

BOOK REVIEWS

UFOs Analysed

The UFO Experience: a Scientific Inquiry. By J. Allen Hynek. Pp. xii + 276 + 10 photographs. (Henry Regnery: Chicago, May 1972.) \$6.95.

Most sightings of "unidentified" flying objects prove to be apparitions quite familiar to a suitable expert in observational astronomy, meteorological optics or satellite tracking. During the power cuts earlier this year there were reports of numerous strange aerial lights over London: they turned out to be the stars, which are apparently unfamiliar to many city-dwellers. Such reports tend to annoy the scientists condemned to receive them, and it is scarcely surprising that UFOs have acquired such a bad name. Even so, the existence of "genuine" UFOs has not been conclusively disproved, and those who scoff at the subject should ask themselves whether they would believe in meteorites if meteorites were made of solid carbon dioxide and were reported only by naïve observers, who feebly admitted that the objects vanished before scientists could arrive to examine them.

Professor J. Allen Hynek was responsible for setting up the Baker-Nunn satellite-tracking network when he was Assistant Director of the Smithsonian Astrophysical Observatory, and during the 1960s he was astronomical consultant to the USAF project for studying UFO reports. He is therefore very well qualified to write a scientific account of the subject: if you want to make up your mind about UFOs this is the book to read.

From the mass of reports Professor Hynek selects only the small minority he regards as genuinely unidentified. To each he assigns a "strangeness index" depending on the number of items needing to be explained, and a "credibility index" depending on the number and reliability of witnesses (Normally he excludes reports by one witness only.) He divides the reports into six types: nocturnal lights; daylight disks; radar-visual reports; and close encounters of what he calls the first, second and third kind. Encounters of the first kind are those producing no tangible effect;

the second kind covers those said to produce physical effects, such as marks on the ground or interference with car engines; the third kind comprises the "little green men" and their kin.

Professor Hynek is a believer in UFOs, in the sense that he believes there are numerous unexplained and significant reports, which not only deserve to be studied scientifically as "new empirical observations", but should also yield significant conclusions if correctly analysed. A correct analysis is very difficult, because the evidence is mad-deningly unsatisfactory and the analyst would need a strong grasp of diverse physical and behavioural sciences. But Hynek believes the solution to the UFO problem could produce a "mighty and totally unexpected quantum jump" in the development of science.

Will Hynek convince his readers? Every reader approaches this subject trailing clouds of prejudice: all I can do is to declare my own prejudice, and give my own answer. The past experience which has generated my prejudice has been acquired through making 6,000 visual observations of artificial satellites: in the past 15 years I have spent hundreds of hours scrutinizing the night sky with 11×80 binoculars capable of revealing all sunlit objects more than 50 cm in diameter at distances up to 1,000 km. I have not yet seen an unidentifiable object, and I began this book a militant unbeliever. I finished it still unbelieving, but much less militant, for Hynek's catalogue is cumulatively impressive and he convincingly refutes many of the common slanders, such as the idea that most UFO-sighters are psychologically odd. But the best argument in favour of UFOs is still the familiar one, that all striking new advances in science are at first treated with derision by scientists; consequently, some of the phenomena now treated with derision will eventually become respectable, following in the footsteps of evolution, space travel and nuclear power.

The book has its faults, which Hynek should correct in a second edition. For example, he should discard some dubious reports, or show more zeal in trying to resolve them instead of just

saying they are inexplicable. He gives no indication that he has considered the wide variety of meteorological phenomena, such as mock suns and complex halo formations which are fruitful sources of sightings. He also fights shy of the wider issues raised by comparisons with psychic phenomena and cargo cults, and the other semi-religious aspects of UFOs. No doubt he wished to preserve his down-to-earth image; but a full assessment of UFOs must include discussion of their place in the general cultural pattern.

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Cajal on the Retina

The Structure of the Retina. By S. R. Cajal. Compiled and translated by S. A. Thorpe and M. Glickstein. Pp. xxxix + 196. (Charles C. Thomas: Springfield, Illinois, February 1972.) \$12.50.

THIS is primarily a translation from the German translation by R. Greeff (1894) of Cajal's *La Rétine des Vertébrés (La Cellule, 9, fasc. 1; 1892)*. The translators incorporate also material from Cajal's final published version (Cajal, S. R. *Lab. Invest. Biol.*, Madrid, 28; 1933).

With the advent of electron microscopy and single unit recording in the central nervous system there has been a notable resurgence of interest in the anatomical data of Cajal and his contemporaries. This has been especially true in recent years for the vertebrate retina. The translation is thus very welcome and will hopefully stop the quotation of Cajal by authors whose text may then reveal that they have not read what he wrote. Wherever I have checked the translation with the original it is well done and follows exactly, as far as I can judge, what the author intended to say. For modern readers unfamiliar with the discussions and controversies of the period this may sometimes make for difficult reading. But the purpose of the translators was to make Cajal's retinal work available in English, not to provide an historical commentary. In an introduction the translators explain clearly how they have translated words like "cones