

UFOs - A Challenge to Mainstream Science

By Patricia B. Corbett

“What evidence is needed to convince mainstream scientists—and perhaps yourself—that the UFO phenomenon is real and worthy of scientific study?”

—Alexander Imich, Ph.D.

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For the last half of the 20th century, the UFO phenomenon has perplexed both the public and the scientific community. At the beginning of the 21st century, the overwhelming majority of the American public—about 70%—believes that UFOs are real and that they most likely are guided by intelligent beings from other worlds or dimensions. The scientific advances and discoveries that have resulted from our own human space program have helped shape the views of the American public on UFOs and extraterrestrial life.

The scientific community, however, remains uninterested in and scornfully dismissive of the question of the reality of UFOs and the possibility of intelligent extraterrestrial life visiting Earth. Yet, even as scientists and astronomers discover new planets and solar systems; find exotic life forms on Earth that thrive in extreme environments previously thought to be uninhabitable; and uncover tantalizing hints of life on at least 10 bodies within our own solar system, mainstream scientists continue to mock and deride those who take the phenomenon of UFOs seriously.

What is needed to change the prevailing view of mainstream science concerning UFOs? First, it is essential to present this important phenomenon to serious scientists in a context with which they are familiar, namely, the discipline of science as it is practiced today. Second, it is equally important to show that the tools of science can be used to investigate the UFO phenomenon and to reach valid conclusions about it. What is needed to accomplish this? Let's look at what science itself is and what it requires.

Science is an objective, disciplined methodology for investigating natural phenomena. Scientists—those having expert knowledge of one or more of the existing scientific disciplines--use the scientific method in their efforts to extend and deepen our understanding of the physical world. The scientific method is defined in the dictionary as "the principles and empirical processes of discovery and demonstration that are characteristic of or necessary for scientific investigation." In general, the scientific method involves the observation of a phenomenon, the formulation of a hypothesis about the phenomenon, experimentation designed to demonstrate the truth or falseness of the hypothesis, and a conclusion that validates or modifies the hypothesis.

Does the prevailing mindset foster a scientific inquiry into this subject? Unfortunately not. Despite the widespread public acceptance of the reality of UFOs, the impression one

receives about the phenomenon from the mass media is that it is not a serious subject worthy of the attention of serious minds. Rather, as presented on TV or in newspapers and magazines, the UFO phenomenon is a goofy, fringe subject of interest only to the uneducated, fans of science fiction and others with over-excited imaginations, or those who have taken too many drugs or drink too much. This general attitude presents a substantial obstacle when it comes to involving scientists in the study of UFOs.

There is an even more serious obstacle in the way of the scientific investigation of UFOs. The scientific and academic communities in particular do not take kindly to the investigation of the UFO phenomenon by their peers and colleagues. There have been significant negative consequences in terms of career and reputation for those scholars and scientists who have taken the subject seriously. The story of the internationally-renowned Harvard psychiatrist John E. Mack, MD is a case in point. After an exemplary 35-year career with Harvard, Dr. Mack was nearly stripped of his tenure and his license to practice medicine because of his investigations of UFOs and encounters with intelligent extraterrestrial beings.

Perhaps the most significant obstacle in the way of scientific research involves the official secrecy—based on national security claims--that surrounds the UFO phenomenon. Officially, since at least 1947, the U.S. government has dismissed UFOs as misidentifications of ordinary aircraft, planets, stars, or natural weather phenomena. Unofficially, over the same period, the U.S. government has taken an intense interest in UFOs, classifying them at a secrecy level higher than that for the hydrogen bomb. Even the President of the United States does not receive a full briefing on classified UFO matters. This cloak of secrecy keeps crucial hard data, collected by the military and a range of intelligence agencies, out of the hands of scientists, thus critically hampering a complete investigation of the phenomenon.

The late Carl Sagan, a proponent of the Search for Extraterrestrial Intelligence (SETI) program, which uses radiotelescopes to search for signs of intelligent life in the universe, was the foremost UFO debunker of the last 25 years. A statement that Dr. Sagan made regarding UFOs has been widely quoted, "Extraordinary claims require extraordinary evidence." In his view, the claims of those who accept the reality of UFOs are extraordinary but are not supported by sufficient objective evidence.

Noted UFO expert and best-selling author Budd Hopkins considers Dr. Sagan's remark to be disingenuous. According to Mr. Hopkins, "Extraordinary phenomena require an extraordinary investigation." In other words, the scientific community does not have the proof it needs because the scientific community is not undertaking a serious investigation of the UFO phenomenon. Why? Because the prevailing opinion among scientists is that UFOs do not exist. Since UFOs do not exist, there is nothing to investigate.

Is a scientific inquiry into this phenomenon worth the effort? Nuclear physicist Stanton Friedman, a man who has devoted the last 35 years to a scientific investigation of the UFO phenomenon, believes that if the mainstream media devoted the same amount of effort to solving the Cosmic Watergate that they did to solving the political Watergate, the UFO question could be answered in six months. Recently, Peter Sturrock authored a scientific

study of UFOs that was published in the Journal of Scientific Exploration which concluded that there exists a significant body of evidence about UFOs that demands a thorough scientific investigation.

So what do scientists need to conduct a serious investigation of the UFO phenomenon?
Scientists need:

1. A physical phenomenon to observe;
2. The formulation of a hypothesis about the phenomenon;
3. Experiments to test the hypothesis; and
4. Conclusions based on the results of the tests that confirm, refute or modify the hypothesis.

The UFO phenomenon meets all four of these scientific requirements:

1. There is a physical phenomenon to observe. UFOs have been seen worldwide for over 50 years and captured on still and motion picture film and on videotape. There are a number of databases available, each of which contains tens of thousands of documented reports of UFO sightings.
2. Hypotheses have been formulated. There are many variations of a simple hypothesis: UFOs are intelligently-controlled, physical craft not of Earthly origin.
3. There is physical evidence that can be scientifically tested. Physical evidence of UFO operations in and around the Earth's atmosphere, as well as on the surface of the Earth, exists and has been studied scientifically (e.g., soil samples, radiation effects, electromagnetic activity).
4. Evidence-based conclusions can be drawn by scientists. The results of the scientific tests will confirm, refute or modify the hypothesis that UFOs are physical craft not of Earthly origin.

The Best Available Evidence

The wealth of evidence available for scientific scrutiny cannot be brought out in detail in this brief essay. However, some of the major areas of research and some of the significant scientific contributions can be described as a starting point for scientists interested in the subject.

Contrary to popular accounts in the media, and to many scholarly articles on UFOs, the phenomenon is quite frequently reported by scientists, military personnel, police officers, commercial and private airplane pilots. Also contrary to popular belief, UFO reports are not limited to rural areas or confined to the United States. The phenomenon has been reported in about 150 nations and over major metropolitan areas in the U.S, the U.K, the former U.S.S.R., Germany, France, Spain, all the Scandinavian countries, China, Japan, South Korea, Australia, New Zealand, throughout Africa and Central and South America, and at both the North and South Poles. UFOs have also been reported quite frequently over civilian and military nuclear facilities; at military bases in the U.S. and worldwide; above and beneath

the surface of the Earth's oceans; and outside the Earth's atmosphere.

In other words, there is scarcely a place on Earth that UFOs have not been witnessed and reported by reliable people. The best available evidence for scientists to ponder comes from every corner of the world. Scientists should be particularly impressed by the evidence presented by the following professionals:

- Astronomers
- Astronauts and Cosmonauts
- Aeronautical engineers
- Air traffic controllers
- Airline, military and private pilots
- Civil defense and ground corps observers
- Government officials
- Military personnel other than pilots
- Police officers
- Professors of engineering, physics, space science
- Professional photographers (still, motion picture and video)
- Radar operators

The reports made by numerous credible, trained men and women have provided a wealth of “hard data” that scientists can analyze with known instrumentation and procedures. In addition, scientists can review studies of such data that have already been completed by reputable scientists. Two recent examples are described briefly below.

If a serious study of the physical evidence relating to the UFO phenomenon—such as the one conducted by Peter A. Sturrock and his colleagues and described in the book *The UFO Enigma: A New Review of the Physical Evidence*—were conducted by scientists, it would not only raise the level of the debate but also encourage more scientists to study the phenomenon, develop and test new ideas, and draw their own conclusions. This could not help but advance our knowledge of this perplexing phenomenon. Sturrock provides convincing evidence that the UFO phenomenon is accessible to scientific analysis and that it merits and warrants scientific study.

In the book, *Unconventional Flying Objects: A Scientific Analysis*, Paul R. Hill, a well-respected NASA scientist, has put the UFO phenomenon to just the kind of rigorous scientific scrutiny that the phenomenon demands. His research shows that UFOs “obey, not defy, the laws of physics.” Dr. Hill has reported on the basic science and technology that is at the heart of the near-miraculous performance capabilities that witnesses describe UFOs as possessing. In precise detail, Dr. Hill shows how the descriptions of UFO behavior, made by credible witnesses, are in accord with what we know about physics. Serious scientists cannot ignore Dr. Hill's important work.

Dr. J. Allen Hynek, PhD, a highly respected astronomer, was for years the leading Air Force consultant for Project Blue Book, the official U.S. Air Force investigation of flying saucers. The evidence gathered by the Air Force—which was determined to “explain away” the phenomenon—changed Dr. Hynek from a UFO skeptic to one of the world's leading scientific experts on the UFO phenomenon. Any scientific investigation of UFOs must include the study of Hynek's books *The UFO Experience*, *The Edge of Reality* and *The Hynek UFO Report*. It is crucial to keep in mind that, although Dr. Hynek became aware of the dishonesty and duplicity of the Air Force in its UFO-related efforts, it was the physical evidence that caused Dr. Hynek to make a radical turn from a UFO debunker to a UFO scholar. Even the work of Dr. Edward U. Condon, a man who had prejudged the UFO phenomenon and determined the results of his investigation before he began it, provides scientific evidence supporting the belief that UFOs are a real phenomenon worthy of scientific inquiry.

Dr. Condon was commissioned by the U.S. Air Force to study UFOs. The official goal was to understand the phenomenon. The unofficial goal was to wipe UFOs off the public radar screen once and for all. On January 8, 1969, “The Final Report of the Scientific Study of Unidentified Flying Objects,” conducted by the University of Colorado, under contract to the United States Air Force, was released. Dr. Condon was the scientific director.

The results of the report were used by the Air Force as its justification to close Project Blue Book and end its official involvement with UFOs. In a press release that accompanied the complete 900-plus page report, Dr. Condon claimed that the evidence suggested that UFOs were not worthy of scientific inquiry, that nothing of further value would come from such an effort. The media only looked at the press release, not the actual report, accepted Dr. Condon's claims at face value, and trumpeted them worldwide. It seemed the scientific case was closed.

However, serious scientists, such as David R. Saunders (co-Principal Investigator of the Condon Committee), Stanton Friedman, Peter A. Sturrock and others have noticed major discrepancies between what the press release said was in the report and what was actually in the report. For example, the press release stated that only a few percent of cases investigated remained unsolved, whereas, in fact, about 30 percent of the cases investigated remained unexplained. This is a very high figure indeed, one suggesting the need for further scientific study. In addition, a reading of the text of the report clearly shows that UFOs present a significant challenge to contemporary science. Even the work of a determined debunker such as Dr. Condon revealed that the UFO phenomenon is in urgent need of scientific evaluation and comprehension.

Carl Sagan was the co-editor, along with Thornton Page, a professor of astronomy and NASA research associate, of a very useful book for scientists intrigued by the UFO phenomenon, *UFOs: A Scientific Debate*. The book is the result of the proceedings of the American Association for the Advancement of Science. Scientists with divergent views from different disciplines—e.g., astronomy, physics, meteorology, psychiatry, psychology, sociology—applied the scientific method to the study of this controversial topic.

The scientists analyzed photographs, radar evidence, physical traces of UFOs, witness credibility and psychology, natural phenomena often misidentified by layman as UFOs, popular belief in UFOs and the role of the mass media in the phenomenon. It should be clear to any scientist reading this book that UFOs are a serious subject and that most major questions about them remain unanswered.

Richard M. Hall is the editor of *The UFO Evidence*, a report put out in 1964 by the National Investigations Committee on Aerial Phenomena (NICAP). This volume is valuable both historically and in terms of useful scientific information. NICAP focused its research efforts on credible reports from qualified witnesses that showed strong, identifiable patterns and consistencies in the data from one source to another. Later scientific investigations have confirmed the findings of this 1964 report and contributed important new information as well.

The UFO Evidence, a reference that has been cited in nearly every major study of UFOs in the past four decades, is an important summary of the evidence of UFO reality compiled in the early days of the “modern era” of UFO studies. It provides scientists with sample cases that show general features of UFO reports; cases indicating that UFOs are intelligently controlled; reports of sightings by Air Force pilots, navigators, and other personnel; observations by airline, military and private pilots; reports from professional scientists, engineers, astronomers and aeronautical engineers; as well as police officers and credible civilians. In addition, the report contains evidence relating to the electro-magnetic effects of UFOs, radar cases, physical and physiologic effects of UFOs, photographic and acoustical evidence; statistical analyses of patterns of UFO maneuvers, appearance, flight characteristics and recurrent observations; and details about many other important aspects of this phenomenon. *The UFO Evidence* makes a strong case for both the reality of UFOs and the great value of a scientific study of the phenomenon.

In December 1995, the Center for UFO Studies (CUFOS); the Fund for UFO Research (FUFOR); and the Mutual UFO Network (MUFON) produced an exciting and important publication, *Briefing Document on Unidentified Flying Objects: The Best Available Evidence*. Although it presents only the tip of the iceberg when it comes to the scientific and military evidence available worldwide concerning UFOs, this publication is especially valuable to scientists because it offers readers the most carefully documented information available.

As it makes its case for UFO reality, and for the extraterrestrial origin of UFOs, the briefing document presents radar evidence, visual evidence, physical evidence, descriptions of the shapes of UFOs and of their performance capabilities. All of this information can be evaluated scientifically. The document details prime examples of UFO reports made around the world from the 1950s through the mid-1990s. This briefing document may be the most convincing report yet compiled suggesting that UFOs are real. It definitely makes an undeniable case for further scientific investigation into the UFO enigma and should be required scientific reading.

There are many other valuable scientific books and papers that have been published over

the past 50 years, all of which provide evidence that UFOs are not misidentified natural phenomena or man-made objects, the products of the minds of highly imaginative or delusional people, or the malicious hoaxes of merry pranksters around the globe.

In addition to the substantial body of evidence available for scientists to review, there are many astronauts, cosmonauts, scientists and prominent government and military officials from many nations around the world who accept the reality of UFOs. This information has come from either direct public statements or from classified documents that have been released to the public. These individuals include such U.S. military, intelligence and political figures as:

- General Nathan D. Twining, Chairman of the Joint Chiefs of Staff (1957-1960);
- J. Edgar Hoover, Director of the FBI;
- General Walter Bedell Smith, Director of the CIA (1950-1953);
- General Douglas MacArthur;
- Captain Edward J. Ruppelt, Chief of project Blue Book;
- Admiral Roscoe Hillenkoetter, first Director of the CIA (1947-1950);
- General Curtis LeMay, Air Force Chief of Staff;
- Major General E.B. LeBailly, U.S. Air Force Director of Information;
- General George S. Brown, U.S. Air Force Chief of Staff;
- Lt. Col. Lawrence J. Coyne, U.S. Army Reserve helicopter pilot;
- Victor Marchetti, CIA official;
- President Harry S. Truman;
- President Gerald Ford;
- President Jimmy Carter;
- President Ronald Reagan;
- Senator Barry M. Goldwater;
- Representative John W. McCormack, Speaker of the House;
- Representative Jerry L. Pettis;
- Representative Steven H. Schiff.

If military, intelligence and political figures do not impress scientists when it comes to UFOs, perhaps American astronauts will. Among the astronauts who have either witnessed UFOs themselves, or are aware of UFO reality, are Gordon Cooper, Donald "Deke" Slayton, Edgar Mitchell, Al Worden, Eugene Cernan, and Story Musgrave. They are joined by the Soviet cosmonauts Yevegni Khrunov, Vladimir Kovalyonok, and Major General Pavel Popovich.

Scientists who are aware of UFO reality include Dr. Clyde W. Tombaugh, the American astronomer who discovered Pluto; Dr. Frank B. Salisbury, professor of plant physiology at Utah State University; Dr. J. Allen Hynek, Chairman of the Dept. of Astronomy at Northwestern University and scientific consultant for Air Force UFO investigations from 1948 through 1969; Dr. Leo J. Sprinkle, professor of psychology at the University of

Wyoming; Dr. James E. McDonald, Senior Physicist at the Institute of Atmospheric Physics at the University of Arizona; Dr. Robert M.L. Baker, Jr., President of West Coast University; Stanton T. Friedman, nuclear physicist and UFO researcher; Dr. Margaret Mead, world-renowned anthropologist; Dr. Richard Haines, psychologist for the Ames NASA Research Center; Dr. Peter A. Sturrock, Professor of Space Science and Astrophysics and Deputy Director of the Center for Space Science and Astrophysics at Stanford University; Dr. Jacques Vallee, astrophysicist, computer scientist and UFO author; and Dr. John E. Mack, Professor of Psychiatry at The Cambridge Hospital, Harvard Medical School.

In addition to these eminent figures, equally impressive military, intelligence and political figures have come forward with information and evidence about UFO reality in Argentina, Belgium, Brazil, Britain, Canada, China, France, Germany, Greece, Hungary, Indonesia, Israel, Japan, Mexico, Russia, Spain, Switzerland, Zimbabwe and many other nations.

Scientists can also avail themselves of the hard data about UFOs that are contained in a wide range of databases that are available to researchers. Among them are:

UFOCAT – a computer catalog of raw UFO reports of sightings from around the world, started in the 1970s by Dr. David Saunders. There are over 50,000 reports from five continents. UFOCAT is maintained by the Center for UFO Studies (CUFOS). GROUND TRACES – a catalog of UFO cases where plants and soil were affected is maintained by CUFOS.

PILOT CASES – NASA scientist Richard Haines has a computerized catalog of UFO sightings by military, commercial, private and test pilots that has more than 3600 cases going back to the early 1980s. These are just a few of the databases that are available to scientists who want to investigate the evidence that has been collected concerning UFOs.

Obstacles in the Way

The valuable scientific books and papers that have been published over the past 50 years, and the worldwide UFO reports made by highly credible people, cannot be glibly dismissed as errors, fraud or malicious hoaxes. The body of evidence that diligent researchers have compiled cannot fail to convince any open-minded scientist that UFOs are real and worthy of scientific study.

Yet few scientists look at the evidence and there is no major scientific exploration of this phenomenon by mainstream science. How can this be? What are the obstacles in the way?

In the 1950s, the Brookings Institute issued a report entitled, “The Implications of a Discovery of Extraterrestrial Life.” The report suggested that out of all groups in society “scientists and engineers may be the most devastated by the discovery of relatively superior creatures.” Is the finding that the discovery of intelligent life would be devastating to human scientists still true today? In a recent survey, 75 percent of scientists said they would like to learn more about UFOs.

In 1976, Peter A. Sturrock conducted a small survey of members of the American Astronomical Society. He found that most of the respondents were curious about UFOs. However, while scientists express interest in the question of UFOs and extraterrestrial life in anonymous surveys, they still remain, in general, derisive and dismissive in their public statements about UFOs.

Michael E. Zimmerman, a professor of philosophy and former Chair of the Department of Philosophy at Tulane University believes that many scientists refuse to discuss UFOs for three reasons: (1) fear of loss of social status through ridicule; (2) superior non-human intelligence threatens personal psychology and worldview; and (3) fear of social chaos in the face of ET superiority. However, Prof. Zimmerman also sees signs of change. He notes that at least some scientists are now beginning to take the UFO and the related ET-abduction phenomena seriously and to study them systematically. Zimmerman even suspects that some scientists and government officials are slowly, carefully leaking information to the public about UFO reality and ET presence to prepare the public for the revelation that extraterrestrials are visiting our planet.

In the opinion of Peter A. Sturrock, the lack of public funds to support UFO research is a major obstacle in the way of significant scientific investigation. Like Prof. Zimmerman, he notes that UFO research is not considered respectable in academic and scientific circles and that this keeps people from pursuing serious work in the area. Dr. Sturrock is of the opinion that, if scientific progress is to be made in this field, public opinion must be galvanized to demand that UFO research be supported with significant funding from the Federal government. The recent study directed by Dr. Sturrock concluded that (1) the UFO phenomena is complex and not likely to be solved by one simple universal answer and (2) the scientific investigation of the unexplained observations that characterize the UFO phenomenon will most likely lead to important new knowledge.

Conclusion

Sturrock and others have observed that scientists are interested in UFOs but unwilling to become involved publicly. Scientists say "show me the evidence" but do not study the reams of evidence available. Carl Sagan has said that "extraordinary claims require extraordinary evidence." Mainstream scientists often quote Sagan to defend their reluctance to look into the question of UFOs. However, today's scientists are like the scientists of Galileo's day who refused to look into the telescope to see the moons of Jupiter with their own eyes.

What is needed? We do not need objective evidence. There is plenty of hard data about all aspects of the UFO phenomenon just begging for scientific evaluation. What is needed on the part of science today is a radical shift in its worldview, in its mindset. What can bring about this profound change, which some call a "mindshift"?

Perhaps scientists will only change after encountering the UFO phenomenon directly,

through a sighting of a craft in the sky, a craft on the ground with entities nearby, or even more dramatically, through a direct, personal encounter with non-human intelligences. Such an experience would most certainly transform even the most die-hard skeptic and debunker. Or perhaps scientists need to undergo the kind of transformative event that Edgar Mitchell experienced on his return voyage from the moon to the Earth, when he intuitively perceived that the universe is self-aware and that everything is interconnected.

It may take more than objective, physical evidence alone to convince scientists that UFOs are real and worthy of scientific investigation. But a start has to be made somewhere. It can be made with the evidence now at hand, evidence that grows daily as UFO reports continue to come in from around the world. The data gathered by dedicated researchers over the past 50 years await a new Galileo or Newton to synthesize into a worldview that is broader and deeper than today's reigning paradigm. Too many scientists today are demanding proof, instead of doing the hard work needed to demonstrate the reality of UFOs and to uncover the incontrovertible proof of the existence of intelligent life beyond Earth.

In 1956, in his last published work, *Contact with Space*, the pioneering scientist Wilhelm Reich wrote, "What do they want for proof? There is no proof. There are no authorities whatever. No President, Academy, Court of Law, Congress or Senate on this earth has the knowledge or power to decide what will be the knowledge of tomorrow...Only the good old rules of learning will eventually bring about understanding of what has invaded our earthly existence. Let those who are ignorant of the ways of learning stand aside, while those who know what learning is, blaze the trail into the unknown."

Where are the scientists who will lead us in our search for the knowledge of tomorrow? The tools needed are at hand; the information we need is there, waiting to be discovered. The UFO phenomenon, dismissed and derided today, may prove to be the key to the lock that will open the door to our cosmic future.

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