

ADVICE FOR UFOLOGY

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THE value of aphorisms. (1) Ufology is still an immature field, despite all the effort devoted to it. Thus it is not yet in the condition to be cast into the form of universal or statistical laws. Instead we have to resort to aphorisms,¹ disconnected clues and hints from which more systematic ideas may one day emerge. The notes below take the form of extended aphorisms on a range of questions to which ufology in some respect seems to relate. Probably none of the comments is original, but as a collection they may make a contribution.

2. The logic of explanation; knowns and unknowns. It is commonly held among scientists and philosophers that scientific theories explain the unknown in terms of the known. Probably this view relates to the chronological fact that theories are created in a 'known' problem-context and later may be applied to new, 'unknown' contexts. But it is not a correct description of scientific knowledge itself, for there the opposite applies: a scientific theory *per se* explains knowns in terms of unknowns, undefined concepts and relationships between them.² Criticisms of ufology are often based on the belief in the passage from unknowns to knowns, and they can be rebuffed from this point of view.

Unknowns tend to be more abstract than the knowns they explain, and as new theories convert old unknowns into new knowns, the new unknowns may well be more abstract still. Thus, in particular, an explanation of (some aspects of) ufology may rely on ideas which are even more abstract, and *not* less so, than the UFO phenomena themselves. Thus the hopes for clarity to which ufologists look forward in an explanation could be unfounded.

3. The philosophical complexity of science. There are at least three factors involved in the interpretation of a scientific theory.³ There are the sense-data, which we can call 'the appearances.' Then there are the laws which the appearances are said to obey; they are the stuff of theories, and are often referred to as 'laws of nature.' Finally, there is the way things are, whatever that is; for this we assign the word 'ontology.'

A wide repertoire of interpretations of a scientific theory may be asserted in terms of these factors. For example, we may say that the purpose of a scientific theory is: to discover ontology, and show that it is of such-and-such a form; or to aim for ontology and perhaps even discover it by accident, but never be able to prove that such success has been achieved; or to aim only for laws of nature, and abandon ontology as God's business; or to organise appearances in the most simple or efficient manner

possible, where talk even of laws of nature, never mind ontology, is only a way of speaking; and so on.

Even these few examples show that a complex philosophical situation is at hand. What can it tell us about ufology? Firstly, theories about UFOs are subject to this range of interpretations, so that ufologists should ponder the issues involved in deciding between them. Secondly, scientists rarely think deeply about these interpretations, although they are inevitably involved with them; thus they often plump for a crude appearances-orientated interpretation of science, with an acceptance of only 'respectable' data and repeatable experiments, a worship of exactitude, a belief in invariant concepts with universal reference, and the assertion of the primacy of 'facts' and 'observations.' Yet some branches of science seem intrinsically statistical, exactitude involves theories of measurement, and 'facts' are actually heavily laden with theoretical considerations and even abstract concepts.

On this narrow philosophical base do scientists often dismiss ufology; the data is not reliable, the phenomena are hardly ever repeatable, and so on. Much of this type of criticism can be despatched by pointing out the same features manifesting in science itself. However, ufologists should also make more allowance for the *absorbing fascination* of scientific problems, and for the fact that scientists quite reasonably are often too preoccupied with their own interests to be bothered with ufology.

4. The training of scientists. The failure of scientists to think about the philosophy of their work is largely due to the fact that they are not encouraged to do so during their under- and post-graduate training. Instead they receive rote learning of 'perfect' theories which fall from the sky into printed books, and then proceed to equally rote research along lines laid down in great detail by their superiors.⁴ When the research strays towards real originality, then they are often unable to handle the inevitable uncertainties that arise.

One case of this unfortunate situation is the extremely ahistorical character of scientific education. Students do not get the chance to realise that scientific theories are creative work (and often very disordered and unrigorous work too), that the historical background is essentially built in to current work (to disadvantage, sometimes), and that today's research is part of a continual historical process.

The narrow conception of scientific theories discussed in no. 3 arises largely from these defects in training, from *omissions* in science education as much as from any articulated creed. Ufologists

often see scientists' criticisms as part of a conscious programme, but I doubt it very much.⁵ The difficulties are graver still, in a way; they concern a cultural-mental block which cannot fully accommodate the tentative and imaginative character of science and simply *does not know* that the subject has always been like that.

5. The rise and decline of physics. Some potted history here; much too potted to escape criticism from specialists, I fear, but hopefully adequate for the current purpose. Newton stated his inverse square law of universal gravitation in the late 17th century and inaugurated the era of Newtonian mechanics, with its power to explain both planetary and terrestrial motion. In many respects his detailed exegesis was confused or unworkable, but his results laid the foundations of 18th century rational and celestial mechanics, which became the 'pace-setter' for other sciences to imitate. However, the efforts around the turn of the 18th and 19th centuries to absorb heat and optics, and then electricity and magnetism, into its realm were largely unsuccessful. Instead, physics was widened to accommodate these new areas and took over the mantle of pace-setter: some scientists tried to use energy as the unifying idea which Newton's law could no longer provide. Relativity and quantum mechanics required major revisions of conception in the early years of this century, but the status of physics was undiminished and indeed became further enhanced by the close association of physics with technology and engineering.

But in the last twenty years or so a significant change in status has occurred. Though still a vast enterprise and exciting in very many spheres, physics has lost much of its primacy to the biological and medical sciences (for which physicalistic explanations had been considered in the past).⁶ There the laws of nature are much less clear, and unifying concepts are not prominent. Even mathematics, which developed in intimate relation with the rise of physics, is now finding many of its most exciting applications in these newly prominent fields.⁷

6. Ufology as fringe science. The historical sketch in no. 5 relates to ufology in various ways. Firstly, when the subject became popular in 1947 the advocates asserted some kind of 'extra-terrestrial hypothesis'; that UFOs are machines, and that they visit us from afar. (It is sometimes overlooked that these two assertions are *independent* of each other, though both are usually asserted.) To this hypothesis the critics produced powerful arguments, showing how difficult it would be to reconcile the alleged evidence (type of motion, and size of object) with technological practicalities. The hypothesis seems reasonable — after all, what else non-natural but a machine can fly? — but I see its advocacy also as part of the dominance of physics in science. Similarly, the current move towards psychic interpretations (which I shall discuss in no. 7) may be seen as part of the swing away from physics. In other words, both kinds of explanation may have an element of fashionability embodied in them.

Another aspect of the decline of physics is that science may now be in an exciting if dangerous

state of development, in which some of even the most orthodox theories and reliable concepts are under severe attack, and previously 'fringe' areas come into prominence. The excitement lies in the novel prospects ahead; the danger is caused by the drift towards intellectual anarchy, in which the tried skills become redundant, the tasks are unclear, and the problems are too difficult.⁸

In my view ufology is one of these many fringe sciences. Thus it might well receive a more sympathetic reception from scientists, especially the younger ones. However, ufologists should realise that their subject is *only one* of these fringe areas, and abandon the extravagant claims that they sometimes make for it and the unjustified criticisms that they make of scientists' honest uninterest in it. Further, they must realise that if ufology progresses at all, then probably *the scientists will effect the progress concerned*.

This is a good time for ufologists and scientists to get together, but ufologists should make their approaches in a cautious manner. If some individual contacts are successfully established, then rather more formalised relationships might be attempted. Professor Hynek has led the way with his Center for UFO Studies, which has already held joint meetings with scientific organisations.

7. The psychic realm. For good or ill, the psychic aspects of ufology have lately come into great prominence. As a positive hypothesis psychism seems to be almost valueless, for despite much research we still know so little about it: its unknowns (in the sense of my no. 2 above) are more unknown than most, so that explanations of UFOs in its terms are particularly hazardous. Nevertheless, prominent witnesses such as Geller and Stella Lansing force the possible connections to be explored. Therefore ufologists might follow the progress made in the most thrusting areas of psychic research, even though no direct relationship with UFOs has yet been established. A pace-setter seems to be out-of-the-body experiences, and Eisenbud has made the appealing characterisation of UFOs as a sort of converse phenomenon, namely into-the-experience-bodies.⁹

Some of the important traditional work in ufology, such as statistical evaluations of UFO data, should also be borne in mind in this context. If any kind of repeatability of UFO phenomena is attained, then shielding experiments of the type well-known in psychic research might be attempted. Precognition could also be explored; at least, the examination of a case ought to include the recent past history of the eyewitness, and not just the duration of the alleged experience.

8. Miscellaneous matters.

8.1. The necessarily residual character of the UFO category — objects identified as unidentified — cause special problems. Without doubt it will not itself turn out to be a well-defined category, but need decomposition into sub-classes. At least four of these seem applicable: 'natural' phenomena (including camera faults), hoaxes, psychic projections, and machinery (of human and other origin).

8.2. Ethical aspects of the problem need attention,

especially when the witnesses are young persons or incomplete adult personalities (as they often are: why?) Even the category of fraud is not necessarily easy to establish, since the hoaxers may be attempting to imitate previous apparently genuine experiences. Their motives in perpetrating a hoax are worth considering, too; for they are *asking* for derision even if it is not justified! This is partly a psychological point and I now turn to some others.

8.3. The *degree* of hostility shown by critics is often surprisingly strong, especially when accompanied by a disinclination to consider the data being rejected. Ufology seems to unlock a deep-seated fear in some people. It might be worth considering other topics which similarly disclose phobias. One of these is the fear among many UFO witnesses of recalling their experience; maybe the experience resolves some tension. Perhaps even the ability to have such an experience is itself some kind of psychological defect.

8.4. Undoubtedly there is and always has been a great deal of suppression and mis-transmission of information in this field by public bodies,¹⁰ but I suspect that the conspiracy factor has been over-rated. Personally I doubt if the public bodies have much more in the way of explanation (in the sense of my no.2: data is another matter) than the civilians have. More attention should be given to the other kind of manipulation of the public: the unending effluent of trashy UFO books in sub-English with sensationalist claims amidst the inaccurate reportage. If ever a subject needed rescuing from its advocates, then ufology is the one.

Notes

1. In retreating to aphorisms for an immature field I follow the recommendation of J.R. Ravetz, *Scientific knowledge and its social problems* (1971, Oxford), 376.
2. I have discussed this matter in more detail in my 'Rationality and its limitations,' *FSR*, 19 (1973), no.5, 22-23.
3. I regard a theory here as already formed; many more factors are involved in its creation, but they are not under discussion here.
4. The degree of such rote training must be experienced to be believed. Repulsed by the rote character of my undergraduate mathematics degree course, I used to try to discover the interest of mathematics by questioning mathematics Ph.D. students about the details of their research. But my hopes were dashed, for I found it impossible to extract descriptions in other than the particular terms that these students used. Thus I could not construct a perspective within which their research could be sited, even though on several occasions it was clear that I had taken course, at a simpler level, in the same areas of mathematics.
5. However, a scientist might well hold specific views about his own subject and the manner of its future development. While this state of affairs will probably not directly affect his assessment of ufology, it can only tend further to constrain his conception of legitimate science.
6. This loss of status can actually be quantified in various ways. For example, the editor of a prestigious physics journal told me recently that its circulation had dropped by 60% in a decade. A particularly interesting point of contact between physics and life sciences was the apparent contradiction between the second law of thermodynamics and progressive evolution; see, for

example, J. Needham, *Time: the refreshing river* (1943, London), 207-232.

7. A particularly exciting example is catastrophe theory, the study of discontinuities in continuous regions. The very general foundations (in algebraic topology) allow for a wide range of applications, including to physics (I believe that the term 'catastrophe' in this context comes from metallurgy); but the major thrusts are in, for example, cell embryology, molecular biology and neurophysiology. Thom, *Structural stability and morphogenesis* (1975, New York) is the Bible, though it is very difficult to follow.
8. In a mature science problems appear to be manageable, and tasks are fairly clearly specified. However, the *means and techniques* that may be brought forward to fulfil these tasks can be controversial and even lead to new and unexpected fringe studies.
9. J. Eisenbud, 'The mind-matter interface', *J. Amer. Soc. Psych. Res.*, 69 (1975), 115-126 (p.121). The role of psychic phenomena in human affairs hinges on the view held on their subsumption under or exclusion from the range of biological activity; see, for example, ch. 9 ('Biology and telepathy') of Sir A. Hardy, *The living stream* (1965, London).
10. For an excellent account of such developments in the USA see D.M. Jacobs, *The UFO controversy in America* (1975, Bloomington, Indiana).

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UFO – HELICOPTER CLOSE ENCOUNTER OVER OHIO

The Coyne Event of October 18, 1973: meteor or UFO?

Jennie Zeidman

THE “great autumn wave” of 1973 over the eastern United States produced several reports which have already become classics in the UFO literature. One of particular interest took place near Mansfield, Ohio, and involved an apparent “close encounter of the second kind”¹ between an Army Reserve helicopter and an unknown object. The very high Strangeness-Reliability rating² of this case and some controversy over its interpretation have prompted the Center for UFO Studies to investigate it in depth. A complete technical report will be published by the Center; meanwhile, I should like to review the facts of the case and comment specifically upon the hypothesis that the object was a meteor.

At 11.05 p.m. on October 18, 1973, a Bell Huey UH-1H helicopter of the U.S. Army Reserve, with a crew of four, was en route from Columbus to Cleveland, Ohio, a distance of 96 nautical miles (110.47 statute miles). The aircraft was on a heading of 030° at a barometric altitude of 2500 feet – approximately 1200 feet above the high rolling hills, woods and farmland or northeast Ohio. The night was totally clear and starry with unlimited visibility. The last quarter moon was just rising.

Sgt. John Healey, seated in the left-rear position of the helicopter, noticed a red light off to the west, moving south, which seemed brighter than an aircraft navigation light, but as it was not relevant traffic he did not mention it, and it is unknown whether this light had any relationship to the subsequent events.

Perhaps three or four minutes later, Sgt. Robert Janacek, the crew chief, sitting in the right-rear position, reported a red light on the south-eastern horizon, ninety degrees to their flight path. It resembled the obstruction light of a radio tower and appeared to be stationary. The light was kept under surveillance, and approximately 30 to 40 seconds later it appeared to start to converge on the helicopter at an airspeed estimated in excess of 600 knots. Captain (now Major) Lawrence Coyne, the aircraft commander (in the right-front seat) thought the light might be an F-100 fighter of the Ohio National Guard, based at nearby Mansfield airport. He abruptly took the controls from Lt. Arrigo Jezzi, who had been acting as co-pilot, and put the helicopter into a powered descent of 500 feet per minute. Radio contact was established with the Mansfield tower, with the following conversation taking place:

“Mansfield tower, this is Army helicopter 15444...”

“Go ahead, one-five-triple-four...” the tower acknowledged.

“Mansfield tower, do you have any high-performance aircraft in this area at 2500 feet?”

There was no response from the tower. The transmission was attempted several times, but to no avail. Then other nearby stations were tried, on both VHF and UHF channels, also without response. The radio equipment seemed to be functioning normally; the “channel tone” and “keying sound” were both heard, yet Coyne contends that no recording of these transmissions can be found on the control tower tapes. (It is standard procedure to record all tower/aircraft communications.)

The red light increased in intensity, assuming a brilliance described as that comparable to the landing light of a Boeing 727 aircraft at a distance of 500 feet. Coyne put the collective pitch in the full-down position and threw the cyclic forward, thereby increasing his rate of descent to 2000 f.p.m. The light maintained its radial bearing and a collision seemed imminent.

Suddenly the unknown object *halted* in its westward course and assumed a hovering relationship, about ten degrees above, and slightly to the right of the diving helicopter. A cigar-shaped, slightly domed, sharply delineated, grey-coloured structure was observed by three of the crew. (Jezzi reported from his oblique angle he saw only a red light.) The object, from Coyne’s perspective, filled the entire right-front windshield panel. The brilliant red light was clearly defined on the bow, and for the first time a white light at the stern and a green light aft and below were revealed. The reflection of the lights clearly illuminated the grey structure of the craft, which appeared smooth and featureless.

The green light swung around in the manner of a directional spotlight and *beamed* into the helicopter cockpit with seeming deliberation, casting a “pyramid-shaped” green beam upon the crew and their instruments. An undetermined time later (a few seconds?) the object moved off to the west, accelerating rapidly, the white light *increasing* in intensity as it receded. Lastly it made a decisive course change of 45° to the right, and disappeared over the north-west horizon.

In the moment before the object had “hovered,” Coyne had been in a powered autorotation, descending at 2000 f.p.m. The last altitude he noted 1700 m.s.l. (measured from sea level – approximately 500 feet above the ground ± 100 feet).