION REPRESENTED
Belgium	Rudy DeGroote	
Canada	David A. Haisell	U.P. Inv. Research Inc. (Director) Journal UFO (Editor)
Denmark	Per Anderson	Scandinavian UFO Information (SUFOI)
France	Alain Esterle	Director GEPAN (Attended Congress for own interest - not as an official representative of GEPAN)
Italy	Francesco Izzo	Managing editor of UFO Phenomena, EDITECS Publishing House, Bologna Italy
	Mrs. Lydia Pinotti	
	Roberto Pinotti	
	Edoardo Russo	Editor of CLYPEUS
Netherlands	Douwe J. Bosga	
Spain	Vincente-Juan Ballester-Olmos Antonio Ribera	
Sweden	Bertil Khulemann	Project URD
U.K.	Lawrence Dale	BUFORA National Investigation Coordinator
	J. Bernard Delair	Contact U.K.
	Robert S. Digby	BUFORA
	Stephen Gamble	BUFORA Working Party Secretary
	Densil Hallam	
	Peter A. Hill	BUFORA: Secretary Edinburgh Branch Working Party Chairman
	Charles F. Lockwood	BUFORA Research Projects Coordinator
	Graham F.N. Knewstub	BUFORA: Founder President
	Anthony R. Pace	BUFORA: Research Director Editor: Journal of Transient Aerial Phenomena
	Stephen L. Smith	BUFORA: Treasurer
U.S.A.	Dr. J. Allen Hynek	Centre for UFO Studies (Director)
	Dr. R. Leo Sprinkle	
Yugoslavia	Milos Krmelj	

GEPAN

Next, Alain Esterle, head of the French government sponsored UFO research group GEPAN (Groupe D' Etude des Phenomenes Aerospatiaux non-Identifies) described the techniques used by his organization to analyze a UFO report, identify and classify specified parameters, and code the classified data. Their technique enables easy comparisons among UFO reports, statistical analysis of data obtained and represents a possible preliminary approach to an automatic analysis of UFO reports. At present GEPAN does not want to adopt any specific classification system, preferring to wait a year or two during which time a

Definitions now standardized - FIG.1

"UFO Report: a statement by a person or persons judged responsible and psychologically normal by accepted standards, describing a personal, visual or instrumentally aided perception of a phenomenon and/or its assumed physical effects, that does not specify any known physical event, object or process, or any psychological event or process.

UFO: The stimulus giving rise to the UFO report."
PROVISIONAL INTERNATIONAL COMMITTEE FOR UFO RESEARCH

satisfactory system may evolve. Their goal at present is to be able to compare their files with those of any other organization.

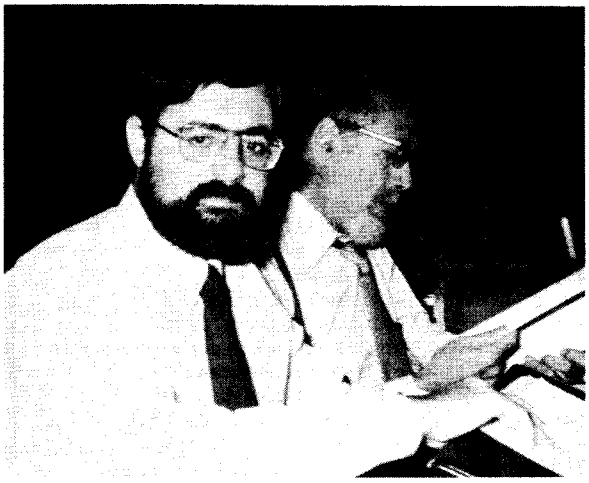
In view of the experiences of the afore--mentioned groups it was becoming apparent that a workable classification system could not be developed overnight, and the Working Party realized it would be futile to try to establish one during the conference. Instead it was suggested that those count--ries already involved in automating UFO report analysis, and those who were about to become involved, proceed accordingly. Meanwhile, members of PICUFOR would try to establish the minimum requirements for a workable international data base with which national groups could interface with a minimum amount of difficulty, and try to derive a classification system to be presented for discussion at the next meet--ing of the committee.

Other points on the Working Party agenda such as the application of electronic data processing and the international exchange of data were also deferred until a later date. We did, however, receive a presentation from Robert Digby of BUFORA on an analysis BUFORA had made concerning the feasibility of automating the recording and processing of their UFO data. Following this presentation a small group from the Working Party with some experience in computer applications convened to discuss the objectives and methods available for automation, and how their group (to be called the Computer Group) would interface with the group working on classifications.

THE PICUFOR COMMITTEE.

The Working Party consisted of twenty-six members representing twelve countries and in addition, several countries including Australia, New Zealand, South Africa and some South American nations sent their best wishes and were there in spirit, even though they were not able to afford to send representatives.

Much work is needed to be done before the second meeting of the Working Party at a future date, and as it would be rather ineffective for so many members to try to co-ordinate their efforts over such large international distances, particularly con--cerning such important and complex issues as classifications and data base requirements a central provisional committee was estab--lished. Thus it was that France, Italy, Spain, Scandinavia, the United Kingdom and the United States were delegated to form the Provisional International Comittee for UFO Research, and rather than being repres--ented by an individual, each nation was to be represented by a research organization since this would facilitate attendance at meetings. If one person could not attend, another probably could.



Two generations of SPANISH UFO researchers VICENTE JUAN BALLESTER - OLMOS (left) and ANTONIO RIBERA (right).

The selection of the provisional committee was based on convenience for attendance at meetings and upon the degree to which a nation was involved in UFO research, and as a result, with five representatives from Europe, one from North America and none from any other continent there is considerable imbalance as far as continental representation is concerned. This point is to be discussed at the first meeting of PICUFOR where determination of the most appropriate membership and representation will be on the agenda. The idea has also been proposed that the committee be two tiered, ie. a full committee and a central committee.

For the interest of Canadian readers, until further notice Dr. Hynek has volunteered the Centre for UFO Studies to represent both the U.S. and Canada until this imbalance is rectified.

CONCLUSIONS

As I mentioned at the beginning of this article, the formation of PICUFOR could represent the big step toward international co-operation needed to advance UFO research in a useful direction. The enthusiasm of the members of the Working Party was demonstrated not only by their participation during the sessions, but by the enormous amount of effort many had made beforehand to document the progress achieved in their respective countries and the ideas their colleagues wished to be put forth for discussion. They are to be congratulated on this point and on one more. Most of the members were from countries whose native language is not English. To be able to document their work well in English, which was the language of the Congress, and to communicate during the sessions at the level of English which was demonstrated, placed an added burden on these members, a burden which was carried extremely well. Meeting such qualified and competent researchers from so many countries, who are able to converse fluently in English, should cause one to wonder just how many other top researchers in our field these countries have who cannot speak English. I suspect, from what I have seen, that we in North America are lagging far behind the Europeans in some areas of UFO research.

It is to be hoped that the formation of PICUFOR will be the necessary catalyst to motivate U.S. and Canadian UFO organizations to higher levels of communication and co-operation. As Dr. Hynek stated at the London Congress dinner, BUFORA initiated what may turn out to be the biggest step forward yet for UFO research. It is up to all of us to help prove him correct.

REFERENCE

I. Journal UFO (now incorporated with Canadian UFO Report) is published by U.P. Investigations Research Inc. P.O.Box 455 Streetsville, Mississauga, Ontario L5M 2B9 Canada. David Haisell is the Editor and the quarterly magazine can be obtained on subscription by sending 10 Canadian Dollars to the above address.

The Working Party prepares for another session.

REPORT ON WORKING PARTY ON STANDARDS IN UFO RESEARCH.

A four page document entitled "Report on Working Party on Standards in UFO Research" by Working Party Chairman Peter Hill can be obtained from BUFORA's Research Headquarters at Newchapel Observatory by sending a stamped addressed envelope.

SECOND MEETING OF THE PROVISIONAL INTERNATIONAL COMMITTEE

It is hoped to convene the second meeting of the Provisional International Committee to coincide with the visit and lecture at Kensington by Alain Esterle, Head of the French Government UFO Study Group-GEPAN on 12th April 1980. Members should make special note of this date and take the opportunity of hearing Dr. Esterle.

UBATUBA MAGNESIUM — UFO FRAGMENTS ?

Compiled by Anthony R. Pace, Newchapel Observatory, NEWCHAPEL, Staffs.

The story of the recovery of the magnesium was first told publicly on September I4th, I957, by Ibrahim Sued, a society writer, in his column in the Rio-de-Janeiro news--paper O Globo. On that date, under the headline, "A fragment from a Flying Disc" Sued printed the following letter he had received from one of his regular readers, (the original was in Portuguese).

"I was fishing together with some friends, at a place close to Ubatuba, Sao-Paulo, when I sighted a flying disc. It approached the beach at unbelievable speed and an accident i.e. a crash into the sea, seemed imminent. At the last moment, however, when it was almost striking the waters, it made a sharp turn upwards and climbed rapidly on a fantastic impulse. We followed the spectacle with our eyes, startled, when we saw the disc explode in flames. It disin--tegrated into thousands of fiery fragments, which fell sparkling with magnificent brightness. They looked like fireworks, despite the time of the accident at noon... Most of these fragments, almost all, fell into the sea. But a number of small pieces fell close to the beach, and we picked up a large amount of this material -which was as light as paper. I am enclosing a small sample of it".

Enclosed were three pieces of a grey material that appeared to be some kind of metal. Olavo T. Fontes, M.D. contacted Sued and arranged to look at the fragments, which Fontes described this way:

"Their surfaces were not smooth and polished, but quite irregular and apparently strongly oxidised. Their appearance sugges--ted they might be, if really metallic, pieces or fragments disintigrated from a larger metallic mass or object; infact the surface of one of the samples was shot through with almost microscopic cracks, always longitudinal and even showed on one face, a large longitudinal fissure running through almost two-thirds of its length, as if the piece had been disrupted under the action of some force. The others did not show many cracks or fissures, but the sur--faces of all samples were covered in scattered areas with a whitish material. These whitish smears of a powdered substance appeared as a thin layer. The fine, dry powder was adherent, but could be displaced easily with the thumb nail. It also filled the fissures and cracks on the surface of the first sample. The material was light, definitely lighter than aluminium".

From "UFO's? Yes!" I

CHEMICAL ANALYSES

Some of the fragments were obtained by Aerial Phenomena Research Organization (APRO) and were subjected to various chem--ical analyses in the course of the foll--owing ten years in the laboratories of the Brazilian Ministry of Agriculture, the U.S. Atomic Energy Commission and the Dow Metal Products Co. The material was found to be magnesium of an unusually high purity.

In I967, at the request of the Condon Committee, APRO loaned the University of Colorado UFO Project one of the Ubatuba magnesium fragments (No 3.) for study.

After various chemical analyses the Condon Report concluded that magnesium as pure as the Ubatuba sample submitted had been produced on Earth previously by the Dow Metal Products Co. The fragment therefore did not show unique or unearthly composition.

STRUCTURAL ANALYSIS I969.

APRO proceeded with its own investigation in I969 by turning over the remaining Ubatuba magnesium to Dr. Walter W. Walker, Consultant in Metallurgy, for a structural, non-destructive analysis.

This was first time that a metallurgist had inspected the magnesium or that a structural study had been undertaken. Dr Walker, an Associate Professor of Metall--urgical Engineering at the University of Arizona, Tucson, with the assistance of doctoral fellow Ed Benn, subjected the magnesium to microhardness studies, X-ray diffraction analysis, microstructural and dislocation etch-pit studies.

Dr.Walker's work was evaluated and approved by APRO's other Consultant in Metallurgy, Dr Robert W. Johnson, who did not know Dr. Walker personally. Dr. John--son is a Development Metallurgist and Head of the Advanced Materials Division, Materials Research Corporation, Orangeburg, New York.

CONCLUSIONS OF STRUCTURAL ANALYSIS

Their findings concluded that the Ubat--uba magnesium fragments were directionally solidified castings. Directional solid--ification was not being studied as early as the Ubatuba UFO incident in I957.

"This might be interpreted, "Dr. Walker stated recently "as meaning —— that the samples were from a more advanced culture". The relative creep characteristics of the Ubatuba samples, and those of terrestrial materials were determined by the inden--tation creep method. The Ubatuba samples were found to be much more creep resistant than terrestrial samples. "Such slow, directional cooling may have been purposely

adopted to achieve certain physical or mechanical properties not normally encoun--tered in random polycrystalline magnesium. However, the properties which were desired in the present case are primarily a matter of speculation. Nowhere in our present technology is there a use for oriented, cast, coarse-grained metals such as obser--ved in this study. The possible uses of such materials in advanced control of propulsion systems in turn, can only be speculated upon. In a rather oblique manner, this may be taken as an argument for extra--terrestrial origin".

Referring to the Dow magnesium which the Condon Report used to dismiss the case, Dr. Walker states, "The general low hardness of the Dow material is equivalent to the Ubatuba material....However, probably due to the lack of grain boundaries, the Ubatuba magnesium possesses markedly better high temperature properties. The effect of elavated temperatures is much lower on Ubatuba material than on terrestrial poly-crystalline material of equivalent purity".

BRITISH METALLURGISTS COMMENT I97I.

In I97I I forwarded a copy of Dr. Walker's report on the magnesium to Dr. K A Ridal a metallurgist at the British Steel Cor--poration, Sheffield. Both he and Dr.J Whiteman of Sheffield University examined the findings (not the metal) in great detail.

In August Dr. Ridal replied commenting on the density of the magnesium, the chemical analyses, microstructure and hardness studies. His conclusions were that there was nothing unique about either the purity or structure of the samples. "I find nothing unusual" said Dr. Ridal" in the fact that the samples contained large columnar grains, as this is the natural mode of solidification of pure magnesium. It is simply incorrect to deduce that this structure results from any special technology".

"Unfortunately, it is not easy on the evidence presented to refute the eye-witness account of the UFO. However, there would seem to be several possible explanations which are more credible.

Satellite debris Meteorological Equip--ment- or Starshell/other armament might be considered likely candidates.

M.I.T. ANALYSIS I979.

In the November I979 edition of OMNI Magazine[2] Harry Lebelson revealed in an article entitled "Alien Metals" that OMNI's efforts to clarify the mystery of the Ubatuba magnesium had led them to involve Robert E. Ogilvie a professor of metallurgy at the Massachusetts Institute of Tech--nology (MIT). APRO were kind enough to supply a fragment of the magnesium to OMNI Magazine for this purpose.

Photograph by HARRY LEBELSON

Ubatuba magnesium fragment analyzed by MIT.

The specimen was examined by metallog --raphic analysis to determine its mechanical and thermal history. Electron probe micro--analysis was employed to determine the ch--emical composition and the distribution of elements within the specimen. Results of these tests showed the metal to be pure magnesium. No impurities or alloying elements such as aluminum, zinc, manganese, or tin, were found. An oxygen x-ray map picked up magnesium and oxygen x-ray signals, thus confirming the network to be magnesium oxide.

"My conclusion" says Ogilvie, "is that the specimen from Brazil has a composition that would be found in magnesium weld metal. However, the structure is indeed unusual. In my opinion it could only have been formed by heating the magnesium very close to its melting point in air. It would be necessary to hold the temperature for only a minute or so. This would produce an oxide coating on the material, which is clearly visible. Also oxygen would diffuse down the grain boundaries, thereby producing the oxide network. It is therefore quite possible that the specimen from Brazil was a piece of a weld metal from an exploding aircraft or a reentering satellite".

CONCLUDING REMARKS

The controversy goes on after some 23 years. Further advances in technology may well provide the means of finally deter--mining the true nature of these magnesium fragments, the only remnants recovered from an alleged UFO which exploded over the coast of Brazil in I957.

REFERENCES

I. "UFO's ? Yes!" David R. Saunders & R. Roger Harkins, Signet I968 P.I70-I73.

2. UFO Update - Alien Metals Harry Lebelson OMNI Magazine November I979. Vol 2. No 2. P. 30 and P. I32.

CLOSE ENCOUNTER IN SCOTLAND

By Stuart Campbell
4,Dovecot Loan,Edinburgh EHI4 2LT.

PREAMBLE

A most remarkable UFO event on I979 Nov 09 at Livingston, West Lothian, caused great media and public interest. It has already featured on BBC's 'Nationwide' TV prog--ramme, and will be covered by Yorkshire Television's forthcoming series on mysteries. It is unusual in several ways; it took place in daylight; ground markings were seen and recorded by the local police; three separate objects were seen: clothing was damaged; and the witness became uncon--scious!

THE WITNESS

Mr Robert Taylor (6I) has worked as a forester with Livingston Development Cor--poration for I6 years, and is now a fore--man. He is known to be honest and respon--sible, and his disposition is phlegmatic. Not in the best of health, he drinks very little, and certainly not during working hours. He had no prior knowledge of or interest in UFO's.

THE INCIDENT

On the morning in question, he left his house in Livingston at I000 GMT driving a Forestry Department van. He was going to inspect young forests to the north of the town near the M8 motorway. The van could not be taken all the way and he had to leave it along a track. With his dog, he then walked the rest of the way. At about I0I5 he rounded a corner in the forest track (I00 metres from the motorway, but not within sight of it)and was confronted by the most amazing sight.

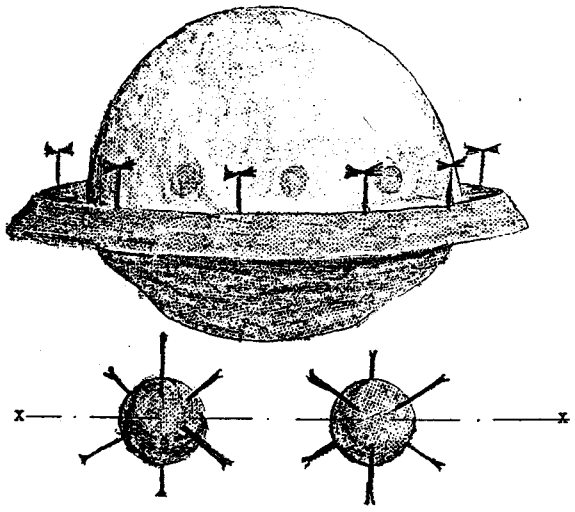


Figure I: The appearance of the UFO and 'mines', as described by the witness, but drawn by others. X-X indicates the axis of rotation of the 'mines'.

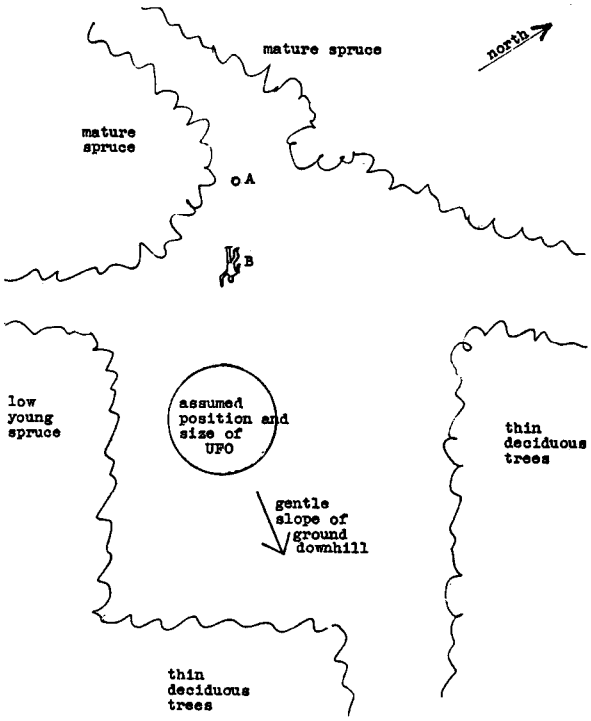


Figure 2: Plan of site and surrounding area

Figure I. illustrates the objects that he saw, and Figure 2. the layout of the clear--ing in which the objects sat. Mr Taylor was standing at point 'A' when he first saw the UFO.

At first the small 'mines' were not visible. The large dome-shaped object was hovering stationary above the ground, but not very much above it. There was neither visible rotation,nor audible sound. It was mainly dark grey with a texture similar to that of emery-paper. The object became partly transparent, first at one place and then at another, giving the witness the impression that 'it was attempting to cam--ouflage itself'. (The sketch was not drawn by the witness, and so may not be entirely accurate, although he has approved it.) The 'craft' was estimated to be 20 feet (6m) in diameter.

He stood still in amazement for 30 seconds or so, and then the 'mines' appeared (apparently from under the large 'craft') and rushed towards him. These objects had a similar colour and texture. They rolled on a horizontal axis and made a plopping noise as their 'legs' hit the ground. Reaching him they each attached a 'leg' to his trousers (one each side) just below the pockets. He felt them tug him towards the large object, and at the same time he was nearly suffocated by a strong acrid smell, which he associated with burning brake linings. The smell appeared to be coming from the 'mines'. He then felt himself ? being dragged forwards and was aware that his feet (in wellingtons) were scraping on the ground before he lost consciousness.

He fell, lying forwards and face downwards, as shown at 'B' in Figure 2.

When he regained consciousness, all the UFO's had disappeared, and only his dog was with him. He tried to speak to her, but found that he had lost his voice. He tried to stand, but his legs would not support him. So he crawled on his hands and knees for about 90m back up the track down which he had walked. After that he managed to stand (unsteadily) and half staggered, half crawled the remaining 430 m to where his van was parked.There he tried to contact his headquarters via the two-way radio, but could not do so because he could not speak. So he attempted to reverse the van. Unfort--unately he backed it off the track into soft ground, and could not move it. Then he walked the 1600 m back to his house, using a short cut across fields and woods, arriving home about 11 30. His voice return-ed on the journey home.

When she saw the state he was in his wife assumed that he had been attacked, and wanted to call the police immediately. He restrained her, but allowed her to telephone his superior and head of the Forestry Department, Mr Malcolm Drummond, who, when he arrived, immediately accompanied Robert back to the scene of the encounter. There they found that there were curious marks in the grass; it is these marks, which Robert tells us were not there before that morning, that have since convinced every--one that Robert Taylor is telling the truth. His wife had also noticed that his trousers were unaccountably torn on each side just where he claims the 'mines' attached them--selves.

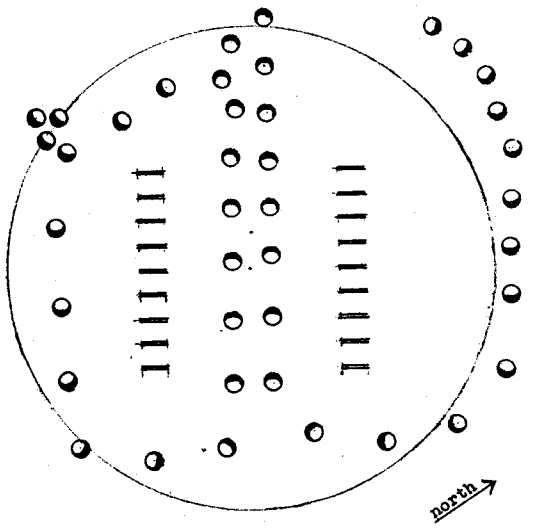


Figure 3: Plan of site markings from Police measurements. Shading indicates top side of angled holes. 6 m diameter circle is assumed position of UFO as shown on Figure 2.

Later Robert was examined by his doctor, who found only that he had a graze on his chin and another on his left thigh. He sent him to nearby Bangour Hospital for skull X - ray, but Robert discharged himself before this examination could take place. On the basis that an attack by 'aliens' had taken place, the police were called, and the press learned of the incident shortly after. The first press reports appeared the follow--ing morning, Nov 10.

Photograph 1
Photograph of the 'track' marks taken by Alistair Sutherland on 1979 Nov 10
(North direction is incorrect)

PHYSICAL TRACES

The ground marks (see Figure 3) were of two types. Firstly there were two isolated ladder type 'tracks' about 2.5 m long and the same distance apart. Each 'rung' of the ladder (see Photograph I), was 2 or 3cm wide and deep, and about 30 cm long, and the area of grass between each 'rung' was evenly flattened, but not as deeply as the 'rungs'. Although the 'tracks' appear to be impress--ions made by a heavy object, the indenta--tions were only in the grass; they did not alter the ground profile under the grass as they would have done if subjected to a heavy weight. The grass blades were each folded and formed to follow the outline of a rectangular indentation.

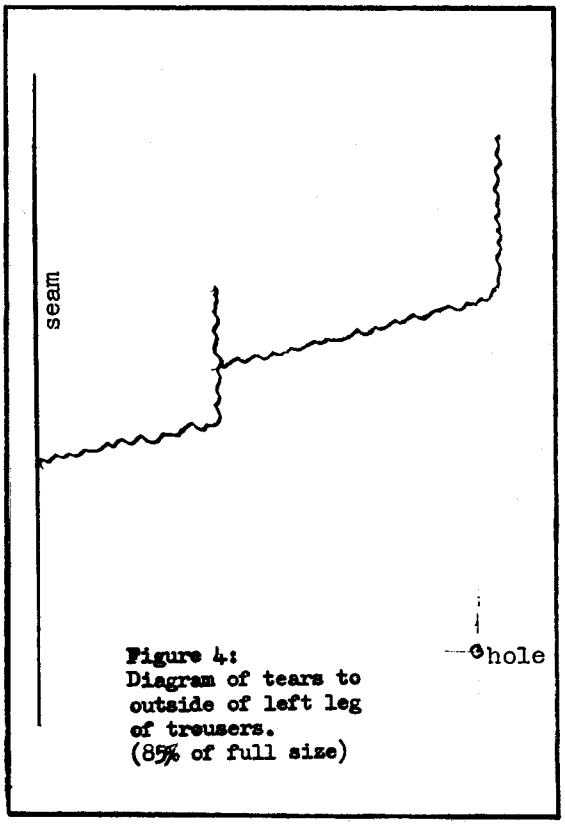


Figure 4:
Diagram of tears to outside of left leg of trousers.
(85% of full size)

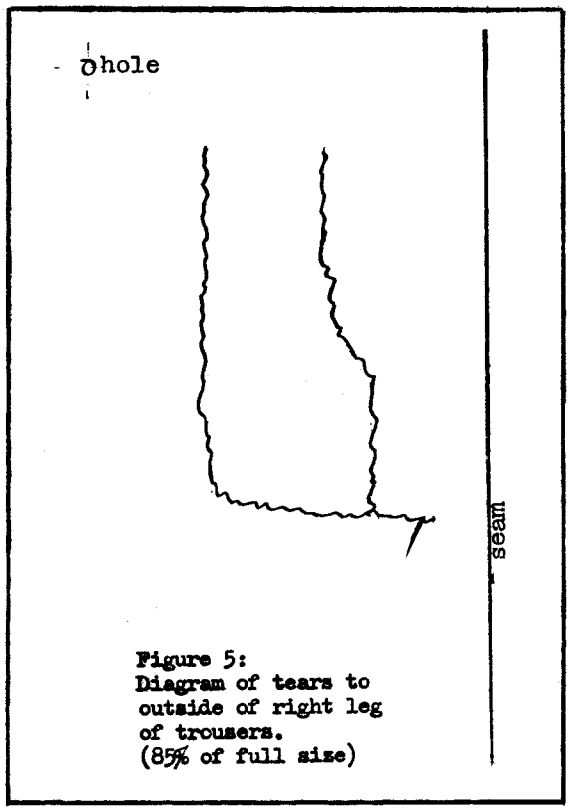
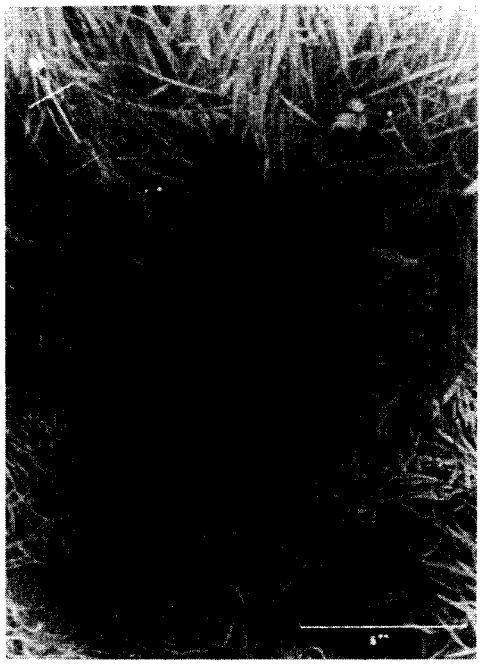


Figure 5:
Diagram of tears to outside of right leg of trousers.
(85% of full size)

Secondly there were 40 holes surrounding the 'tracks', as shown in Figure 3. These holes all exposed fresh earth and were tap--ered from a maximum width of about 10cm, but at an angle as shown. The angle was fairly shallow; about 30° to the horizontal A remarkable feature was the fact that the direction of the angle of the holes was con--sistent and always in line with the next hole in line. Two distinct and related sets of holes can be detected, and it is clear that they each circle one set of 'tracks'. It also seems clear that one set of holes proceeds clock-wise, while the other proceeds anticlock-wise, and that they are in tandem between the 'tracks'. In some cases, blades of grass surrounding the edge of a hole were sheared off; see Photograph 2.

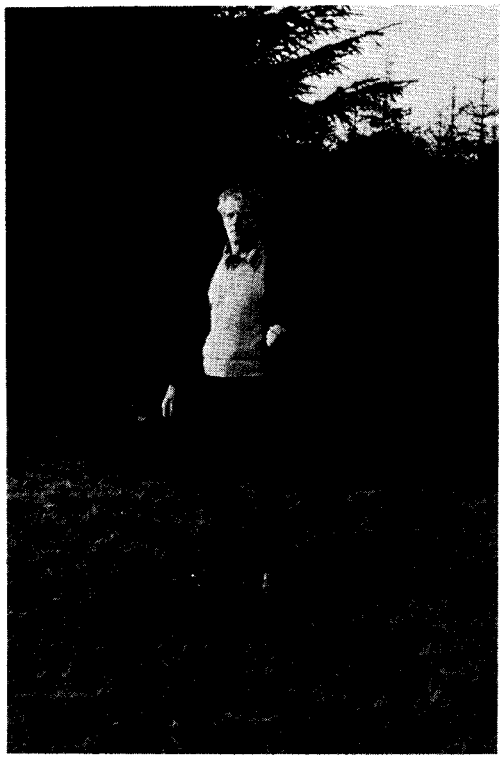


Photograph 2
Photograph of one of the holes taken by Alistair Sutherland on 1979 Nov 10.

No grass was scorched. The marks were measured and recorded by the local police the same day, and the area fenced off by the Forestry Department. The marks were photographed by Alastair Sutherland (a friend of a member of the Forestry Depart--ment), and by me, the following day.

Robert Taylor's clothes (including the trousers) were taken by the police for forensic examination. Only the trousers and his long underpants showed anything unusual. Figures 4 and 5 show the tears on each leg of the trousers, which are made of navy blue serge. The right leg tear is about 65cm up from the bottom of the leg, while the left tear is about 76cm up.

Photograph 3
The witness standing where he first saw the UFO, showing the open space in which the incident occurred. The site is fenced off. Photograph by Stuart Campbell



Photograph 4
The witness standing at the point where he collapsed. Photograph by Stuart Campbell

A small hole appears to be associated with each tear. The police scientist who examined the trousers determined that neither the tears nor the holes were caused by burning But he was sure that the tears could only have been caused by a strong mechanical pull upwards, or by the person wearing them jumping downwards and catching his trousers on projections. (In fact, if the tears were made when Robert Taylor was lying on the ground, then the direction of pull would have been horizontal, towards the UFO.) Further the tears could not have been made by a single pointed object, such as a nail; their breadth indicates a broad attachment The underpants also showed damage; there was an S-shaped hole on the outside of the left leg corresponding with the large tear in that leg of the trousers and the graze on Robert's thigh. The knitted cotton under--pants are lost, but the trousers are in the possession of BUFORA. It might be supp--osed that the damage to clothing occurred on the journey back home, but Robert denies that this was the case.

Reconstruction of events and allocation of generous times to the various phases of the morning's events shows that Robert must have been unconscious for about 25 minutes. The temperature at the time was 3°C, with a light wind blowing from the WSW. The weather had just turned very cold, and snow fell a few days later.

A full report for BUFORA's records is still in preparation.

THE APPLICATION OF LOW COST COMPUTING AND DATA PROCESSING TO UFO REPORTS AND RELATED PROBLEMS

By Malcolm Bull, Steve Gamble and Robert Digby
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THE FOLLOWING STUDY AND ITS RESULTING RECOMMENDATIONS WAS UNDER-TAKEN BY BUFORA'S COMPUTER SUB-COMMITTEE PRIOR TO THE INTERNATIONAL UFO CONGRESS IN AUGUST 1979. IT WAS IMPORTANT TO HAVE FORMULATED OUR OWN PROPOSALS SO THAT WE COULD COMPARE THESE WITH THE COMPUTER SYSTEMS ALREADY IN USE IN OTHER COUNTRIES AND WITH PLANS DEVELOPED BY GROUPS, WHO LIKE OURSELVES, WERE WORKING TOWARDS COMPUTER DATA PROCESSING OF UFO REPORTS.

SUBSEQUENT TO THE WORKING PARTY DISCUSSION AT THE CONGRESS, BUFORA HAS DECIDED TO GO AHEAD WITH THE PROPOSALS, EVOLVING OUR OWN DATA BASE AND PROCEEDING WITH A PILOT COMPUTING PROJECT USING ONE HUNDRED REPORTS.

PREAMBLE

The availability of low cost computing power would appear to be a very attractive proposition for manipulating information. Typical applications within UFO groups could include production of sighting lists, sorting sightings into certain categories e.g. by colour, time, date etc. - manipulation of membership records, accounts, inventories and word processing applications. This latter application might include production of reports, journals and tapes or discs for electronic typesetting. (See Appendix 2 - Dummy Tabulations).

Hardware now available includes micro-computors as one-piece units or with additional peripheral devices. There are also mini-computors with larger configurations, offering greater speed, flexibility and versatility.

AVAILABLE HARDWARE & RELATED PROBLEMS

Firstly, we will consider typical micro-computers of which the Commodore PET, Tandy TRS 80 and Apple 11 are examples. Minimum configuration of the TRS 80 is a ketboard, a modified TV unit, a cassette tape unit and a transformer. The keyboard unit possesses a standard typewriter keyboard layout (qwerty) under which is housed a central processing unit and built in memory. As standard it comes with 4K (4096) bytes of user addressable memory. It is also fitted with one of two versions of a BASIC language interpreter. The BASIC interpreter converts English like statements into machine usable code. The level 1 BASIC is a very limited version of standard Dartmouth BASIC, with a level 2 BASIC being a less limited version. Level 1 BASIC only has two string variable, no trig, log, square or square root functions.

A string variable e.g. LONDON is a collection of letters (&/or Nos.) held in store. Typically a string variable may hold up to 256 characters say the details of 1 case. (Labelled as A$) If we decide we want the machine to search all the cases on file and find those which occur in LONDON with RED objects, we need the string variable of B$ for LONDON and C$ for RED colouration. The instruction to read A$ and look to see if B$ and C$ characteristics occur requires the use of 3 string variables. One would proceed through a list of cases with each successive one assuming the identity of A$. The problem here is that with only two string variables we could only search for LONDON or RED object cases. The maximum memory capacity is 48K RAM or 192 cases at 256 bits/case unless one uses floppy discs for storage, with the added cost of a disc unit. Dual floppy discs might give 340K bytes capacity or 1,360 cases. (In 1977 alone, BUFORA dealt with over 560 cases). Tape based systems are not recommended if they are of the cassette type associated with micro-computer units. A PET utilising two cassette machines was programmed to perform the kind of task that a UFO data user might require. Firstly, there was the creation of a file of data - in this instance 1,000 random numbers between the values of 1 - 1,000, file to be closed by a marker * and labelled as Robert 1. Those numbers divisible by 8 were to be stripped to a second file called Robert 2 and a listing of those selected to be read out directly to screen. This action represents a further operation to say, look at vehicle interference cases and create a new file of this data.

The results were that Robert 1 was closed after 173 seconds by a read/write error that only completed 844 of the 1,000 records. Apparently a file close marker * was not generated. The creation of Robert 2 took 333 seconds and did not fully select suitable divisible numbers from all 844 available records. Apparently another read/write error occurred and this time the whole keyboard locked and no further processing took place. The only solution to this was to switch off the machine and start again! So this test programme was not completed, 156 records were missed and the whole operation took 506 seconds. (8m 26s). In addition, due to an oversight, the read out of numbers to the screen was not in neat columns because whilst the spacings between numbers remained the same, the number of digits in each number varied between 1 and 4. Consequently the screen display was a mess. This latter point is not a big problem, it would mean additional programming to 'tidy up' the data. As the machine is 'stupid' one has to foresee these problems and think of everything of this nature that might occur.

The kind of micro-computer system that might fulfil our needs would consist of a reasonably high speed printed, large, easily accessible memory probably in excess of 1M byte; a suitable input device such as a keyboard, perhaps a card reader or paper tape reader as well; and a 'brain' - the central processing unit (cpu) which may be integral to the input device.

This capability might be fulfilled by a PET or similar system, consisting of the basic unit of screen keyboard and cpu, a dual floppy disc drive and a fast printer. the basic unit is about £800 but is inherently 'stupid' and relies on the peripheral devices using a cpu facility

to increase computer power. This makes the peripheral devices more expensive than the basic unit. Typically, we might spend about £5,000 for a system.

The printers commonly available are slow. At 30 characters/sec. 1M byte of data would take 9¾ hours to print. For a machine printing at 300 ch/sec. the same job would take 55½ minutes. 1M byte would be 4,000 cases at 256 ch per case.

Small machines of the type we have mentioned should be able to cope, with extended configuration, with small portions of files extracted from the primary records e.g. cases containing both LONDON and RED as the characteristics we want to extract, could be created on a new, smaller file and handed to a small system user who could for example look for correlations of time or some similar file sorting operation. Someone with a 32K PET of which for example 30K bytes are available for data storage could only store 120 cases at 256 ch per case. This assumes 2K reserved for a programme to perform a file sort. In practice though, a program to compare 6 sub-files - say Red, Green, White etc. and do comparisons or add and subtract from the files, could occupy about 6½K of available store.

In fairness to the manufacturers, these machines may well satisfy hobbyists or small business users with small storage requirements. Also, read/write errors also can occur on main frame systems, especially if a tape deck is very well used or a tape reel is well used or stretched or dirty etc. We have concluded that on the grounds of slowness, inefficiency etc. a cassette tape basic micro-computer would not fulfil our needs.

JOB REQUIREMENTS

We define the job requirements for BUFORA to be as follows :

Total computerisation of all the aspects of Bufora's filed information on case reports, membership records, inventories etc.

MINI-COMPUTERS

Here we are talking about bigger, more powerful machines with greater storage capacity, faster processing times etc. A small mini system consisting of a hard disc drive, a matrix system input/output printer, cpu plus memory of between 16 - 64K RAM might cost £20,000 upwards. The system described would satisfy our job requirements. Additional peripherals would be a line printer, a magnetic tape deck and a vdu and/or a second disc - which could bring the cost over £35,000.

Overall, there is no effective solution available on the basis of purchasing hardware for our requirements at reasonable cost. We would not recommend the purchase of a basic micro-system unit due to the limitations already discussed.

AVAILABLE ALTERNATIVES

Since a mini system is capable of meeting our requirements but purcahse is out of the question, the alternatives open to us are :

1. MACHINE LEASE

This means effectively hiring a machine for as long as necessary to complete all the tasks of a computeri sing project. In order to be cost effective, this would necessitate the machine being idle for as little as possible, preferably not at all (24 hrs/day). This would involve considerable capital outlay with ownership of disc or tape media for the permanent data base.

2. TIME PURCHASE

This would be effectively the purchase of cheap off peak time from a software house on a user-time basis only, again with outright ownership of the database media. This has the advantage of small capital outlay, perhaps spread over a long period if necessary. Only the time used is paid for as required or on the basis of what can be afforded at the time. Budgeting could be based on Time or £. The problems of housing hardware, maintaining etc. are dispelled. A disadvantage is restriction of access to those times a company can spare you between peak usage.

3. BORROWED TIME

This means the access by individuals on an official or unofficial basis to a company university or research institute computer. The disadvantage of unofficial use should be obvious - risk, irregular access, erasure of unofficial material to name a few, plus possible disciplinary action if caught. Overall there is the theme of unreliability. Official access is likely to be limited and unreliable if a job change occurred, although perhaps there could be reversion to the situation described in two. It is assumed that this latter method is how some groups are able to computerise at present.

CONCLUSIONS

From the point of view of the situation within Bufora, the only feasible situation would be as described in item two. It would be feasible to computerise for a three figure sum of money and maintain the data reliably for a modest annual budget without dependence on an individual for access to facilities. Only 'updating time used would have to be paid for. However, the biggest problem would be the initiation of a program to encode information, i.e. cases, membership records etc. and follow through the somewhat laborious task of typing the details to a vdu or perhaps punching up cards. The possibilities for doing this are either a modular project to enter data in several

sections, to make up the total or an intensive all-in session to do the job in virtually one go, using a 'block' of time purchased for an all-in rate. This latter would be more cost effective still.

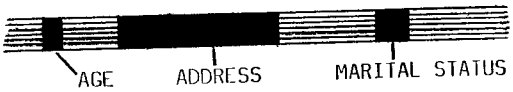
It is felt that the finer details of how and when this might be achieved and at an accurate costing, is not within the scope of this document. We merely maintain this to be feasible and the most likely method by which Bufora could enter the computing arena and stay there on a permanent basis beginning in the 1980s. It is further recommended that the Research and Investigations Dept. of Bufora work out detailed job requirements and look at the individual computing requirements possibly peculiar to Bufora. When a system has been devised then advice can be offered for including accounts and inventories etc.

APPENDIX 1

STANDARD DATABASE, COMPUTERISATION AND DATA EXCHANGE

Agreement should be reached on what the sum total of data would be for a single report amongst everone.

MAX. DATA FOR ONE CASE



e.g. Bufora might not be interested in the marital status of a witness but perhaps Sufoi consider this a part of witness assessment. Clearly there would be a parameter in the Sufoi database which is of no use to Bufora. On this basis each user group would plan out their own amount and layout of data to suit themselves or merely conform with what they are already doing. Therefore, for the purposes of international exchange it would seem wise to agree the total data and a standard international format for it. On the basis that each user group has a unique format and selection of data for a case then each user group would require two additional programmes for conversion to and from international standard, so that data is acceptable for the format some groups will already have adopted. New users might adopt INTERNATIONAL UFO DATA STANDARD as their database format. If agreed, then perhaps IUDS can be registered???

Conversion of a tape from IUDS to Sufoi or Cufos standard would be the prerogative of the body taking on the information for their use. They would convert from their own to IUDS when passing on data. Probably the best mechanism for data exchange would be a central bank of data into which each user group would contribute. This way any part of the total databank should be readily accessible to any recognised user group.

An international standard codebook would also be required so that data could be uniformly encoded e.g.

COLOURATION, RED) Might encode
) internationally
ROUGE) as R1; 25th &
) 26th positions
ROSSO) accordingly.

To agree to a standard is possibly beyond the scope of the International Congress Working Party. A group should get together that represents all users of computerised UFO data as well as representatives of bodies who may computerise in the 1980s.

A logical follow-on may well be an international investigations manual detailing standards, the IUDS codebook perhaps, and aspects of investigations to ensure the detailing of all information which would be useful.

Bufora and Mufon investigation manuals have information relevant to their respective groups - sighting forms etc. It would be very useful to have an international standard for report forms etc. Typical problems to deal with would be format - A4, A5? Looseleaf for updates? Editor, production, distribution???

ATMOSPHERIC PHENOMENA LOG

By John Armitage
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In the last issue of the Journal TAP, the Atmospheric Phenomena Log introduced itself as a column which intends to examine various atmospheric phenomena, both those which are reasonably well understood, and those which are ill-understood, in an attempt wherever possible to clarify the relevance of such occurrences to UFO reports. Already this column has discussed "Mirages" and the phenomenon of "Looming", and the relationship of these to temperature inversions in the atmosphere. Before moving on to other topics, the columnist now thinks it appropriate to consider further aspects of temperature inversions, and their relationship to unusual atmospheric phenomena.

A TEMPERATURE INVERSION

A temperature inversion, may be defined as an increase in temperature with height above the ground, the boundary of the "inversion

layer" presenting a surface of sharp temperature discontinuity. Temperature inversions can occur at various levels within the atmosphere, but are perhaps most frequently noted as features fairly near the ground after a night of cooling by radiation under clear sky conditions. Many permutations of temperature inversion conditions can however occur and some of these can give rise to particularly interesting atmospheric phenomena.

The previous Atmospheric Phenomena Log explained how mirages can occur as daytime phenomena related to inversion layers, but perhaps more fascinating still are night-time phenomena associated with inversion layers. The most significant feature of inversion layers in this respect is their ability to act as both optical, and radar reflectors, ... it therefore seems likely to suppose that at least some UFO reports at night might be due to inversion layer phenomena. Any UFO reports in this category could at first sight seem to offer good evidence by perhaps affording a correlation between visual and radar reports from the same general area at about the same time. In such cases, however, investigators would be well advised to immediately make enquiries with the local Meteorological Office to ascertain if any inversion layer phenomena were likely to have been occurring at the time of the sighting in question.

Consider, as an example, the following situation

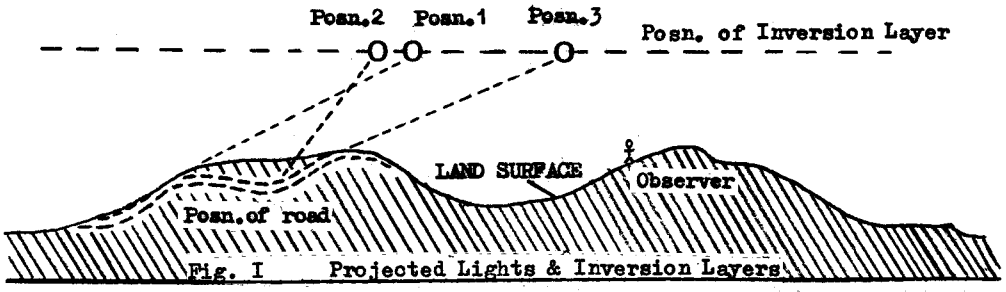

Fig. I Projected Lights & Inversion Layers

In the situation illustrated, an inversion layer is established in the atmosphere at night. The topography of the region is uneven, and in one part of the area at least there is a road twisting it's way uphill with various changes of slope and direction. Let us further assume that at least some of the vehicles using this road have particularly powerful (say quartz-halogen) headlights. Let us assume also that the distance of the Vehicles from the inversion layer, and prevailing atmospherics are such that an observer elsewhere in the area might be able to observe lights in the sky, which are in fact the vehicle lights projected on to the inversion layer.

The behaviour of such lights as noted by the observer would be most interesting. Whenever such a vehicle, projecting it's headlights on to an inversion layer changed it's direction due to a bend in the road, or changed it's attitude due to a change in the incline of the road, there would appear to be a rapid, perhaps a very rapid shift in the position of the lights in the sky. Such a shift in position might cover many degrees in the sky in seconds, seeming to indicate high, perhaps fantastic velocities, though in fact it would merely be a function of the amount of change in vehicle position, and the distance over which the projection was taking place.

Similar comments can also be made of searchlights, and indeed it should be noted that meteorologists have on occasions used searchlights to establish the height of cloud bases during hours of darkness.

ELECTRICAL PHENOMENA & INVERSION LAYERS

Electrical phenomena may be particularly likely to occur when both relative humidity and temperature are low, ... conditions which may well occur in association with temperature inversions.

When a collected electrical charge is greater than normal, perhaps at the sharp point of a conductor, a more violent electrical discharge can take place with visible manifestation (sparks or glows), and also accompanied frequently by crackling or hissing noises ... such phenomena are called brush discharges.

The "St. Elmo's Fire" phenomenon, recorded as discharges from objects such as ships masts, aircraft wing-tips and so on, is an example of a brush discharge.

The "Andes Glow or "Andes Lights" phenomena have been particularly reported from the Andes region of South America, but also from other parts of the globe. The light tends to take the form of flashes (single, intermittent or regular) or glows, or as a beam extending above peaks. Such phenomena are not as some of the less sensible paperback authors might claim evidence of the existence of undiscovered super-cultures secreting themselves away in remote areas ... such phenomena would appear to be brush discharges. These lights and glows tend to occur mostly towards dawn when strong temperature inversion conditions are noted to be existing in the atmosphere ... it would seem reasonable therefore, to interpret them as being brush discharge phenomena linked with temperature inversion conditions.

In conclusion, therefore, it would seem reasonable to suggest that temperature inversion conditions, and a range of associated phenomena, are in various situations likely to account for at least some of the UFO reports which on first examination might seem to have some substance in fact.