

The Inconclusive UFO Evidence II

The UFO Experience: A Scientific Inquiry

By J. Allen Hynek

Ballantine Books, New York

1972

(Paperback, 309 pages)

Reviewed by John F. McGowan, Ph.D.

The UFO Experience is J. Allen Hynek's famous book on UFOs arguing for the existence of a real phenomenon, not necessarily extraterrestrial visitors, worthy of scientific study. Hynek was an astronomer and consultant to the US Air Force's Project Blue Book which investigated or pretended to investigate UFO sightings until 1969. Hynek has some critical things to say about Blue Book as well as the Air Force funded Condon Report which ostensibly ended Air Force interest in UFOs.

The UFO Experience is cited as a key piece of scientific evidence for the existence of UFOs as extraterrestrial spacecraft in Stanton Friedman's *Flying Saucers and Science* (2008). Friedman, it should be noted, uses the language "overwhelming evidence" to describe the evidence for UFOs not only as an unknown phenomenon, but specifically as extraterrestrial visitors in advanced spaceships. Part of the purpose in reviewing Professor Hynek's book is to evaluate this claim of overwhelming evidence. Hynek did not use the term "overwhelming evidence" in his book nor did he claim the evidence indicated that UFOs must be extraterrestrial visitors. He did argue that the evidence indicated a new phenomenon worthy of scientific study.

Table 1: Sources Cited in *Flying Saucers and Science*

Source	Author	Date	Number of Unknown UFOs	Comment
Project Blue Book Special Report #14	Battelle Memorial Institute	1953	689	Statistical analysis of UFO report commissioned by the Air Force Project Blue Book
The UFO Evidence	Richard Hall/NICAP	1964	746	Original report

				compiled and circulated by NICAP
The UFO Evidence, Volume II	Richard Hall	2000	650? (possibly more)	From a hand count based on the master chronology and wave chronologies in the book.
Symposium on Unidentified Flying Objects	Multiple authors, sponsored by the U.S. House Committee on Science and Astronautics	1968	Not clear, probably at least 41	
Scientific Study of Unidentified Flying Objects (Condon Report)	Edward Condon and staff of project	1968	Possibly 35	Report of Air Force funded project that concluded there was nothing to UFOs (sort of).
The UFO Experience	J. Allen Hynek	1972	80 cases are listed in <i>Appendix I: Description of Sightings Discussed in Text</i>	This is a semi-popular book by Professor J. Allen Hynek, an astronomer and former consultant to the Air Force Project Blue Book.
The COMETA Report	COMETA	1999	Not clear	This report discusses some French cases and rehashes a

				variety of standard UFO material.
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How Many Unexplained UFO Sightings?

As with many UFO books, it is difficult to get a clear picture of how many unexplained UFO cases exist, what the frequency of the phenomenon or phenomena are (see Table 2 below for a summary of different numbers cited in the book). This is somewhat curious since Professor Hynek makes a strong and largely correct case for a systematic statistical study. It should be noted that this deficiency is common in both "pro-UFO" and "skeptical" books, perhaps because the evidence is inconclusive and does not clearly support either point of view.

The UFO Experience lists 14 daylight disks (DD), 12 nocturnal lights (NL), 12 radar-visual cases (RV), 14 Close Encounters of the First Kind (CE-I), 23 Close Encounters of the Second Kind (CE-II), and 5 Close Encounters of the Third Kind (occupant cases, CE-III) in *Appendix 1: Description of Sightings Discussed in Text*. These are all sightings with at least two observers to at least part of the sighting. This is a total of 80 cases. A number of the cases are drawn from Project Blue Book and would overlap with a count of cases from the Project Blue Book files. Hynek's cases include a number of "classic" cases often found in other UFO books and catalogs. Hynek includes a number of excerpts from first-hand accounts by witnesses. The 80 cases cover a time period from about 1950 to about 1969. They appear to be a representative sample of hard to explain cases, rather than an exhaustive list of known cases.

Page 27 contains the following paragraph:

*In terms of scientific study, the only significant UFO reports are, as we have seen, UFO reports that remain puzzling **after** competent investigation has been conducted. Only these can be termed reports of UFOs. The stimulus for these reports is truly unknown – that is the reporters have passed a reliability screening, and the known possible stimuli have passed a physical examination screening. Thousands of such reports exist; there are about **700 acknowledged cases in Blue Book files alone** [emphasis added], and many others are contained in the files of UFO organizations and private investigators.*

The book mentions "more than 12,000 air force reports available to

the committee" on page 220 in a critical discussion of the Condon Report. This almost certainly refers to the Project Blue Book files. The book refers to "25,000 cases in various files" on page 221, referring to Project Blue Book, NICAP (National Investigations Committee on Aerial Phenomena), APRO (Aerial Phenomenon Research Organization), and other collections of UFO reports. At least in the Project Blue Book case, the 12,000 number undoubtedly includes many explained and explainable UFO sightings. The book lists on page 203 in Table I: *Evaluations by J. Allen Hynek in 1948-1949 of the First 237 UFO Reports Received by the Air Force*, 78 cases described as "Nonastronomical with no evident explanation", 33% of the total. Of these, 30 cases are listed under "Lack of evidence precludes an explanation" (13%). Forty-eight (48) cases are listed as "Evidence offered suggests no explanation" (20%). This is the long standing pattern that some cases defy explanation, usually requiring unprovable speculations about hoaxes, psychological phenomena, or classified aircraft to explain on a case by case basis in a conventional way.

Page 161 mentions a catalog prepared by Jacques Vallee that contained 1,247 Close Encounter cases (arguably a UFO sighted within 500 feet of the observer), with 750 landings, and 300 of these landings in which "humanoids" were seen in or about the landed craft. About one third of the landing cases, both with and without humanoids, were multiple witness cases (so, about 100 multiple witness humanoid landing cases).

Table 2: Hynek's Possible Numbers of UFO Cases

Number of UFO Cases	Page
80	pp. 265-270 (Appendix 1)
12,000	p. 220 (Air Force reports alone)
25,000	p. 221 (Air Force and others)
"About 700"	p. 27 (acknowledged unknown Blue Book cases)
"Thousands"	p. 27 (Blue Book and others)
1,247	p. 161 (Vallee Close Encounters Catalog)
48	p. 203 (Unexplained Cases from the First 237 Cases Received by Air Force, 1947-1949)

Of the numbers in Table 2, only the eighty (80) cases listed in Appendix I are clearly tabulated, listed, and described in the body of the book. It is likely that the 12,000 and 25,000 numbers include

many explained sightings. This fuzziness about the number of unexplained cases is common in UFO books including skeptical books such as the Condon Report.

Signal and Background

In many respects this is a well-written book with a dry, scholarly style and many well-thought-out points and discussions. The major weakness of the book is the lack of a thorough discussion of the backgrounds such as hoaxes, psychological phenomena, possible classified aircraft, and some other phenomena that could imitate the "signal". The book, with its eighty cases, discusses the signal extensively. What Hynek calls the "noise" is discussed but in a brief and limited way.

The implicit methodology used by most UFO enthusiasts and most UFO debunkers is almost certainly seriously flawed. The emphasis is on detailed investigation of individual cases. A majority of reported cases can indeed be identified and explained by careful investigation. However, a certain percentage of the cases, perhaps as high as 30%, cannot be unambiguously identified on a case by case basis with current technology. Some cases are very hard to explain and hard-core debunkers frequently attribute them to hoaxes or psychological phenomena. This is basically speculation since hoaxes and psychological phenomena are impossible to prove or disprove in many cases. The lack of reliable lie detection technology and reliable objective tests for psychological anomalies essentially precludes a definite answer in these cases.

This is a common problem in many research fields where there is a signal, in this case aliens or some other exotic unknown phenomenon, and a background that can perfectly imitate the signal. In this case, sophisticated hoaxes, various psychological phenomena, and classified aircraft (US or foreign) all constitute background. The signal can only be detected by successfully modeling the background, something that is *extremely* difficult in this case.

The book loosely covers the period from the first major wave of UFO sightings in 1947 until 1972, twenty-five (25) years. Thus, if there were 25,000 cases, the largest number that seems to be cited in the book, this is about one-thousand cases per year. Assuming these are US cases only (probably not true), this is an incidence rate of about 0.5 cases per 100,000 US citizens per year (the US population in 1972 was about 200 million). This is actually well below the *murder* rate in

most regions, which usually falls in the range 1-40 murders per 100,000 per year. It is far below the incidence rate of less serious "street crimes" such as robbery. Based on various government studies, some types of fraud may be quite common. For example, the Federal Trade Commission (FTC) Consumer Sentinel project reported 555,472 complaints of consumer fraud in the USA in 2007. The Sentinel project covers only consumer fraud and is not an exhaustive survey of fraud. With the US population of about 300 million people (2007), this means an incidence rate of some type of fraud of at least 1.85 cases per *thousand* US citizens. Since hoaxes constitute one of the potential backgrounds for UFO sightings, these figures are relevant.

(Source: *Consumer Fraud and Identity Theft Complaint Data: January – December 2007, Federal Trade Commission*)

Correctly modeling UFO cases is considerably more difficult than modeling signal and background in mainstream scientific fields such as particle physics where this is common. The events in particle physics, for example, are collected under controlled, arguably reproducible conditions and no longer involve eyewitness testimony with its attendant difficulties. In the old days of bubble and cloud chambers, particle physics involved visual analysis, classification, and counting of photographs by human analysts which introduced the problems with bias and other human failings that complicate UFO cases. This is no longer the case. UFO cases involve both unpredictable human observers and technically challenging backgrounds to identify and model such as dirigibles of various origins (domestic classified aircraft, foreign classified aircraft, experimental aircraft, sophisticated hoaxers, and so forth).

Potential background phenomena include, but are not limited to:

1. Hoaxes perpetrated by the witnesses.
2. Hoaxes perpetrated by some of the witnesses.
3. Hoaxes perpetrated on the witnesses by a third party.
4. Dirigibles
5. Blimps (powered balloons)
6. Classified domestic aircraft
7. Classified foreign aircraft
8. Psychological – Extreme Misperceptions
9. Psychological – Hallucinations

Hynek's Probability Rating (P)

Hynek assigned a probability rating P to each case in the book. This is a number from 1 to 10 apparently corresponding *according to Hynek's description* to the approximate probability that the case is true (see page 29). Thus, at least according to the book, a probability rating of 1 would indicate a probability of 10% and 10 a probability of 100%. Hynek assigned ratings from 4 to 9 to each of his eighty cases. Actually, if this probability rating was a correct probability estimate, then the eighty cases alone would be strong evidence of a new phenomenon. The probability that all eighty cases in the book were false would be quite low. There is at most a 60% (0.6) probability that each case is false since the lowest probability rating is 4. With eighty cases, the probability that all eighty cases are false would be only (0.6) raised to the 80th power, 1.7869×10^{-18} in scientific notation, less than a one in a quadrillion chance. It may be that reasoning of this nature led Professor Hynek to his confidence that a new phenomenon was present in the UFO data.

However, Hynek's statistical methodology as described in this book appears flawed. The probability rating appears to play the role of a credibility rating. It is generally higher for multiple witness cases and witnesses with "responsible" positions such as police officers, military officers, and others. Such witnesses are assigned a higher P. It does not appear to be a valid probability estimate. The problem is that even apparently responsible, honest people perpetrate hoaxes or may have subtle psychological problems (not easily detectable problems such as full-blown schizophrenia). Thus there is some incidence rate of frauds, hallucinations, or extreme misperceptions even among the seemingly credible witnesses that Hynek favors. This incidence rate might be 1 in 10,000, or 100,000, or 1,000,000, but we are discussing an extremely rare phenomenon in UFO reports. What is needed is an objective credibility rating based on criteria such as a criminal background check combined with actual measurements of the incidence rate of frauds and other potential background phenomena among people with this credibility rating. This is by no means easy data to acquire, reduce, or analyze. The actual probability that a reported UFO case is true depends on the incidence rate of hoaxes, psychological phenomena, and other background phenomenon among similar witnesses and the size of the population of similar witnesses (among about 200 million people in the USA in 1972). This probability cannot be estimated directly in the way that Hynek apparently estimates it in *The UFO Experience*.

What Would Make the Book Better

The book should have a chapter on each of the major background phenomena that could imitate the putative signal: hoaxes, psychological phenomena, classified aircraft, and miscellaneous other causes. This should include at least a preliminary estimate or range for the possible incidence rates of these background phenomena. The most common psychological explanation for UFO sightings is an extreme misperception in which the witness or witnesses purportedly perceive a common object such as the planet Venus or a light as a structured craft of significant solid angle, often at low altitude and/or close range. This seems like a rather doubtful explanation in most cases, but both the Air Force and debunkers invoke this explanation over and over again. A thorough discussion of this purported psychological phenomenon as well as the more well established limitations of the human visual system that do clearly result in misperceptions would significantly improve the book. The book should also include either as part of these chapters or as a separate chapter a discussion of dirigible technology. Cases that could not be explained by a dirigible should be distinguished from those that might be explained in this way.

Conclusion

The UFO Experience presents inconclusive evidence for UFO's as a new phenomenon, whether extraterrestrial visitors or some other unknown phenomenon. Hoaxes, psychological phenomena, classified aircraft, and perhaps a few other explanations in certain cases could explain the eighty(80) cases listed and described in detail in the book. Eighty cases culled from twenty-five years (1947-1972) is actually a small number considering the US and global population. Identifying hoaxes and other explanations on a case by case basis is probably impossible with current technology. Accurate modeling of this background of spurious cases is extremely difficult. The cases reported in the book are also consistent with an alien civilization that is using advanced technology and sophisticated measures to hide its presence, goals, and/or technology from us.

About the Author

John F. McGowan, Ph.D. is a software developer and research scientist. He has a Ph.D. in Physics from the University of Illinois at Urbana-Champaign and a B.S. in Physics from Caltech.