

Section III, Chapter 1

My (David) Introduction to the UFO Phenomenon

Let me introduce myself. My name is Dave, I'm Bob's younger brother, sort of. You see, we're identical twins, and Bob was born about 15 minutes before me. Not surprisingly, with a common genetic heritage we share similar interests.

The story of my introduction to the UFO subject goes back quite a few years to the early spring of the year 1960. That year both Bob and I were 14 years old, and like most youngsters we had wide ranging interests. We did the usual things; played baseball in the sandlots, explored our town and neighboring towns on bike, and we even built forts in our backyard. And just like in the movies we followed the railroad tracks for miles with friends and put pennies on the track to have them flattened by passing trains.

We also did unconventional things. Since our dad was a chemist we very early learned the rudiments of chemistry. This helped us immensely in our schoolwork in later years, but it also provided the basis for a certain amount of mischief. One activity which captured our imaginations in those years was generating hydrogen gas with common household chemicals and then inflating toy balloons with the gas. At first we contented ourselves with merely placing messages on toy balloons of about 6 inches diameter under the supervision of our father. Later when dad was at work, or better yet away on a long vacation with mom, we boys (there are three of us, I forgot to mention Bob and I have an older brother Charlie....and three sisters, Betty, Barbara and Nancy) would apply our chemistry knowledge to bigger and better things. Had dad known what his three sons were concocting while he was away it would have raised his blood pressure several notches!

A memorable event that occurred in 1960 was an attempt to inflate a 12 foot diameter weather balloon with hydrogen gas (perhaps we were aspiring to create our own UFO!). As every chemistry student knows hydrogen gas is one of the most volatile gases around; the smallest spark and you have a conflagration. Since the balloon was dozens of times greater in volume than our standard fare I endeavored to use an unprecedented large sized generator. I decided a five gallon wine jug would do the trick, and besides it was made of ceramic which I hoped would be stronger than glass. I purchased all the necessary ingredients and placed the prescribed amounts in the jug. Bob and our good friend Al watched from a safe distance, not knowing what to expect. After half an hour or so, the balloon looked rather anemic with only a few of its rubbery folds barely rising off the ground. Bob and Al began to get very impatient and insisted I dump the remaining can of lye into the generator to speed the reaction. Being a cautious person I proposed adding only a portion of the can to the brew. But they prevailed, and taking matters into their own hands they dumped three cans of lye into the reactor along with huge quantities of chopped up aluminum scrap - the other active ingredient. The result was predictable. Soon the generator was fairly boiling and gurgling. Within minutes the balloon was seven feet in diameter and expanding at a frightening rate. Then puff! The balloon had ruptured as a result of the steam exploding out of the neck of the bottle and a geyser of superheated steam and lye rocketed thirty feet into the air while the jug rocked back and forth from the terrific recoil. The situation was bad enough, but to make matters worse the generator was only about 10 feet from the side of our parent's house and sprayed the entire wall of the house with the highly corrosive lye. I spent the rest of that evening and all of the next day repainting the side of the house including all the window and door trim exposed to our homemade volcano. Dad never did figure out why most of the flowers in an adjacent garden withered and died.

Well, enough of nostalgia. But as the reader can imagine Bob, Charlie, and I developed strong and enduring scientific interests early in life along with great curiosity about nature's mysteries, which leads me back to the main topic. In 1960 I happened to come across two books lying on a table in the room Bob and I shared in the Teaneck, New Jersey home we grew up in. Both books dealt with a subject I had frequently heard about, but did not put much credence in at the time - UFOs. Major Donald H. Keyhoe was the author of one of the books titled "Flying Saucers are Real". The other book was written by a Frenchman, Aime Michel, and carried the provocative title "Flying Saucers and the Straight Line Mystery".

This latter book contended that the location of UFO reports when plotted on a map formed a network of linear grids suggesting a systematic exploration of a given region. While I was somewhat dubious about this particular claim, my curiosity was nonetheless piqued. In Major Keyhoe's book the first thing I noticed was the seriousness with which the author treated his subject. He cited case after case of UFO reports submitted by highly qualified professionals such as aerospace engineers, airline pilots, college professors, doctors, etc. It was clear to a novice like myself that a great mystery had been thrust upon the world in recent years. But surprisingly, the phenomenon's origins, as the two authors pointed out, could conceivably be traced to antiquity if one interpreted certain accounts in ancient texts as describing what is being seen in modern times, but couched in the terminology and myths of the time. For example, a Roman account credited to Pliny the Elder spoke of fiery shields that sailed through the daytime skies. Similar tales using almost the identical terminology were set down thousands of years earlier by the ancient Egyptians.

The lax attitude of the Air Force towards the UFO problem spurred Major Keyhoe to set up his own organization to investigate the phenomena. In 1956, after retiring from the Air Force

he organized the National Investigations Committee on Aerial Phenomena (NICAP), which collected reports from around the world. A number of other UFO investigation groups were set up in this country and abroad during the 1950's. Among them was APRO (Aerial Phenomena Research Organization) based in Tuscon, Arizona and founded by Jim and Coral Lorenzen. All these groups had one goal in common - to get to the bottom of the UFO question as quickly as possible. It was thought that sooner or later hardware would show up or an incontrovertible film might be made.

Unfortunately, four decades later, we are still trying to resolve this mystery. But, on the plus side a significant number of high quality sighting reports have been compiled by different organizations. NICAP and APRO are both now defunct, but new organizations have arisen in the intervening years, and many of these are conveniently accessible via the internet. These internet sites have the added advantage of immediacy, often having reports posted within a day or two. This is an excellent database from which a prospective researcher can begin his or her study of the phenomena.

But despite the availability of the data it still takes a discerning eye to separate the wheat from the chaff. In other words, extracting genuinely puzzling cases from common occurrences can be a daunting task for even experienced investigators. Most 'scientific' assessments of the UFO question suffer from this inability to distinguish truly puzzling cases from ordinary phenomena and patently transparent hoaxes.

For example a recent 'scientific' TV documentary devoted a large segment of its broadcast time to analyzing the pendulum motion of a model UFO suspended from a wire as it swung back and forth! Another alleged UFO incident that was dissected on this show was the widely publicized New Zealand case where a distant light source over or near the ocean's surface was

filmed by a North Island TV news crew at night from the hold of a cargo plane. There was no reference point to judge whether the light source was moving relative to the sea's surface. This circumstance alone would disqualify the light source for inclusion in the UFO category since it could not be distinguished from a manmade light source - albeit an extremely bright one. The motion recorded by the camera was almost certainly due to camera instability induced by vibrations in the aircraft. Additionally, any amateur photographer would have immediately recognized that the camera was out of focus. The evaluation that this light was a Japanese squid fishing boat was most likely the correct explanation.

Treating cases such as this as the essence of the UFO phenomena obscures its real nature. A seasoned and honest investigator would have very quickly dispatched these reports to the circular file. The program's conclusion, not surprisingly, was that the UFO problem was an issue for psychiatrists and not for the physical sciences. If all UFO reports were so transparent, this assessment would be completely justified. But as I was to find out from my own research, these easy cases, which frequently surfaced in tabloid magazines as fodder for the gullible, were not the true core of the UFO phenomena.

In the early years of my exposure to this subject it became increasingly apparent that a significant percentage of eyewitness accounts stood out from the background "noise" by exhibiting a narrow range of behavior that clearly distinguished genuine UFO reports from misidentified natural and manmade phenomena. Certain characteristics repeat themselves time and again in this filtered category of UFO events, no matter how widely spaced the sightings are geographically, or what the language and cultural background of the witnesses may be.

One intriguing detail common to many close encounters is the loss of electrical power in vehicles and homes, or even entire towns, during the interval a UFO remains in close proximity.

While debunkers dismiss such incidents as coincidence, or the nervous reaction of witnesses cutting their auto engines inadvertantly, the facts of most of these cases when reviewed closely hardly seem to support such mundane conclusions. Moreover, witnesses invariably reported that their engines and lights spontaneously come back on with the departure of the aerial visitor. Such *apparent* electromagnetic effects trace back to the very first widely publicized UFO report - the Kenneth Arnold case in 1947, when a Portland prospector by the name of Fred Johnson reported his magnetic compass behaved strangely with the passage of objects thought to be the same ones observed by Arnold (I emphasize apparent since, as we will see later, another mechanism may be the real culprit in engine interference cases).

If these electromagnetic interference cases were isolated one of a kind events they could be treated as mere flukes that might be explained rationally if more complete and detailed information were available to the investigator. However, when a cluster of such peculiar events are experienced by separate witnesses in a given region over a brief span of time, it challenges our very sense of reality. But this is precisely the nature of the UFO phenomena. Of course, even a cluster might be ascribed to a freak of nature, such as unusual ball lightning, if that cluster was the only example of its kind. Such a 'scientific' explanation while salvaging our sanity and appealing to our common sense is equally untenable since numerous clusters are on record, in addition to many examples of UFO related car stoppages. The serious researcher is left only to ponder the meaning of it all.

With the passage of decades the patterns that were evident in the sightings of the 1950's are still being manifested in the late 1990's. Of special interest to physicists and other specialists willing to examine the accumulated data are apparent gravitational effects when UFO's come in proximity to the ground or to witnesses. These effects are quite common in the UFO literature

and seem to be telling us something about the *modus operandi* of the phenomena. Some of the more reliable photographs seem to hint at inertial effects supporting and complementing eyewitness testimony.

Among a series of photos taken by Rex Heflin, an Orange County, California highway traffic investigator, is one showing disturbance of ground debris directly beneath a hovering, squat, hat shaped object. The debris and dust appears to be *ascending* toward the object as if the normal gravitational field at that location is partially nullified, or possibly even inverted. These photos, four in total, were taken in broad daylight, around noontime August 3rd, 1965, an exceptionally clear day, on a local road not far from the Santa Ana freeway. All the photos were taken with a polaroid camera from inside the cab of the truck used by Heflin in his work for the County. Several of the photos show sunlight glinting off a seemingly smooth, but dark, metallic surface. The object in the photos is unquestionably real, and not the result of a double exposure.

Concurrent with the close proximity of the object electromagnetic interference was noted. When Heflin attempted to contact his supervisor via two-way radio he found to his consternation that his equipment was dead. It did not return to normal functioning until the object had left the scene by accelerating into the distance at “about the same speed as a jet”, and leaving behind a smoke ring of unknown composition. At the time Heflin estimated the diameter of the object at 30 feet, and its thickness at 8 feet, based on an estimated distance of the object to the observer of 1/8th mile and height above the ground of 150 feet. These figures were disputed by Air Force analysts who based their study on poor quality wire service images reproduced from the original photos.

In October of that same year two North American Aviation engineers reevaluated the sighting locale with Rex Heflin, scrutinizing the minutest landmarks both foreground and

background in the original photos, to establish the precise position of the truck. They concluded that Heflin's original estimates of size and distance were essentially correct. Still later, a photoanalysis conducted at the Jet Propulsion Laboratory in Pasadena, California using edge enhancement techniques further confirmed Heflin's estimates. This study also revealed a peculiar unnatural lighting effect in the shaded underside of the object. The light is unusual in that it seems to emanate from the airspace directly *beneath* the object, rather than from its solid surface. Having lived in southern California for a period of time I personally can attest to the intensity of sunlight there due to the absence of trees, the clear skies, and the generally low humidity. It's therefore surprising that any artificial light would show up at all on photographic film in broad daylight. This peculiar light emanation is probably related to the general luminosity enveloping these objects when observed at night.

The summer of 1965 marked the height of a worldwide UFO epidemic with sightings occurring as far afield as Antarctica and Siberia. Indeed, I experienced a sighting of my own just a day before the Heflin photos from the front yard of my parents home in Teaneck, New Jersey after being alerted of unusual objects being observed in the four corners region of the Southwest. At 9:30 PM on August 2nd I observed a boomerang shaped object appearing self lumious with a dull orange color that rapidly traversed the sky, from west to east, at near meteoric apparent speed. Fortuitously, my 10 power binoculars were only a few inches from my head as I lay flat on my parents front lawn, enabling me to quickly train them on this unusual nocturnal apparition. Though my observation lasted barely a second and a half, I was able to discern the shape and texture of this sky phantom, and while its speed and trajectory superficially resembled a meteor its unwavering physical appearance did not.

At 2:00 AM on the morning of August 3rd, 1965, ten hours before Heflin took his famous photos in Orange County, California, a TV newsman 17 miles south of the Texas-Oklahoma border videotaped a luminous aerial phenomena with horizontal bands of light immersed in a general halo of light. Barely a month earlier scientists at the Chilean, British and Argentine Antarctic bases observed a rapidly maneuvering, multicolored, lens shaped object that at times became stationary. This was seen by more than 20 individuals at the three different bases, and simultaneously involved loss of electric power at one of the bases - an extremely serious situation if it were to persist in such a harsh climate at the height of the Austral winter. Almost exactly one month after the Heflin photos were taken a rash of sightings inundated the New England area, highlighted by the Exeter, New Hampshire close encounter case with Norman Muscarello cited by Bob in section I. And these cases were only the tip of the iceberg in that hectic year of 1965. Clearly a phenomena of global dimensions was taking place in the spring, summer and fall of 1965.

Another UFO incident eliciting apparent inertial effects was the Coyne case of 1973 - a classic of UFO literature. Since Bob has detailed this sighting in section I, I will touch on it only briefly, if only to illustrate one of the stranger aspects of close encounter events. In this incident four members of an Army Reserve unit enroute to Columbus, Ohio in a Bell UH-1H "Huey" helicopter observed a rapidly approaching light, which they at first assumed was a high performance aircraft. Fearing a collision Captain Lawrence Coyne put the helicopter into an emergency descent at 2,000 feet per minute. But instead of colliding the unconventional cigar shaped object came to a sudden halt, positioning itself in front of and above the Huey. At this point a conical shaft of green light bathed the helicopter and all its crew members in a garish glow. Captain Coyne noted that despite the collective pitch control being in the full down position the

helicopter was *climbing*, as indicated by the altimeter rate gyro, at 1,000 feet per minute. The object departed after about 5 minutes and the helicopter returned to normal operation and flight characteristics.

Accepting this report uncritically as it stands, an impartial observer might posit that an artificial gravitational field countering the downward pull of earth's gravity was applied to the helicopter and its occupants. Had a recording 3 axis accelerometer been on board the Huey during this incident its data log could have corroborated the testimony of the four crew members helping to authenticate the reality of the event. Such solid scientific data would go a long way towards dispelling the arguments of skeptics, who assumed that the crew had observed a large bolide in the atmosphere.

Among other factors these critics neglected to take into account was an eyewitness report from a family on the ground describing what was evidently the same green beam illuminating their vehicle. This latter report did not come to light until sometime after the original incident, but its location coincided closely with the helicopter's position. The times matched as well. More importantly, no bolide or meteorite has ever remained in view for more than 10 or 15 seconds due simply to their enormous velocity.

When one reviews cases like this its difficult not to be persuaded that within a kernel, represented by a few percent of "good" UFO reports, lies a genuine mystery, which mainstream science largely ignores because of its sensational nature. Taking these reports at face value it's tempting to propose that our global society is bearing witness to products of a foreign, nonterrestrial technology (or technologies) *augering new physics that transcend our contemporary scientific knowledge*. Indeed, here lies one of the primary themes of this book, to determine if the extrapolation of current trends in theoretical physics can be shown to converge,

even if only approximately, with some of the observed manifestations of apparently novel physics displayed by what we presume to be the products of technically advanced extraterrestrial societies.

Unknown to Bob or myself in 1960, Dr. J. Allen Hynek, then consulting for the Air Force's *Project Blue Book*, had also concluded that UFOs, as he defined them, were worthy of scientific scrutiny. In the true spirit of an impartial investigator, Dr. Hynek remained cautious about interpreting the meaning and significance of the data that was flooding into the Blue Book files. As an astronomer he was fully cognizant of the immensity of the universe, and the strong likelihood that life, and possibly other intelligent civilizations could have arisen over the eons of time that the cosmos has existed. But for him it was too much of a leap of faith to carte-blanche ascribe the UFO phenomena to visitations from such civilizations.

As for myself, I knew I had found a subject in the spring of 1960, that would hold my interest for life. After all, everyone likes a good mystery. My parallel interests in science - particularly quantum mechanics and high energy particle physics - would, I hoped, someday provide a unique perspective on this subject, and fill a void painfully apparent in the deluge of pop-science literature being churned out by authors ignorant of the most basic principles of even a high school physics curricula. Little wonder mainstream scientists have treated this subject with disdain, and a zero expectation of profitable knowledge to be gained by its study.

Coming, personally, from the vantage point of four decades of exposure to the UFO literature, and thus able to filter out the 'overburden waste', I felt, as Dr. Hynek put it so succinctly, that there might well be genuine "paydirt" in the UFO "signal". The pregnant question facing investigators at the dawn of the 21st century is: can we decipher the signal, when and if we find it, and will it fit into the paradigm of our present worldview?

Always in the back of the mind of any researcher in this field must lie the appreciation that the UFO phenomena could be revealing to us a tantalizing glimpse of “genuinely new empirical knowledge”, as the late Dr. Hynek phrased it. But few scientists wishing to preserve their reputations and professional standing in the scientific community have dared entertain such thoughts, at least not in public. The result of this self imposed ban on scientific scrutiny of the UFO phenomena has been a paucity of research and speculation that is properly constrained by the principles and methodologies of science.

Just as nature abhors a vacuum, Bob and I felt it was high time for this situation to be remedied. Over the years we have formulated our own views and opinions on the UFO phenomena, but always within the context of accepted scientific standards. In the chapters to follow I will chronicle the maturation of these ideas from our many decades long odyssey of examining the UFO evidence, culminating in our intriguing, and sometimes quite unexpected, conclusions.