

L U F O R O

Volume No. IV NO. 4

Month SEPT/OCT

YEAR 1968

BULLETIN



WITH
COMPLIMENTS
EXCHANGE COPY

Published by the - **London Unidentified Flying Object Research Organisation**

LUFORO'S AIMS: Unbiased scientific investigation of reports of Unidentified Flying Objects and associated claims, collection of first-hand evidence of verifiable data; publicising information in bulletins and by other means; bringing about closer co-operation and understanding between UFO researchers.

LUFORO BULLETIN: This is published approximately bi-monthly. Single copies 2s 6d (40c.), post free; or obtain a year's supply by joining LUFORO - subscription 10s (\$1.50) per annum, payable to the Treasurer.

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EDITORIAL

You will have noticed that there is a gap in the list of names above. Lionel Beer has regrettably found it necessary to give up the honorary secretaryship and resigns with our gratitude for all the hard work he has done in the past year. Members are especially asked meanwhile to send correspondence intended for the secretary to Mrs Lloyd, 9 Guilford Street, London W.C.1, who has kindly consented to deal with it.

Your attention is drawn to the notices in the back of the Bulletin and, in particular, to that of the Annual General Meeting on the 30th November. Nominations are invited for President, Vice-President, Chairman, Vice-Chairman, Honorary Secretary, Honorary Treasurer, etc. I have used 'etc.' because the only officers specifically mentioned in our Constitution are the President, Chairman, Honorary Secretary and Honorary Treasurer. You might care to consider whether there should be a mention of Vice-President or Vice-Chairman.

There are one or two other comments I would like to make concerning the running of LUFORO which you may care to think about. It should be remembered, of course, that these are purely my views as an individual member, which may or may not be shared by others.

LUFORO, like most voluntary organisations, suffers from the difficulty of finding people willing to carry on the burden of administration. This is not only the problem of the committee, it is your problem too—because with no active members you will have no organisation to belong to. One suggestion I have to make is that the committee should be slightly enlarged to include more members who are not officers. Thus members who are a little reluctant to shoulder a specific responsibility may, by service on the committee, become more aware of the nature of the work involved and less afraid to undertake it.

Another suggestion is that some responsibilities which, at the moment are carried by one person could, in fact, be shared among a

number of people. A case in point is that the planning and arranging of meetings, for which the Honorary Secretary is at present responsible is an activity that could well be separated from his normal duties. In this way we may be able to avoid one person carrying too heavy a load.

Thirdly, although we have had a number of compliments on Basil Nubel's Bulletin cover, one member has pointed out, with some justification, that because of its lack of variation in appearance the duplicated material inside is a little tiring to read. The same member expresses a willingness to pay a two or three guinea subscription in order to have a properly printed version. I do not know what you think about this—personally I doubt whether our present membership is large enough to justify printing, even with an increased subscription. But apart from this, an increased subscription would enable us to cut costs by dealing with larger quantities. For instance, because of the state of our finances, it was not thought justified to order more than about three issues' supplies of the Bulletin covers. If our finances had been stronger, far more could have been ordered, thus reducing the relative cost per cover considerably.

Finally, please make an attempt to attend the Annual General Meeting. This is one occasion in the year when you have an opportunity to discuss ways of improving our organisation and to play your part in promoting UFO research.

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THE HOLE AT CHARLTON (continued)

Since the last Bulletin a Mr Southern claimed that the Charlton hole and others had been a hoax perpetrated by two friends and himself. Reports appeared in the News of the World (25/8/63) and the Daily Mail (26/8/63). He retracted this story after discussion with the Chairman. Nigel informs me that he has received a letter from Mr Southern confirming this retraction but that although Mr Southern had sent a similar retraction to the News of the World the paper had not printed it.

We have not succeeded in obtaining aerial photographs of the area taken before this incident so we cannot completely exclude the possibility the disturbances in the barley were related to crop-marks, although this is unlikely. Information now reaching us from abroad does indicate that June and July may have marked a peak in the sightings in Europe although it is too early to state this with any degree of certainty.

No evidence has come to light that changes my opinion expressed in the last Bulletin that the Charlton incident was due to the landing of a small extra-terrestrial machine. You will be kept informed of future developments.

TOWARDS A THEORY OF THE SAUCER

by Alan Watts

All scientific theories start from suppositions. Basic ideas which are beyond the limits of proof in the complex of the science of the day. For instance the steady-state universe theory of Hoyle, Lyttleton and others rests on the evolution of hydrogen atoms between the condensations of star-stuff. No one knows how this is accomplished—it is accepted as a probable hypothesis on which the succeeding theory may be built. When this theory explains many of the basic facts and has the added beauty of being an intuitively simple theory then the suppositions which lie over the scientific horizon are accepted. They often prove to be true suppositions.

In the theory which follows our 'ground' facts are within view from the new windows which are being opened into the next octave of scientific experience following the atomic age. We find the basic idea growing from the work of P.M.Dirac (see Scientific American May 1963) although we find similar approaches being made by men of vision on all sides today.

Briefly we conceive of what is normally called 'empty' space as full of particles which we cannot normally observe. This can be visualised as akin to the sea where water molecules occur in much closer proximity than exists between the vapour molecules over the sea. However we need only supply enough heat energy and a surface water molecule in the sea becomes a vapour molecule. Likewise supply enough energy to Dirac's "sea" and we can evaporate particles such as electrons. The required energy is just over one million electron volts (MeV) for electrons and just under 10^9 electron volts (GeV) for nucleons such as the proton or neutron. These energies are of the order of those found in gamma photons ejected from decaying radio-active nuclei.

To find pictures of these particles actually materialising one need only look in any good textbook on modern physics. We then find that not one particle appears but two. The particle may be an electron but at the same time its anti-particle appears—the positron. Similarly proton-antiproton, or any other particle, pair emerges. All that is required is the correct energy, or more. Just as water molecules when evaporating must leave spaces in the sea surface so evaporating electrons leave spaces in Dirac's Sea and these are identifiable with positrons.

The positron is the exact physical inverse of the electron and the two in very close proximity produce mechanical, electrical and magnetic neutrality. Therefore if such pairs exist in Dirac's Sea we cannot normally observe them because any force field only undoes to one what is done to the other. For instance opposite electric charge located closer than 10^{-13} cm (a fundamental length called the Fermi below which the familiar laws of electro-dynamics break down) is only strained by an applied electric field and not separated so nothing other than the permittivity of free space is

observed. The same goes for other properties.

A further useful concept is the order of size of the Fermi. If the Fermi is the diameter of a pea then the hydrogen atom is 100,000 peas in diameter—on this scale 5/16 mile across—and ten thousand million electron-positron pairs (e-p pairs) could exist within it. Thus empty space is not empty. It is chock-a-block with particles or energy whichever you like to think of, for in this Einstein's celebrated mass-energy relation is explained. Mass m is the same number as its equivalent energy E providing we divide E by the velocity of light squared. If we add the masses of electron and positron and find the energy to which this mass is equivalent then we find it is just over the MeV quoted earlier as the energy required to produce an electron-positron pair.

Thus the basic supposition of this saucer propulsion theory is that these pairs can be materialised in as copious a supply as is required. I cannot say how this is achieved—it is the basis for the theory, but as the pairs are pervading all space between and inside all atoms then they are attractive propulsion material.

The further idea which must be put over is that it is impossible to conceive of any physical mechanism between particles which will explain attraction. All things apparently attracted must be pushed towards one another by experiencing collisions with other particles possessing the quality of mass. Attraction is mutual pushing by collision and any thrust must come from the communication of momentum (by mass-reaction particles) to the thing thrust. Our mass reaction particles may be e-p pairs or proton-antiproton pairs materialised by some primary force field in the saucer itself and capable of appearing either between the 'electrodes' such as cover the underside of Adamski's saucer or perhaps—and this seems more likely—within the fabricated material of the saucer itself. (Fig.1)

We will imagine that the 'shell' of the saucer (and we will assume Adamski's 35 ft craft is to be used for calculations as we know its dimensions) consists of a 'magnetic sandwich' as in Fig.1 with a thick super conductor for its upper surface and a thinner conductor of similar kind sandwiching a type of magnetic material such as might be formed by setting ferrous metal grains in 'araldite'. We will coin the name Magnite for this material.

To test this theory we must expect it to stand up to reasonable numerical calculations and in order to be in any way convincing those calculations must be done.

We imagine a copious supply of proton-antiproton pairs (p-a-p) are produced in the magnite by, perhaps, bombardment with energetic gamma photons. The photons will in general have more energy than that required to produce the pair and the excess energy goes to shoot the two particles through the magnite. However, we must assume the process is already under way and the protons which reach the upper conductor form a current in it as in Fig.1. At the same time this current produces a strong magnetic field in the magnite and deflects the positive protons to the upper electrode

FIG. 1

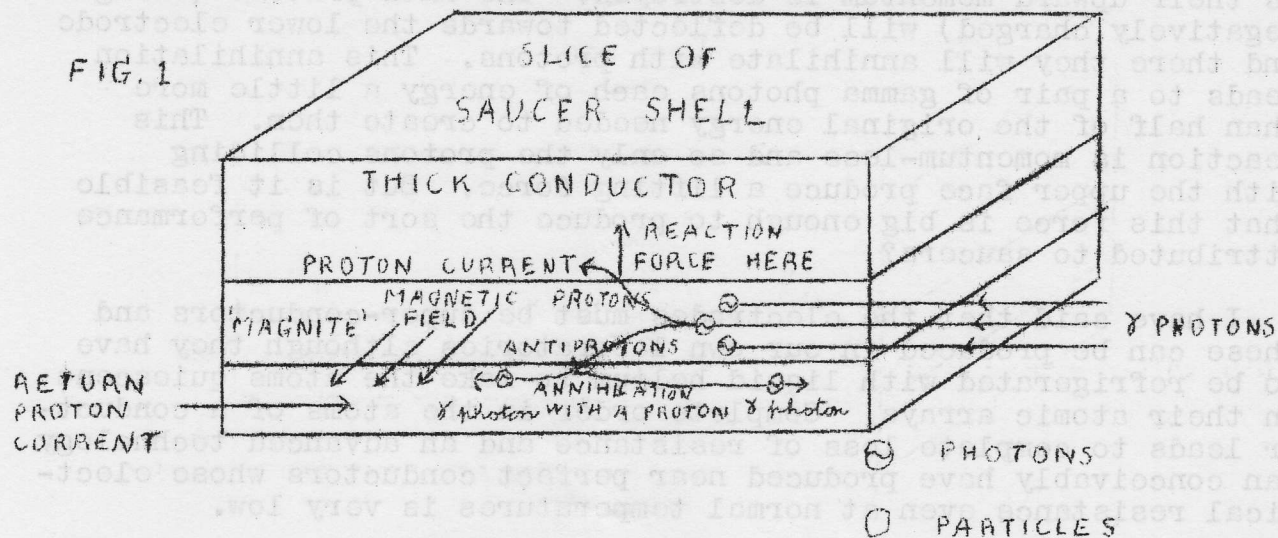


FIG. 2

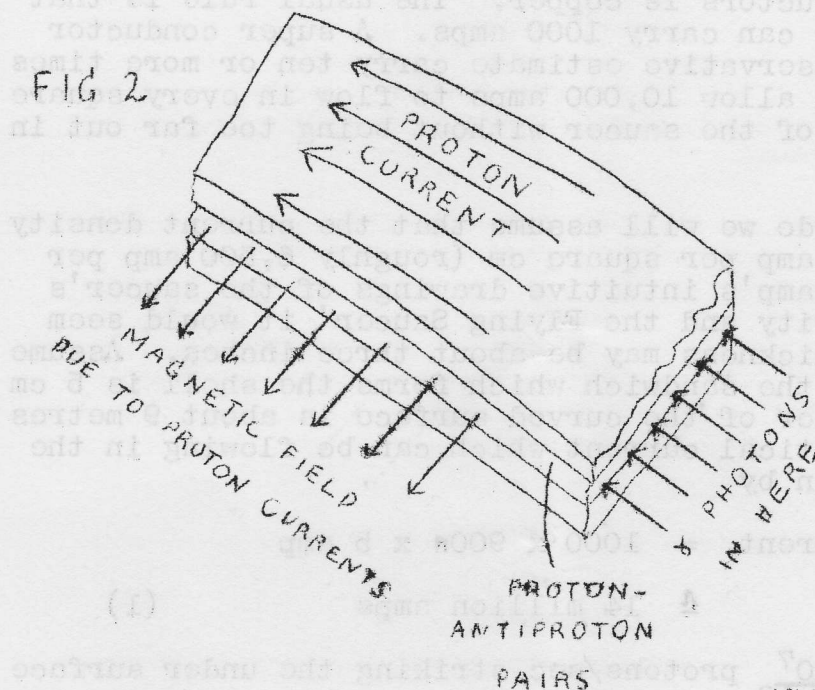


FIG. 3

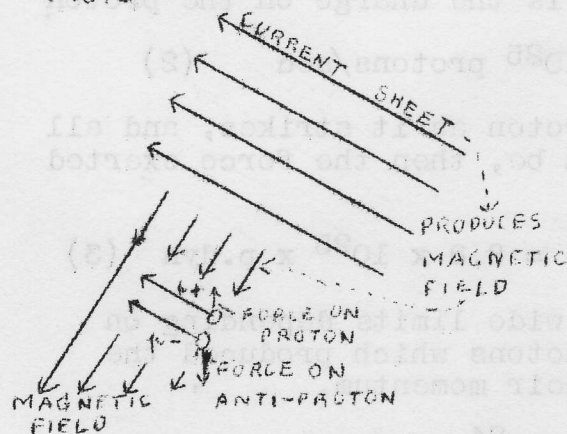
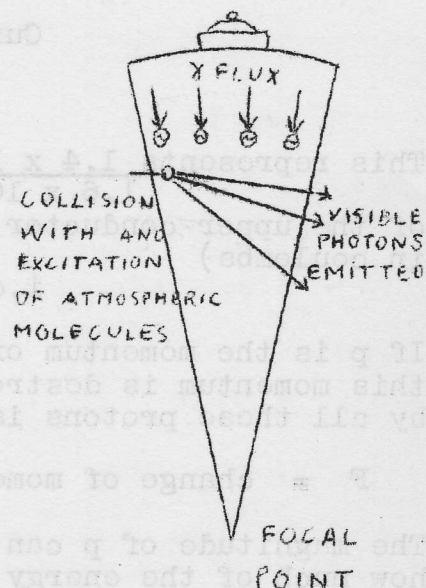


FIG. 4

THE ICE-CREAM

CONE PHENOMENON



where they impinge on its under surface so producing a reaction as their upward momentum is destroyed. The anti-protons (being negatively charged) will be deflected towards the lower electrode and there they will annihilate with protons. This annihilation leads to a pair of gamma photons each of energy a little more than half of the original energy needed to create them. This reaction is momentum-less and so only the protons colliding with the upper face produce a lifting force. But is it feasible that this force is big enough to produce the sort of performance attributed to saucers?

I have said that the electrodes must be super-conductors and these can be produced in our own laboratories although they have to be refrigerated with liquid helium to make the atoms quiescent in their atomic arrays. Complete order in the atoms of a conductor leads to complete loss of resistance and an advanced technology can conceivably have produced near perfect conductors whose electrical resistance even at normal temperatures is very low.

One of the best conductors is copper. The usual rule is that a square inch of copper can carry 1000 amps. A super conductor could probably at a conservative estimate carry ten or more times that current. We could allow 10,000 amps to flow in every square inch of the upper skin of the saucer without being too far out in our estimate.

To be on the safe side we will assume that the current density may be as high as 1000 amp per square cm (roughly 6,500 amp per square inch). Using Cramp's intuitive drawings of the saucer's anatomy in 'Space, Gravity and the Flying Saucer' it would seem that the total shell thickness may be about three inches. Assume the upper conductor of the sandwich which forms the shell is 5 cm thick. The mean diameter of the curved surface is about 9 metres and thus the total practical current which can be flowing in the upper conductor is given by

$$\text{Current} = 1000 \times 900\pi \times 5 \text{ amp} \\ \underline{\quad} 14 \text{ million amps} \quad (1)$$

This represents $\frac{1.4 \times 10^7}{1.6 \times 10^{-19}}$ protons/sec striking the under surface of the upper conductor. (1.6×10^{-19} is the charge on the proton in coulombs)

$$\text{i.e. about } 8.8 \times 10^{25} \text{ protons/sec} \quad (2)$$

If p is the momentum of the average proton as it strikes, and all this momentum is destroyed, as it must be, then the force exerted by all these protons is

$$F = \text{change of momentum per second} = 8.8 \times 10^{25} \times p \text{ dyn} \quad (3)$$

The magnitude of p can be varied over wide limits depending on how much of the energy of the gamma photons which produced the p-a-p pairs is left over to provide their momentum.

The rest mass of a proton is 1.64×10^{-24} gm but at speeds

approaching that of light this mass will increase towards an infinite value at the actual speed of light (3×10^{10} cm/sec). We will assume low energy protons with only one hundredth of the speed of light, i.e. 3×10^8 cm/sec. Their momentum

$$p \approx 5 \times 10^{-16} \quad (4)$$

Hence the available force F follows from (3) and (4) and is

$$F \approx 4.4 \times 10^{10} \text{ dyn}$$

This is about 45 tons weight.

If we assume the saucer had a mass of ten tons then the acceleration f follows from

$$10f = 45g - 10g \text{ where } g \text{ is the acceleration due to gravity.}$$

whence

$$f = 35g \quad (5)$$

Due to lack of precise knowledge we have continually erred on the side of caution in the foregoing estimates and it may well be that accelerations well in excess of this could be achieved.

There are always pitfalls but the analysis produced above seems to give reasonable values. At least the forces are of the right order. Forward flight follows by directing the primary gamma flux to the direction required whence proton thrust appears there.

Further conclusions immediately follow. For instance this extremely high current would produce a very high magnetic field whose value it is hoped to calculate. It would certainly be enough to saturate the cores of the ignition coils of cars when the saucer was not far away (the Luton case for instance). If it turns out to be of the order of 60-100 kilogauss then it will be in the region where it is of sufficient density to bend light and the odd shapes such as appear on the Birch photo would not seem so odd. Such a field would act as a magnetic lens for photons of visible light and if suddenly applied in very high density could disperse the light which is leaving the saucer sufficiently to virtually make it vanish.

The corona noted about many UFOs when photographed is probably due to the gamma-photon flux about the saucer although there is a prospect that it might just be produced by the very high electric field outside the shell. This would accelerate ions of the atmosphere surrounding the shell and these colliding with other air molecules could excite them to emit light. Until we have a spectrograph of the emitted light we shall not be able to answer the question of the source of

the source of the corona. However, where the emission is strongest, i.e. those parts which glow most strongly are where the gamma-flux is highest or perhaps the current density greatest.

In this connection the 'ice-cream cone' phenomena observed on several occasions with a saucer in the top of the cone would indicate gamma-photons being directed downwards using the saucer as a concave mirror as only these photons have the range and energy to excite atoms of the atmosphere over the relatively large distances observed. (Fig.4)

The above theory would also lend credence to the often stated fact that saucers must not touch the ground—nor you touch them—as it is a self-contained electrical system and must not be shorted to earth. What has not been said is what happens to the current which flows from the rim towards the cupola. I suggest that this is fed back into the lower conductor of the shell so as to supply the protons with which the antiprotons annihilate thus completing the circuit (Figs.1 and 2). Again Cramp's drawing suggests some such idea as he draws a double skin on the left-hand side. The multiplicity of electrodes between upper shell and cupola could be to provide a better path for the heavy current converging towards the cupola and so lower the potential there which might otherwise lead to arcing between shell and cupola.

There are many other aspects which have not been covered as this is a preliminary survey but the results are sufficiently encouraging for this idea to be pursued.

UFO RESEARCH (continued)

by Eric Smith

E.J.Ruppelt, formerly head of Project Blue Book, in his book 'Report on UFOs' goes a long way towards describing the USAF approach to UFOs.

Ruppelt's first acquaintance with UFOs came when he was asked to review pre-1951 UFO reports, as part of his duties at the Air Technical Intelligence Center (ATIC) at Wright-Patterson Air Force Base. This request followed an enquiry from Air Force Headquarters for a review of the UFO situation. In turn the request had been made following an increase in the numbers of sightings which had produced a stirring of official interest. This resurgence of interest in UFOs occurred in a period when an earlier body (Project Grudge) set up to study 'the phenomena' had virtually dissolved itself following a policy of hard-headed ridiculing of cases.

After Ruppelt's review had been studied ATIC were soon asked to set up a completely new project for the investigation and analysis of UFO reports. Ruppelt's review made him 'the expert' so he got

the job. It was given the code name Project Blue Book and Ruppelt was in charge until late 1953.

The project numbered 10 permanent staff under Ruppelt and had at its disposal a large number of paid Consultants representing every field of science, but even so Ruppelt states that for the size of the task involved the project was always understaffed. In addition to the staffing facilities Ruppelt also had at his disposal immediate air transport to all areas in the U.S. and the technical and information facilities that go with any large military centre devoted to intelligence work. He had, for instance, full photographic facilities, meteorological data, ready communications whereby information on balloon launchings and trackings could be obtained, data relating to the disposition of U.S. aircraft the world over and so on.

Throughout Ruppelt's period Project Blue Book improvements in the approach to the work were being made. These included the following:-

- (i) Liaison with Project Bear, a well known research organisation in the midwest carrying out highly secret work for the U.S. Government.
- (ii) The use of IBM punch cards in parallel with sighting report forms to assist in analysis and correlation of data (this project was a joint one with Project Bear).
- (iii) The use of a panel of 6 experts to 'weigh up' the UFO problem.
- (iv) Towards the end of Ruppelt's period with Project Blue Book an agreement to help from the 4602nd Air Intelligence Squadron; for them to investigate and write reports for the Blue Book staff. (Field teams of the 4602nd had already established working contact with the highway patrol, sheriff's offices, police and other military and each member of the field team was specially chosen and trained in the art of interrogation, and each team had a technical specialist).

The resulting work from Project Blue Book, as can be expected, was thorough and it appears that at least whilst under Ruppelt's command the work was not unrealistically executed. However, it could be said that in any problem the more it is investigated the more will anomalies be found.

(to be continued)

UFO PHOTOGRAPH CATEGORIES

by Basil Nubel

Now that LUFORO has commenced a compilation of UFO shapes, as announced in the latest Bulletin, it is timely I think to clarify a little what we might mean when speaking of UFO shapes. It is probable that eventually we shall find we have several categories of shape, but as our knowledge is at the moment there are in my opinion (and I have spent about fifteen hundred

hours on the photographs since the Birch print came into the possession of LUFORO last August) two broad categories of shapes that can be decided upon with some certainty. This may not be agreeable to those of our members who have not had time or opportunity to study the available photographs to the same extent as I have, and who may not have had the rigorous training of eye and hand that is the outcome of seven years of pure full time study of art, involving constant drawing from 'the nude'.

The first category refers to those photographs which are of a type which may only be taken in daylight. Into this category come those photographs of the type of Adamski's Scout craft, or the Cedric Allingham photographs, for example, these are photographs which show a three dimensional object lighted by an external light source—daylight. It is a simple fact but one which may not have entered into the deepest consciousness, that images in photographs, or every day objects are visually three dimensional only insofar as they are externally lighted, so that they exhibit light, shade, cast shadow, and reflected light.

It is in this category that fraud is immediately suspect because it is unfortunately very easy to obtain a model of some kind (whether like or unlike a 'flying saucer') and photograph it with or without natural or artificial background. Fraud being what it is (irrespective of the intention behind it) the object must be in close correspondence to our general idea of what a UFO looks like, usually an inverted saucer surmounted by a dome structure, or some variation on the theme.

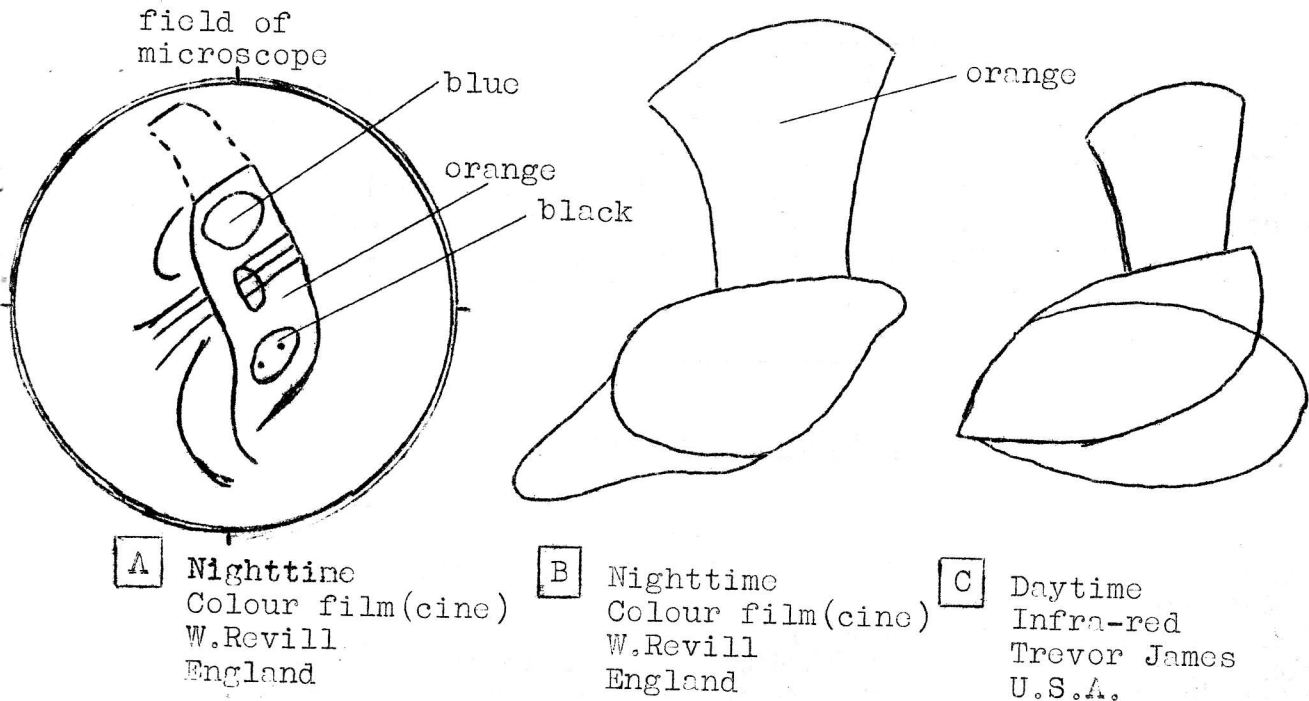
The photographs of this first category are relatively few, and there is, or it seems to me, very little scope for subdivision at the present time, verbal description of shapes not excepted.

A gleam or seeming glint which might be interpreted as a high light on a darker shape is not adequate reason for putting such into the category outlined above, one can only say that it might be three dimensional. Such images must remain undefined until such time as increasing knowledge produces specific reasons for categorising them.

The second category of UFO photographs shows shapes only, they are not three dimensional and do not exhibit form. It is into this category that most of the photographs fall. From statements made regarding them and from the photographs themselves it appears that they may equally well be photographed at night (when they appear as light shapes, with and without secondary markings, on a dark ground) as in daytime, when, photographed on infra-red sensitive film they appear brighter than the background, and photographed on ordinary film they may be darker than the background. Their common feature is that they are shapes which are often highly geometrical, and look like pieces of a jigsaw puzzle or fragments of a mosaic. In this category there are some which look like a silhouette of an inverted saucer with a dome on top, but, not being lit by an external light source and therefore not three dimensional, we would risk confusing ourselves if we ascribe such to the first category, for we do not know what shapes, familiar or unfamiliar, may be produced by as yet unknown forms of light radiation. The second category, then, contains those shapes which cannot be said to be shapes of solid bodies. No doubt a 'solid' body may

be concealed behind the shape but we cannot assume at this stage that the shape is anything more than a photographic image of an image.

In this second category there is a great variety of shapes. More than twenty have been drawn with the aid of a microscope from the colour film taken at night by Mr W.Revill, of the sighting over Sheffield in August 1962. No individual one of the shapes in the Revill film can be said to look like a Scout craft, for instance. I give two examples below—A (with colour notes) and B which appeared light orange in colour. These



shapes in the film existed for only a fraction of a second before being superseded by a new shape, they could not individually have been seen and remembered by the human eye. B has been enlarged by photographic enlarger, C is a shape from a photograph by Trevor James, taken on infra-red sensitive film over Mount Wilson, America, in the early hours of the morning just before sunrise. This shape C has been enlarged so that it may conveniently be compared with B.

There then are three shapes which are typical of most of the shapes of the second category, they show no three dimensional detail, and they do not resemble the accepted idea of a Scout craft. This second category is capable of subdivision. Category 2 Subdivision 1 contains shapes like those illustrated above. Subdivision 2 would be photographs of which the Lubbock Lights are typical—this subdivision shows circular or elliptical shapes in a geometrical formation usually a chevron. There are about six photographs of this type in UFO literature.

I think it is relevant to point out that because there is great

variation in Category 2 Subdivision 1, shapes A and B (from the Revill film) and yet remarkable correspondences, shapes B and C (though from quite different sources) the particular individual shape is extremely important. It is for this reason that enlargements of all photographed shapes are being made with concern for detail in the outline. That they should be brought to a standard size as a first step is a logical procedure, it is work that requires care, but anyone who will be interested enough to come to the Hampstead Office, (106 South Hill Park, London N.W.3, Saturdays from 4pm onwards) to assist will have the method explained to him and it will be found to be not very difficult.

THE YEAR'S REPORTS

No, we haven't given up! Nor have the reports diminished! The next Bulletin will contain quite a few. The reason there are none in this issue is that a number of articles have been due to go in for some time and I felt our contributors should have their patience rewarded. Please continue to send your reports, articles, suggestions, criticisms to me—everything is welcome.

FUTURE MEETINGS

Tuesday
29th October
7.30pm
Caxton Hall
Caxton Street
London S.W.1

THE SUBJECT AND THE PRESS

Lecture by Waveney Girvan, Editor
of Flying Saucer Review and author
of 'Flying Saucers and Common Sense'

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Saturday
30th November
6pm to 9pm
Kensington Central Library
Phillimore Walk
off Campden Hill Road
London W.8

FOURTH ANNUAL GENERAL MEETING

Light refreshments will be served after
the formal part of the meeting is
over

THIS MEETING IS RESTRICTED TO MEMBERS

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