CHAPTER 1

Do UFOs Exist?

> *[A UFO relates] to any airborne object which by performance, aerodynamic characteristics, or unusual features does not conform to any presently known aircraft or missile type, or which cannot be identified as a familiar object.*
>
> —USAF Regulation No. 200-2 released on August 26, 1953.[1]

IF ANY person or organization knows whether UFOs exist, it has to be the United States Air Force (USAF). As the above quote from 1953 makes it clear, whether we like it or not, there are objects in the skies that are known and unknown in nature. In terms of the unknown objects, there is a broad scientific term used to categorize them: "UFOs" (an acronym for Unidentified Flying Objects). Until a better explanation comes along to explain what these enigmatic objects are, this is currently the most scientific way to begin an inquiry into the nature of UFOs.

1 Good 1997, p.344 and Sachs 1980, p.7.

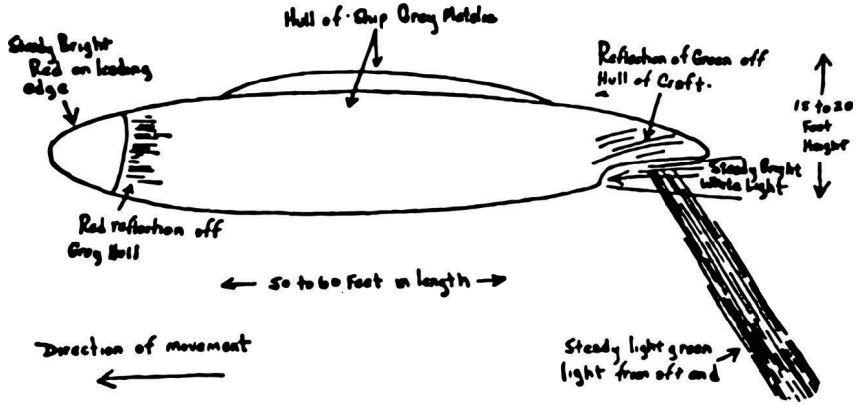
So yes, UFOs exist.

To give examples of two flying objects that have remained UFOs to this day, consider the following cases:

Case 1: Mansfield, Ohio, USA[2]

On October 18, 1973, at 11:05 p.m., near Mansfield, Ohio, USA, four Army Reserve crewmen in a Bell Huey helicopter tried desperately to avoid a mid-air collision with a UFO heading directly toward them.

The crew members quickly put the helicopter into a power descent from 760 meters to 518 meters in an effort to avoid colliding with the mysterious flying object. But somehow, as the crew were distracted by the large UFO—described as "cigar-shaped, metallic grey, with a dome on top" floating just outside and above the helicopter for some ten seconds and filling the cockpit with a greenish haze—the helicopter was lifted to 1,067 meters and continued to climb until the UFO moved away.



Drawing of UFO by Captain Lawrence Coyne.

"I could hardly believe it," said Captain Lawrence Coyne, the pilot in command. "The altimeter was reading 3,500 feet [1067 meters], climbing to 3,800 [1158 meters]. I had made no attempt to pull up. All the controls were still set for a 20-degree dive. Yet, we had climbed from 1,700 feet [518 meters] to 3,500 with no power in a couple of seconds, with no g-forces or other noticeable strains. There was no noise or turbulence either."

2 Story 1980, pp.93–95; Randles 1987, pp.102–105; Flammonde 1976, pp.380–382; Stoneley 1976, p.203.

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

REFERENCE OR OFFICE SYMBOL	SUBJECT
	Near Midair Collision with UFO Report

TO Commander
83D USARCOM
ATTN: AHRCCG
Columbus Support Facility
Columbus, Ohio 43215

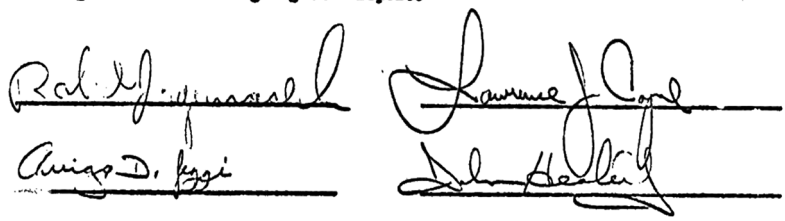
FROM Flight Operations Off
USAR Flight Facility
Cleveland Hopkins Airport
Cleveland, Ohio 44135

DATE 23 Nov 73 CMT 1

1. On 18 October 1973 at 2305 hours in the vicinity of Mansfield, Ohio, Army Helicopter 68-15444 assigned to Cleveland USARFFAC encountered a near midair collision with a unidentified flying object. Four crewmembers assigned to the Cleveland USARFFAC for flying proficiency were on AFTP status when this incident occurred. The flight crew assigned was CPT Lawrence J. Coyne, Pilot in Command, 1LT Arrigo Jozzi, Copilot, SSG Robert Yanacsek, Crew Chief, SSG John Healey, Flight Medic. All the above personnel are members of the 316th MED DET(HEL AMB), a tenant reserve unit of the Cleveland USARFFAC.

2. The reported incident happened as follows: Army Helicopter 68-15444 was returning from Columbus, Ohio to Cleveland, Ohio and at 2305 hours east, south east of Mansfield Airport in the vicinity of Mansfield, Ohio while flying at an altitude of 2500 feet and on a heading of 030 degrees, SSG Yanacsek observed a red light on the east horizon, 90 degrees to the flight path of the helicopter. Approximately 30 seconds later, SSG Yanacsek indicated the object was converging on the helicopter at the same altitude at a airspeed in excess of 600 knots and on a midair collision heading. Cpt Coyne observed the converging object, took over the controls of the aircraft and initiated a power descent from 2500 feet to 1700 feet to avoid impact with the object. A radio call was initiated to Mansfield Tower who acknowledged the helicopter and was asked by CPT Coyne if there were any high performance aircraft flying in the vicinity of Mansfield Airport however there was no response received from the tower. The crew expected impact from the object instead, the object was observed to hesistate momentarily over the helicopter and then slowly continued on a westerly course accelerating at a high rate of speed, clear west of Mansfield Airport then turn 45 degree heading to the Northwest. Cpt Coyne indicated the altimeter read a 1000 fpm climb and read 3500 feet with the collective in the full down position. The aircraft was returned to 2500 feet by CPT Coyne and flown back to Cleveland, Ohio. The Flight plan was closed and the FAA Flight Service Station notified of the incident. The FSS told CPT Coyne to report the incident to the FAA GADO office a Cleveland Hopkins Airport MR. Porter, 83d USARCOM was notified of the incident at 1530 hours on 19 Oct 73.

3. This report has been read and attested to by the crewmembers of the aircraft with signatures acknowledgeing this report.



Robert Yanacsek Lawrence J. Coyne

Arrigo D. Jozzi John Healey

DA FORM 2496 FEB 62 — PLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED. ☆U.S. GPO: 1972 - 473-063 P.O. 1

Signed report from the witnesses, released under Freedom of Information.

Witnesses on the ground later told investigators that they saw a UFO "as big as a school bus" hovering above the helicopter and shining a green ray over it. Coyne and his colleagues filed a report soon after the incident.

Case 2: Levelland, Texas, USA[3]

At 10:30 p.m. on November 2, 1957, Pedro Saucedo, a 30-year-old Korean War veteran and farm worker, was driving his truck some six kilometers west of Levelland, Texas, with his friend Joe Salaz, when a very bright, yellow-and-white glowing object traveling at high speed slowed as it passed directly overhead, causing the truck's headlights to go out and the engine to stall.

Saucedo said:

> "I saw a big flame, to my right, front, then I thought it was lightning. But when this object had reached to my position, it was different, because it put my truck motor out and lights [too]. Then I stop, got out, and took a look, but, it was so rapid and quite some heat, that I had to hit the ground."[4]

The UFO, shaped like an oblate spheroid, then accelerated and disappeared into the distance. Saucedo's truck soon regained power, and both witnesses, bewildered by their experience, drove on for some distance before telephoning the police headquarters in Levelland.

Interestingly, on the same night, presumably the same oblate spheroid object made its triumphant return to repeat its performance of cutting out, rather inconveniently, all electrical power to motor vehicles and trucks on the outskirts of Levelland before quickly disappearing. At least two dozen drivers complained to the Levelland police.

On one occasion, the oval object's exterior glowing effect began pulsating, and the driver who observed this noticed that his car headlamps went on and off, apparently in synchronization with the pulsating light.

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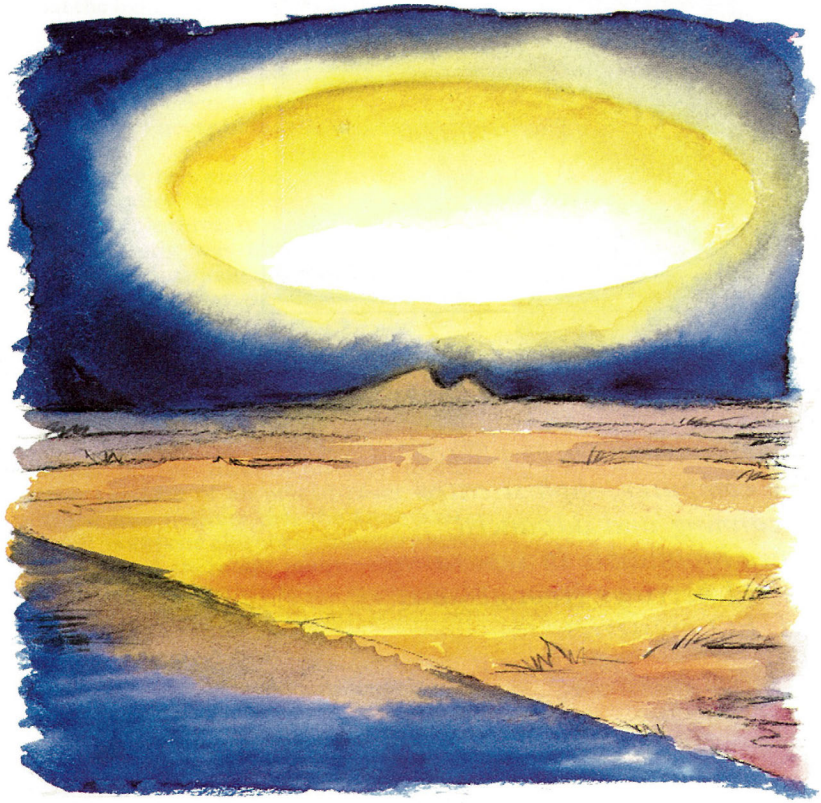
3 Brookesmith 1984 *The Age of the UFO*, pp.68–69; *Mysteries of the Unknown: The UFO Phenomenon* 1987, p.67; Maney and Hall 1961, pp.73–75; Story 1980, p.210; Peebles 1994, pp.119–121; Flammonde 1976, pp.339–344.

4 Peebles 1994, p.119.

During another incident on the same night, a truck driver noticed a strange orange oval object sitting on the road ahead. It changed in color from a fiery orange to a bluish green and then eventually climbed upward. It hovered at an unspecified height above the ground and changed its color back to orange. The driver's truck then regained its power.



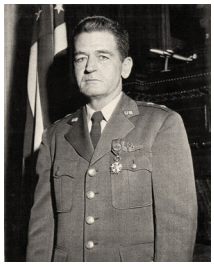
On yet another occasion, Newell Wright, a student from Texas Technical College, driving east of Levelland at 12.05 a.m. on the same night, suddenly saw his ammeter jump to "discharge" then return to normal at the same time his engine cut out. Thinking a major fault had occurred in his car, he got out, raised the hood and inspected the engine, but could find no fault with it. As soon as he slammed the hood down, he noticed, for the first time, a bluish-green oval on the road in front of him. Unable to escape in his car, he sat in the driver's seat for a couple of minutes, watching and waiting to see what the object would

do. Then, abruptly the UFO leapt skyward and took off toward the north. As soon as the UFO was gone, Wright's car was able to be restarted.

Apart from the possibility of ball lightning, authorities have remained baffled by this case to this day.

UFOs are a Worldwide Phenomenon

UFOs like the ones you have just read about are a worldwide phenomenon. They have been observed by people from virtually all walks of life, including purportedly rational types such as police officers, military pilots, astronauts, politicians and, perhaps surprisingly, scientists[5].



Major-General John Samford

Even the former Director of Intelligence at the Pentagon, Major-General John Alexander Samford (1905–1968), agrees with this view when he said:

> "Reports have come in from credible observers of relatively incredible things."[6]

Lord Hill-Norton, Chief of Defence Staff at the U.K. Ministry of Defence in 1973 and member of the Military Committee of NATO between 1974 and 1977, also gave unequivocal support to this view when he said:

> "The evidence that there are objects which have been seen in our atmosphere, and even on terra firma, that cannot be accounted for either as man-made objects or as any physical force or effect known to our scientists, seems to me to be overwhelming….A very large number of sightings have been vouched for by persons whose credentials seem to me unimpeachable. It is striking that so many have been trained observers, such as police officers and airline or military pilots. Their observations have in many instances…been supported either by technical means such as radar or, even more

5 In the conclusion, we will learn what it would take for scientists to properly study UFOs even despite the fact that some scientists have already observed the phenomenon.

6 Ruppelt 1956, p.166; Blundell & Boar 1984, p.11; Peebles 1994, p.65.

Dr. Carl Sagan

> convincingly, by…interference with electrical apparatus of one sort or another…."[7]

Not even the scientific community can deny the existence of UFOs. As the late Dr. Carl Edward Sagan (1934–1996), a distinguished astrophysicist and professor of astronomy at Cornell University, once said:

> "I do believe there are objects which have yet to be identified."[8]

This is clearly not a question of whether UFOs exist. We know they exist as the examples we have seen above are testament of this fact. The more fundamental issue we have to deal with here is, what are UFOs?

7 Quoted from his foreword to ;*Above Top Secret* by Timothy Good (Morrow & Co's Quill Books) published in 1988.

8 Quote from Associated Press published in the article "Prof. says Beings from Outer Space have visited Earth". November 26, 1962.

CHAPTER 2

What Are UFOs?

In my opinion, the UFO problem…constitutes an area of extraordinary scientific interest.

—Dr. James E. McDonald, Professor of Atmospheric Sciences[1]

KNOWING THAT UFOs are a normal part of life, the scientific community has made some efforts to understand the nature of these mysterious denizens of the sky, of which the biggest has to be the study conducted by the University of Colorado in the late 1960s.

The Condon Report

On October 6, 1966, a team of twelve scientists from the University of Colorado headed by a highly respected nuclear physicist, Dr. Edward

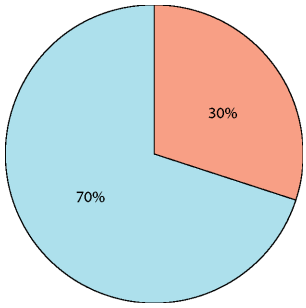
1 Part of his speech presented at the Symposium on UFOs, Boston, December 27, 1969. Quote also published in Sagan and Page 1996.

Uhler Condon (1902–1974), commenced a study to examine a number of UFOs on behalf of the U.S. government.

The 1,465-page Condon report, officially titled *Final Report of the Scientific Study of Unidentified Flying Objects*, was released on January 8, 1969 with the blessing of a special committee of the National Academy of Sciences. The report discussed 91 cases and contained detailed analyses and explanations for 59 of them. Unfortunately, Dr. Condon observed nothing to suggest to him that UFOs could advance science. He said:

> "Our general conclusion is that nothing has come from the study of UFOs in the past twenty-one years that has added to scientific knowledge. Careful consideration of the record, as it is available to us leads us to conclude that further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby."[2]

Dr. Condon backs this view with the statistical results; of the 90 UFO cases his team studied, 70 percent could be explained by natural or man-made phenomena, known simply as Identified Flying Objects (IFOs):



Results of the Condon study (70 percent are classified as IFOs, and the rest as UFOs).

2 Condon 1969, p.2.

Despite the statistics acknowledging the existence of UFOs and the fact that people throughout the world continued to see UFOs and report them to the authorities well after the report was published, Dr. Condon assumed that the remainder of UFOs could be classified as IFOs given enough time and information. More importantly, he thought that none of the studied UFOs cases were unusual enough to warrant closer scientific study.

It is a view that still persists to this day when we hear of American space expert at the University of Colorado, Dr. J. W. Warwick, having stated, in no uncertain terms, that:

> "Popular ideas about flying saucers have no basis in scientific fact. I have often spoken to observers of flying saucers and in most cases we can explain the sightings as weather balloons, natural phenomena, or bright planets seen through atmospheric turbulence.
>
> I am convinced all would be explained away if we had enough details of each sighting."[3]

But not all scientists agree.

The Alien Explanation for UFOs

Professor Hermann Oberth

Professor Hermann Julius Oberth (1894–1989) is considered to be a great pioneer of space travel and the father of modern rocketry. Oberth worked to develop rockets with the U.S. Army Ballistic Missile Agency in the late 1950s and later joined NASA at the George C. Marshall Space Flight Center.

He was quite adamant regarding UFOs:

> "I have examined all the arguments supporting and denying the existence of flying saucers, and it is my conclusion that UFOs do exist, are very real, and are spaceships from another or more than one

3 Holledge 1965, p.90.

> other solar system. They are possibly manned by intelligent observers who are members of a race which has been conducting long-range scientific investigations of our Earth for centuries."[4]

Another person who argues in favor of this view is Dr. Maurice Anthony Biot (1905–1985), a mathematical physicist who made important contributions to the field of aerodynamics. In a 1952 interview with *Life* magazine, Biot said:

> "The least improbable explanation is that these things are artificial and controlled . . . my opinion for some time has been that they have an extraterrestrial origin."[5]

Could UFOs Advance Science?

There is a smaller scientific contingent that believes further study into UFOs is justified on the basis that it could help to advance scientific knowledge no matter how controversial it is. Where this advancement could be made is not entirely clear, but it has been suggested that the field of psychology is a good place to start. For example, UFO cases could provide greater insight into how the brain works, especially in terms of certain chemical imbalances that may occur at certain times and places for the witnesses, leading to *hallucinations*. Or, we could determine whether UFO witnesses have special personality traits that make them more prone to seeing UFOs. As stated by the 1995 edition of the *Encyclopedia Britannica*, soon after the Condon report was released in 1969, it was learned that:

> "…another group [of scientists] favored continuing investigations on the grounds that UFO reports are useful in socio-psychological studies."[6]

But why stop there? What about the potential to advance scientific knowledge in the world of physics? Or, perhaps there could be a new technology hidden in the UFO reports? For example, witnesses have regularly experienced electromagnetic side effects in association with

4 Holledge 1965, p.24.
5 http://www.ufoevidence.org/documents/doc1744.htm.
6 *Encyclopedia Britannica* 1995, Volume 12, p.130.

UFOs. If this is true, what are the chances that UFO reports could indicate the existence of a new electromagnetic technology? Also among the UFO observations is the claim by witnesses that UFOs can make themselves invisible and visible in a periodic manner. In that case, what about the potential to understand the mysterious link between gravity and electromagnetism as a natural way to advance scientific knowledge?

Without giving away too much at this early stage, it should suffice to say that there is much we can learn from UFOs. As retired scientist Ken Wear[7] said on August 12, 2007:

> "Let us learn what we can from UFOs. Granting that some of the claimed sightings may have substance, we should undertake to learn what we can from the presence of an unidentified object and from the observer of the object."[8]

All that is needed is for us to find out if there is anything new to be learned from UFOs.

The Scientific Stigma Surrounding the Subject

Despite the high prospects of UFO research to help scientists uncover new scientific concepts, obtain a deeper understanding of the human mind, or discover new technology, any talk about the possibility of finding something new (e.g., alien spaceships) in UFO reports often leads to extraordinary fits of uncontrollable laughter among the more skeptical members of the scientific community. In one classic example, Professor Edward Ney, an astrophysicist at the University of Michigan, said:

> "Respectable scientists don't even discuss UFOs in serious terms."[9]

7 Ken Wear is a physicist and engineer who worked in space-related research and author of *Love to Live and Live to Love: Making Longevity Worthwhile* (published by Llumina Press on April 28, 2008).

8 http://www.rationallink.org/UFOs.htm.

9 Flammonde 1976, p.17.

NOT NOW! CAN'T YOU SEE I'M BUSY FINDING ETS?
SETI PROJECT
KNOCK KNOCK
The Coming of the Flying Saucers
The UFO Encyclopedia
TRASH
UFOs Exist
UFO Abductions

Similarly, John Billingham of NASA's Ames Research Center in California and a leader in the Search for Extraterrestrial Intelligence (SETI) movement, said:

> "To be quite truthful, we do not pay significant attention to the UFO issue at all. We feel that the whole area is so debatable, uncertain, and unscientific that it is probably not going to help anybody very much. We don't do anything on UFOs, and we do not recommend that anybody else do anything on them."[10]

It is funny that he should say this, as Billingham just so happens to be in the business of searching for the all-elusive alien radio signal in the depths of space as part of his serious SETI work. He believes that this approach is more promising than searching for ETs in UFO reports. If that is true, then how successful has he been so far? Has he found the alien radio signals? Well, we are still waiting…and waiting, and…waiting[11]. Indeed, one has to ask, what makes searching for alien radio signals any more successful than searching in UFO reports for the same kind of evidence?

What exactly is so outlandish and unscientific about the idea of searching for something new (perhaps alien) in the UFO reports? Even if this sounds too incredible, could it not provide an alternative way for ETs to reach us? For all we know, a new electromagnetic technology could be lurking around in the UFO reports just waiting to be uncovered by the right open-minded and curious individual. Sounds too ambitious? How about an advancement of our scientific knowledge in a particular area of physics linking gravitational and electromagnetic fields? We have heard of UFO reports where the object and some of its occupants can render themselves invisible. Does this mean these electromagnetic side effects could have a link to the gravitational field to help explain how light bends to make an object disappear from our sight?

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10 Edelson 1980, p.87.

11 On January 10, 2019, Canadian astronomers announced the presence of numerous unexplained repeating fast radio bursts (FRBs) detected by the latest Canadian Hydrogen Intensity Mapping Experiment (CHIME) telescope. As the source of these radio bursts is unknown (other than the fact that the radio bursts are coming from a galaxy 1.5 billion light years away), some scientists are prepared to consider the possibility that aliens generated these bursts if it helps to support the value of SETI in searching for alien radio signals. However, the more likely explanation is that FRBs are from radio pulsars. For further details about these bursts, see https://www.theguardian.com/science/2019/jan/09/repeating-fast-radio-bursts-from-deep-space-could-be-aliens.

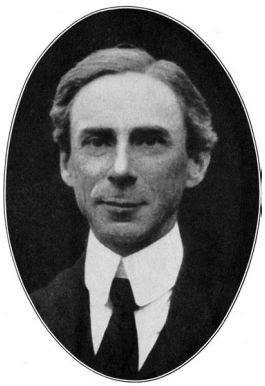
O, ye of little faith.

Well, here is the point. Instead of thinking about little green men and flying saucers, scientists should really ask the question "Can UFOs advance science?" Forget about the potential for an alien connection in the UFO reports. This does not provide anything new. Focus instead on what can be advanced in science from the study of UFOs. Or, if by focusing on the electromagnetic aspects we also do uncover a new technology in the UFO reports, consider it a bonus. However, what should be foremost on the minds of scientists is whether UFOs can advance science. That should be the aim of any scientific study into UFOs.

That means we must look for anything new we have not seen before in the UFO reports and see where this will take us in the world of science.

The Time Has Come to Uncover the Truth

Remember, while a mystery remains, UFOs deserve our utmost attention. We have to be curious if we are to properly solve the controversial problem of UFOs. As physicist Dr. Erwin Schrödinger (1887–1961) said:



Bertrand Russell

> "The first requirement of a scientist is that he be curious; he must be capable of being astonished and eager to find out."[12]

And as British philosopher, mathematician and historian Bertrand Russell (1872–1970) said in 1928:

> "What is wanted is not the will to believe, but the will to find out, which is the exact opposite."[13]

So, let us begin this journey to see what we can learn about UFOs.

12 From his book, *Nature and the Greeks*, p.55; Hynek 1972, p.6.
13 Russell 1928 in *Skeptical Essays* (W. W. Norton: New York).

CHAPTER 3

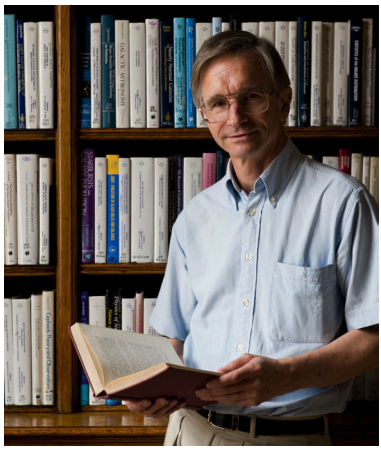
The Natural and Man-Made Explanations for UFOs

From a scientific and engineering standpoint it is unacceptable to simply ignore substantial numbers of unexplained observations…

—American Institute of Aeronautics and Astronautics UFO Subcommittee (established in 1967)[1]

BEFORE TAKING a closer look at some genuine UFO cases, we must acknowledge that most UFOs have a natural or man-made explanation. English science writer Ian Ridpath agreed with this view when he said:

1 Kuettner, J. P. (Chairman of the UFO Subcommittee of the AIAA) et al. "UFO – An Appraisal of the Problem: A Statement by the UFO Subcommittee of the AIAA": *Journal of Astronautics and Aeronautics*. November 1970, p.49.



Ian Ridpath in the library at the Royal Astronomical Society, London.

> "There is no doubt UFOs exist in the sense that people genuinely see things in the sky that they cannot identify. But the real question is: what do these things turn out to be on investigation?
>
> Not all reported UFOs can be extraterrestrial spacecraft, and no one pretends they are. Even UFO believers agree that at least nine reports out of every ten are readily explicable in known terms. The main culprits are bright stars and planets, aircraft, meteors, and satellites—although a complete list of misidentifications would be almost endless. UFO proponents often point to the residue of unexplained cases as proof that there must be something to UFOs after all, but that's not so. An unsolved case is not evidence for any theory. If even the most credible and honest witnesses turn out to be demonstrably wrong nine times out of ten it is not unreasonable to suppose that all cases would be soluble if we had sufficient information."[2]

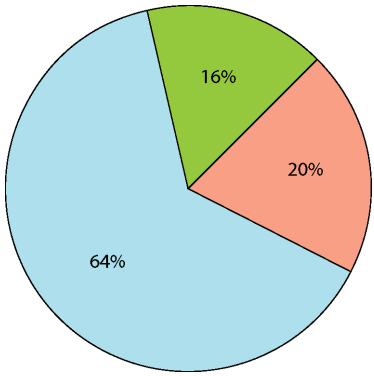
It is interesting that Ridpath mentions "sufficient information". Does this mean sufficient in the sense that he can find the answer he expects to see (a natural or man-made explanation), or sufficient to find something new in the UFO reports worthy of study? Although care must be taken to define what it means to have sufficient information (if you cannot find what you expect, you would be tempted to say there isn't enough information), there is certainly no shortage of supporters of this view.

Dr. Edward U. Condon was inclined to support the natural and man-made explanation. According to the statistical results in a report published by Condon, most of the 90 cases his team studied were either natural or man-made IFOs. The only slight problem with the report is that he felt comfortable extrapolating the data and concluding

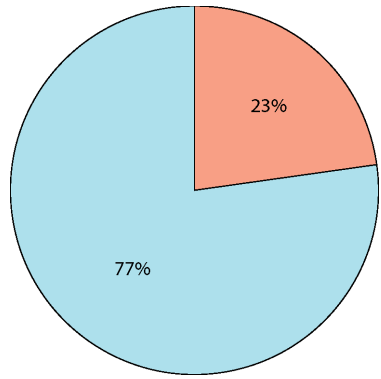
2 Ian Ridpath's quote obtained from http://www.ianridpath.com/ufo/ufoindex.htm.

that all UFOs are IFOs. As for those unusual cases revealing electromagnetic effects in association with UFOs, Condon was tempted to explain them as examples of ball lightning. We will have more to say about this later.

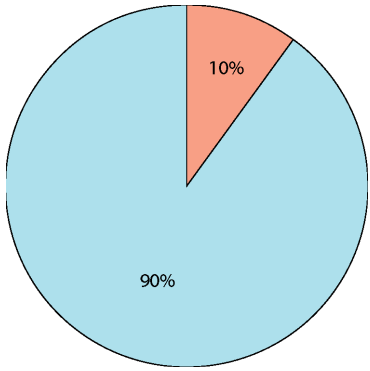
The view that most UFOs are IFOs very much mirrors that of every other official study, as can be seen in the following statistical results for Project Sign, Project Grudge, the Robertson Panel and Project Blue Book:



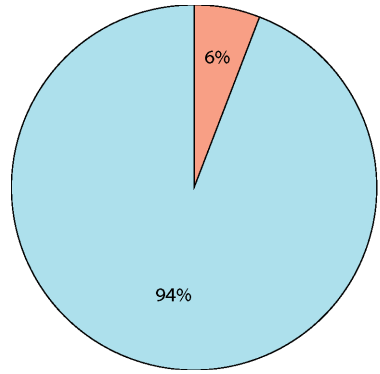
Project Sign (20 percent UFOs, 16 percent "insufficient data", and the rest are IFOs)



Project Grudge (23 percent UFOs, 77 percent IFOs)



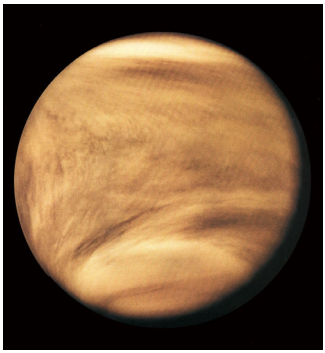
The Robertson Panel (10 percent UFOs, 90 percent IFOs)



Project Blue Book (6 percent UFOs, 94 percent IFOs)

When faced with these seemingly overwhelming statistical results, one can be forgiven for thinking that if most UFOs are IFOs, the

remaining UFOs were probably IFOs if sufficient information was available and sufficient time was devoted to investigating them, as Ridpath suggested. But how certain can one be when making this claim? Can we assume that there is insufficient information about all UFOs? Also, what is even meant by IFOs? Is it possible that they could represent a new flying object in need of a new name, or one that can advance science if people make the concerted effort to properly study UFOs?



The planet Venus (shown here in ultraviolet light) is often mistaken for a UFO.

Examples of Physical IFOs

Before answering these questions, we need to discuss IFOs—particularly the ones that are considered familiar but, for some reason, can get interpreted as UFOs. Whether it is because observers may not be fully aware of the wide range of known aerial and astronomical objects, below is a table showing examples of commonly mistaken IFOs.

Common Natural and Man-Made Explanations for UFOs

Artificial satellites	Balloons
Comets	Swamp gas
Dust and mist	Aircraft
Lenticular clouds	Mirages
Parachutes	Planets
Stars	Auroras
Ball lightning	Birds
Fireworks	Insect swarms
Kites	Meteors
Missile tests	Space rockets
Sun dogs	Searchlights
Light flares	Airships

For a comprehensive look at images of the objects mentioned in the above table, Google search returns plenty of examples of what these

Aurora Borealis

Sun dog

Comet Lulin

Lenticular clouds

Birds

Light flare

Fireworks

Weather balloon

Kite

Drone

objects look like at close range, or may look like when seen at a distance. In the next few pages, we provide a few examples for the reader to look at.

Optical illusions of Physical Phenomena

Things start to get tricky when certain conditions in the environment distort or change the look and/or flight behavior of aerial objects. When this happens, this can fool even the most well-trained and highly rational observers and their "trusty" cameras into thinking that a common object is a UFO. We call these *optical illusions*.

A rather common illusion reported by observers is a bright stationary light that appears to move against a dark background, as stated in the *Encyclopedia Britannica*:

> "Staring at a single bright light spot in an otherwise darkened room creates the illusion that the stationary light is moving (autokinetic effect)."[3]

Thus, the human eye can be easily fooled into thinking a bright light seen at night, such as the planet Venus, is moving under some kind of "intelligent control". Only a telescope clamped firmly to the ground can help us see that the light is stationary (unless the light is directly heading for us, which usually indicates that it is a man-made aircraft or helicopter, although we can't discount the possibility that it could be a genuine UFO).

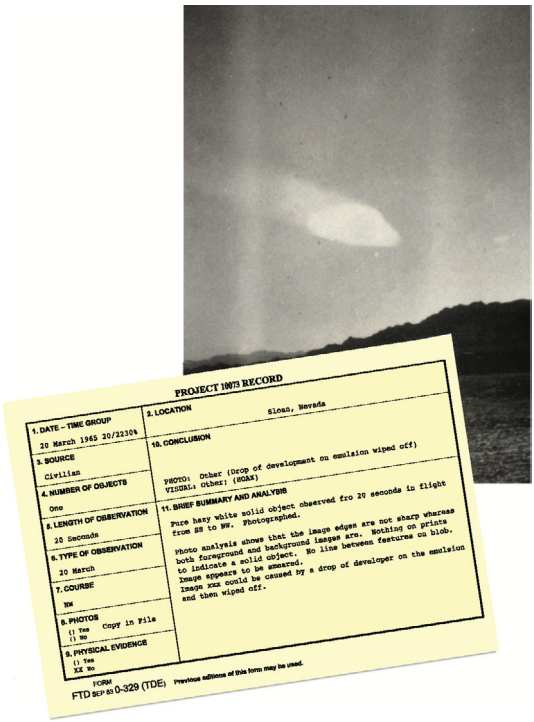
Another common optical illusion occurs when a light source, such as a lamp or a fluorescent tube inside a building, is reflected on the surface of a glass window, creating the illusion of a bright circular, oval, or cylindrical light hovering in the sky. For example, the photograph shown on the next page was taken by Shell R. Alpert at 9.35 a.m. on July 16, 1952. It was later revealed that the witness had taken the photograph from inside the control tower at Salem Air Base in Massachusetts, USA, and upon closer examination, investigators identified the glowing objects as light from several lamps that had reflected on the window.

3 *Encyclopedia Britannica* 1995, Volume 25, p.498.

The photograph taken by Shell R. Alpert on July 16, 1952

Certain defects or imperfections on the surfaces of glass and films can also appear to be UFOs until they are more closely examined. For example, if a glass window has optical defects, it can turn tiny points of light into massive saucer-shaped objects. Similar effects can be observed when there are distortions in the lens of a pair of eyeglasses. When investigators seek the truth in such cases, physically visiting the location of where the witness was standing when observing the UFO and gaining useful information about what he or she was wearing (e.g., spectacles) at the time will often reveal the explanation.

As for the optical illusions produced by imperfections on the surface of a photographic film or the occasional chemical mishap during film processing, these can lead to the formation of some interesting light- or dark-colored spots in pictures that might look like, or be interpreted as, UFOs. One such example is the photograph on the next page, which was obtained from the USAF's Project Blue Book files. Often, only a close inspection of the film in question using a microscope will reveal the explanation.



PROJECT 10073 RECORD

1. DATE - TIME GROUP 20 March 1965 20/2230Z	2. LOCATION Sloan, Nevada
3. SOURCE Civilian	10. CONCLUSION PHOTO: Other (Drop of development on emulsion wiped off) VISUAL: Other: (HOAX)
4. NUMBER OF OBJECTS One	11. BRIEF SUMMARY AND ANALYSIS Pure hazy white solid object observed fro 20 seconds in flight from SS to NW. Photographed. Photo analysis shows that the image edges are not sharp whereas both foreground and background images are. Nothing on prints to indicate a solid object. No line between features on blob. Image appears to be smeared. Image xxx could be caused by a drop of developer on the emulsion and then wiped off.
5. LENGTH OF OBSERVATION 20 Seconds	
6. TYPE OF OBSERVATION 20 March	
7. COURSE NW	
8. PHOTOS (1 Yes Copy in File (1 No	
9. PHYSICAL EVIDENCE (1 Yes XX No	

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Examples of Non-Physical IFOs

In addition to physical IFOs, there are non-physical IFOs created within the human mind. The psychological component of the UFO phenomenon is not as significant as the physical component, but it does exist. There are two types of non-physical IFOs:

- Uncontrolled imaginative episodes called *hallucinations*.
- Controlled imaginative episodes called *hoaxes*.

Hallucinations

The process that causes hallucinations is not precisely known. What we do know, and as some psychologists have suggested, is that it may have something to do with the way the brain tries to balance itself when faced with an extreme lack or an extreme overload of information and/or neurochemical transmitters, which may lead to the creation of a strong mental image that is suggestive of a UFO in the mind of the person. Whatever the reason, research has shown that apparitions of UFOs tend to occur for some witnesses during moments of intense excitement, lack of sleep, or extreme mental activity under conditions of stress, desire, or deep relaxation. As *Encyclopedia Britannica* states:

> "Hallucinations probably will occur in anyone if wakefulness is sufficiently prolonged; anxiety is likely to hasten or to enhance hallucinatory production."[4]

4 *Encyclopedia Britannica* 1995, Volume 25, p.501.

In other words, people who regularly stay up late after experiencing limited amounts of sleep and long hours of stressful work or anxiety are most likely to experience hallucinations. As for those people who are isolated and given limited or no sensory information input, they may also have a tendency to hallucinate. Could this be an explanation for some UFOs? To this end, *Encyclopaedia Britannica* states the following:

> "When people are kept in isolation (sensory deprivation), information input via the senses (e.g., hearing and sight) is de-patterned or reduced. If such a person remains alert, he is likely to experience vivid fantasies and perhaps hallucinations."[5]

In addition, deep relaxation coupled with a strong mindset or belief in something can induce hallucinations. According to the *Encyclopedia Britannica*:

> "The mystic achieves hallucinations by gaining control of his own dissociative mechanisms….The hallucinations may take the form of unique visual imagery; for example, the *yantra* is a visual hallucination of a colored, geometrical image that appears at a level of trance of the sort experienced by practitioners of Yoga. The recurrence of certain designs and patterns in human hallucinatory experience is probably related to structural aspects of the visual system."[6]

It is interesting to see a mention of "a colored, geometrical image". Does this mean those geometrical glowing UFOs seen at close range (e.g., the oblate spheroid shape in the Levelland UFO case) were hallucinations?

When hallucinations do occur, it may indicate psychiatric disturbances. But generally, hallucinations can occur in anyone. Indeed, age, gender, cultural and racial differences, and other factors in people make no difference. Should hallucinations appear, they will seem so real to the person experiencing them that they will be interpreted as occurring outside the body. Furthermore, the brain can subconsciously control the apparitions, giving them the appearance of "motion" and "intelligent control", which have been reported in some UFO cases.

5 *Encyclopedia Britannica* 1995, Volume 25, p.501.
6 *Encyclopedia Britannica* 1995, Volume 25, p.501.

Hoaxes

Hoaxes are another technique for creating non-physical UFOs. Practically any healthy and rational person can do it. Like hallucinations, hoaxes require an imaginative mind. However, they differ from hallucinations in that they do not necessarily rely on imbalances in the levels of neurochemicals and information in the brain to *create* UFOs. In other words, the brain can be functioning normally when people create a hoax.

Hoaxes are generally deliberate attempts by people to imagine UFOs for a particular reason. Here is an example of a hoax photograph taken in New Mexico.

A fake photo of a UFO taken by Paul Villa in Albuquerque, New Mexico, on April 18, 1965. It shows two hubcaps joined together and held in the air with a thin wire attached to neighboring trees.

The reasons for hoaxing a UFO report are many and varied, but they almost always involve some kind of reward or recognition for the hoaxer's efforts by media officials, especially given the media's immense interest in the subject in the early days. The media coverage of reports of UFO sightings is best described in the 1995 edition of *Encyclopedia Britannica*:

> "The publicity given to early sightings in the press undoubtedly helped stimulate further sightings not only in the United States, but also in western Europe, the Soviet Union, Australia, and elsewhere."

People may also perpetuate a UFO hoax simply because they are trying to prove a point. Or perhaps, due to the frustration caused by not finding UFOs, they try to fabricate one for themselves. Whatever the truth, there is almost always a motive for people wanting to hoax a report.

When people do create a hoax report, it is often difficult to initially determine its genuineness unless adequate investigation and research are conducted. Even then, depending on how elaborate and sophisticated the claims are, it may be necessary for the witness to confess to show that it was a hoax. If a confession is not forthcoming, then all we have is the information provided in a report by the hoaxer. But there is another clue. Hoaxers generally do not like to provide a lot of details. If they do, there is a risk that investigators and researchers will "catch them out", so to speak, when the hoaxers say something that cannot be true based on the solid application of appropriate scientific knowledge or a check of the available records. This is the trade-off hoaxers must face: give too much information to investigators means potentially being caught, but give too little means not being taken seriously.

To a scientist, detail is king. If you report a UFO, real or otherwise, to the authorities you will need to provide as much information as possible to the person investigating the case and the scientist tasked with finding an explanation. Every fine detail will likely be important, especially to a scientist. The more information a person can provide in relation to an alleged UFO encounter, the easier it gets for a scientist to find an answer, and the more likely it is that the person is telling the truth.

How Reliable Are Photographs and Films as Evidence?

On the issue of providing as much information as possible in support of an alleged UFO, hoaxers are likely to be armed with what they call evidence by way of a photograph or film. From a scientific perspective, the presence of a picture can help to eliminate hallucinations as a

possible explanation. However, photographs and films on their own have certain limitations, which is why scientists cannot rely on them to prove that a report is not a hoax. This is not to say that they are not useful as evidence—they certainly can be—but scientists are a conservative bunch. Accordingly, their experiences with photographs and films have led them to take considerable care not to rely solely on this form of evidence when determining an explanation for the object allegedly seen.

A classic example of the difficulties that scientists face in identifying genuine UFO footage and photographs can be observed in an experimental film project funded by the Australian Film Commission, known at the time as the *Australian UFO Wave 2006*. Between June and mid-August 2006, experimental digital video project director Christopher Kenworthy distributed 31 clips of UFOs over the Internet[7]. The purpose of this was to observe the public's reaction to the clips and determine how well UFO researchers could identify which were fakes and which were the two genuine UFO clips thrown in the mix. The results were interesting, to say the least. It took the final two clips to raise researchers' suspicions that several clips were probably fakes. Overall, the project showed, fairly convincingly, that (1) photographs and videos (especially digital ones) can easily recreate many of the UFO pictures and films (genuine or not) distributed on the Internet, and (2) images of anything with tiny moving lights at night or grayish or black blobs hovering or flying during the day seen at a great distance are not sufficient to determine the true nature of the objects.

Considering this and our earlier discussion about how imperfections on the surface of photographic film can lead to strange-looking spots in pictures suggestive of UFOs, it does make one wonder how reliable photographs and films are for recording UFOs. As UFO researcher Fred Beckman writes:

> "Scientists and laymen who have an interest in the UFO problem are invariably most strongly interested in the photographic evidence. It is generally believed, and it does seem entirely reasonable, that a good photograph of an unidentified flying object would have 'probative value'. Probative value is a term that was used by the University of

7 http://www.australianufowave.com

> Colorado's Condon Commission to describe the kind of evidence that would strongly support the hypothesis that they were testing, namely that UFOs are extraterrestrial craft under intelligent control. Their general finding was that no example of UFO photography examined by them had probative value. It was found that most of the photographs examined could have been fabricated by such methods as double exposure, manipulation in the darkroom, or by suspending or throwing a small object and then photographing it against a natural background. In some cases, evidence obtained from a technical analysis of a photograph was inconsistent with the description of the event as recalled by the witness."[8]

Of course, this does not mean that all photographs and films of UFOs have no intrinsic scientific value or are not genuine. It is far better for witnesses to have at least one photograph of a UFO in their possession than no photograph, especially if there is little that scientists can gather from their official statements. Of even greater scientific value is a well-focused film of a UFO (a rarity we hear these days, especially when the object glows intensely at night). But care must be taken to ensure that photographs and films stand up to rigorous scientific analysis before they can be taken seriously.

How do you obtain a good quality UFO photograph? If the object can be recorded on film near the ground, try to show it in reference to some known area or man-made object on the ground. If the UFO has landed, try to get as close to it as possible to show more details. When you do, keep away from metal objects, such as road signs and cars, in case you do encounter a genuine UFO (we will have more to say about genuine UFOs later in this book) as there is a risk you could receive radiation exposure. Other than that, take every opportunity to photograph the object whenever you see it. Use the optical (rather than digital) zoom of the camera to get in close and get the sharpest pictures of the object. It is these landed UFOs or those seen near the ground and witness that will provide the most useful information to scientists compared to those images of UFOs seen at a great distance, which may appear as nothing more than a tiny dot of light or a grayish blob in the sky.

8 Hynek & Vallee 1975, p.119.

Even better would be if witnesses could somehow record on film the internal structure of a UFO that has landed on the ground (for engineering purposes) and/or anything that might suggest the existence of occupants (for biological purposes). A very difficult feat to achieve we hear given both the considerable effort made by genuine UFO occupants to stop witnesses from gathering this kind of evidence, and the short amount of time they spend on the ground gathering samples. But if witnesses could somehow do this, it would provide superb evidence supporting the existence of UFOs. It would also give scientists plenty of information about the nature of the object and who is flying it (even if the occupants prefer to stay out of the picture at every opportunity).

This neatly brings us to the question of whether alien abduction cases can provide useful scientific information. By their very nature, such cases have the potential to reveal both the internal and external structure of UFOs, as well as superficial biological details of the occupants who allegedly fly them. Even without photographs or films of the internal and external structure of UFOs, excellent testimonials from witnesses can be just as useful to scientists if the details are there and can withstand rigorous scientific analysis.

The only question is, can alien abductees provide sufficiently reliable information in this regard for the scientific community?

Can We Rely on Alien Abduction Reports?

Alien abduction cases feature close and personal contact with both UFOs and their occupants. These cases have the potential to contribute a tremendous amount of useful scientific information, especially when the witnesses are calm and relaxed and can reveal their insights (assuming, of course, that it is not a hoax). Aside from common observations about the UFOs and their occupants, abductees also appear to describe a common trend in the method of abduction. For example, the common approach seems to be to land in some isolated location where at least one human is taken, against his or her will, on board the UFO by the occupants. Then, a series of tests and biological samples are taken. Before the abductee is returned to the site of the abduction, some information might be provided by the UFO occupants, either as warnings to protect the Earth and to do the right thing, or to escort the abductee around the craft to observe various

things. Again, such common trends are the kind of thing scientists looks for. Nonetheless, we must still ask, can these common observations of alien abductions give scientists enough information to work with?

The late John Edward Mack (1929–2004), M.D. and Professor of Psychiatry at the University of Harvard, gave some consideration of these controversial claims after studying hundreds of people in the United States and abroad involved in such experiences. His work confirms a common trend in the way the abductions take place with the witnesses:

> "The person is in the car or sleeping, and there is a light, there are entities coming to the room. They feel themselves paralyzed. They're moved, they are taken. They go into a ship. Something happens there. There may be other people there. They have telepathic communication with aliens and some probing. There is a whole complicated set of events that takes place, which is consistent from one person to another. But there is a basic story here that after several hundred cases in this country and in many other countries it all begins to hold together as something that has a robust kind of truth to it. And, if this is real, then what does it mean?"[9]

However, in a 1994 experiment[10], psychologist Steven Jay Lynn, he noticed how a number of interesting alien abduction claims had come from people requiring hypnosis to recall the events after suddenly having lost memory of what had happened. To test the reliability of the process, he asked a random selection of subjects from the wider community to imagine that they had seen bright lights and experienced missing time. Then, he put the subjects under hypnosis and asked to simulate an alien abduction experience. Of those subjects who had heard or read stories about UFOs but never had an alien abduction experience or seen a UFO, 91 per cent stated that they had interacted with aliens. One can imagine, therefore, that if these stories were combined with genuine reports, it would be challenging for scientists to distinguish the real alien abduction reports from the false ones.

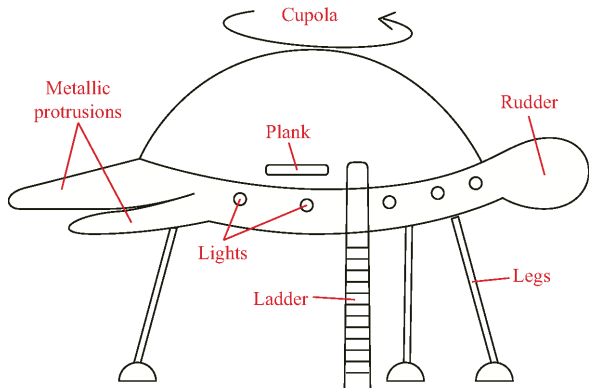
Despite the problems of alien abductions involving hypnosis, we must not assume that all alien abductions are fakes based on Lynn's

9 From the 2004 French documentary titled *Experiencers* (a film by Stephane Allix).

10 http://www.psychologytoday.com/articles/%5Byyyy%5D%5Bmm%5D/%5Btitle-raw%5D

experiment. Nor should we assume all witnesses of alien abduction cases require hypnosis to recall the experience. There are a number of good-quality alien abduction cases on record for which no hypnosis was required. In other words, the witnesses could consistently and vividly retell their experiences and with considerable detail as if it had happened yesterday.

A classic example of this is the alien abduction case of Antonio Villas Boas (1934–1992) from Brazil in 1957. In this situation, scientists found the testimony hard to ignore. It was a classic, top-notch alien abduction report in which absolutely no hypnosis was required. Villas Boas provided extremely rich and detailed information about the internal and external design of the UFO, including a drawing (see below) that is now considered invaluable for scientific analysis. In addition, there was excellent evidence of radiation poisoning of the witness immediately after the experience. And if that is not enough, his testimony remained consistent until his death (and so making the hoax theory an unlikely explanation for this UFO case). This is one case that deserves close scientific scrutiny.



Another classic example requiring no hypnosis is the 1983 case of 77-year-old Alfred John Burtoo (1906–1986), who was abducted from North Town in Aldershot, England. He provided valuable information about the nature of UFOs and their alleged occupants, including the interesting sound produced by the UFO as it started up and moved away from the ground, the excellent internal details of the UFO, and a sketch of the object from the outside. Furthermore, he discussed the aliens' goal in bringing him on board for study, as well as their general

appearance (barring their faces, which were covered by large visors and helmets).

When scientists see these examples, they reasonably consider the possibility that some UFOs do deserve closer scrutiny. Even if they are not alien in nature (for example, they could be secret military experiments), the possibility of advancing science is potentially still there. It does not matter if this advancement occurs only in the field of psychology because some witnesses are expert hoaxers. Neither would it matter if the brain has a subconscious ability to extrapolate future trends from what we see and later bring them to the witnesses' conscious minds via hallucinations. Why? Studying such cases could still significantly add to our knowledge and understanding of the mind, or why people create hoaxes in the first place. However, given that some witnesses also suffer from radiation poisoning (see the Antonio Villas Boas UFO case), we can safely say the advancements will not be restricted to psychology. These cases are likely to contribute to the field of physics, possibly to the point where we might be dealing with a new technology or an unusual natural phenomenon not yet understood by science.

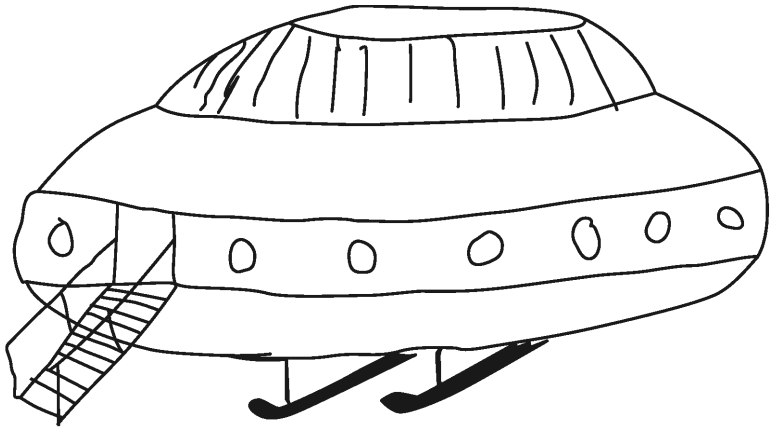
In summary, alien abduction cases have the potential to advance science even though much of the information is based on testimony. Technically, there is nothing wrong with a good testimony with interesting observations that astonish scientists and have the potential to advance science. However, the value of such testimonies depends on how much useful information they contain. If there isn't much information, interesting reports of unwelcome visits to people's homes by alien-like creatures, even if described emotionally, may be described as possible hoaxes. Even if the alleged testimony contains considerable detail, studies have shown that people who have read books and newspaper articles on alien abductions can produce a similar level of detail when asked to recreate an alien abduction scenario under hypnosis.

The only good alien abduction cases scientists are more likely to look at are those that involve no hypnosis and where the witnesses have experienced radiation poisoning or other symptoms following the alleged UFO encounter.

Are All UFOs IFOs?

As we have seen, the above examples of IFOs and available statistics at the beginning of the chapter seem to explain the origin of many UFOs. Yet care must be taken not to assume all UFOs are IFOs. There are cases of alien abductions in which rich and detailed testimonies are given without hypnosis, and there is excellent evidence of radiation poisoning experienced by a number of witnesses. As the UFO statistics tell us, UFOs do exist and not all should be marked as "insufficient information". In all probability, they may provide plenty of information to help scientists find a new IFO no one has seen before. Or, at the very least, help to advance scientific knowledge. It depends on what you are looking for. If you are naturally skeptical and expect a natural or man-made explanation for all UFOs, then, of course, you will likely state that there is insufficient information to make a determination on the true nature of the UFOs. However, if you are prepared to be astonished and willing to find something new and unexpected in the UFO reports, there is likely to be plenty of information on genuine UFOs to work with.

As we shall see in chapter 5, there is considerable and valuable scientific information to be gathered from genuine UFOs. And much of it is quite common to the witnesses. Does this mean, the witnesses



The hand-drawing of the UFO observed by Alfred Burtoo. The most significant aspects of Burtoo's observation are details of the rounded edges of portholes, the door and various other parts of the object, as well as the sound it made that reminded Burtoo of an electrical generator. Can science afford to ignore such important details when understanding genuine cases of UFOs?

are copying one another? Or is there something else in the reports that scientists have not seen after all this time? The only way to be sure is to dig deeper into the available UFO reports.

To be sure we have not overlooked something important in the UFO reports, we must balance the natural explanation viewpoint by looking at the opposing scientific view and a few more examples of genuine UFOs. From these examples, we can determine the likelihood that these objects are familiar IFOs. We will follow this up with a chapter devoted entirely to the presentation of the most common UFO observations. Should we, during this process, identify a common thread in the observations, this will be the moment when we will find a coherent, big-picture explanation of the type of object we might be dealing with. Is it ball lightning, as some people might claim? Or are we dealing with a new electromagnetic technology? And if it is the latter, who is likely to be responsible for it? All these questions will start to get answered once the work is done to properly study genuine UFOs.