

**Science and the Failure To Investigate Unidentified Aerial Phenomena**

**by**

**Leslie Kean**

**A Research Report  
Commissioned by SCI FI Channel  
October 22, 2002**

## Executive Summary

### The UFO phenomenon is real

Unidentified aerial phenomena, otherwise known as UFOs, are real, not the stuff of science fiction. Something for which there is no scientific explanation has been observed in America's (and the world's) air space for over fifty-five years. Trained observers -- pilots, air traffic controllers, radar operators, astronauts, military personnel -- and government agencies have reported and documented spectacular events visually, photographically, and on radar. Many accounts are available in the literature.

ß **Despite intense public interest, there has been no independent, federally financed scientific research conducted on these phenomena since the flawed and biased 1969 Condon report.**

### The findings of Dr. J. Allen Hynek

The late J. Allen Hynek, professor of astronomy at Ohio State University and later chairman of the astronomy department at Northwestern University, was an official astronomical consultant to the U.S. Air Force's Project Blue Book. His classified report for the Air Technical Intelligence Center (ATIC) at Wright Patterson Air Force Base recommended that the UFO question be given "the status of a scientific problem," freeing the scientists from the restraints of secrecy which confuse the public. "The first effort should be to determine with great accuracy what the phenomena to be explained really are and to establish their reality beyond all question," he said.

ß **His request for a scientific study was not granted. Instead, the Air Force, CIA, and later the 1969 University of Colorado Condon report undermined valid scientific data through secrecy and deceptive press releases.**

### The Congressional testimony of Dr. James E. McDonald

On July 29, 1968 the House Science and Astronautics Committee heard the testimony of Dr. James E. McDonald, senior physicist of the Institute of Atmospheric Physics and Professor of Meteorology at the University of Arizona. A respected authority and leader in the field of atmospheric physics, McDonald had authored highly technical papers for professional journals. He spent two years examining formerly classified official file material and radar tracking data on UFOs; interviewing several hundred witnesses; and conducting in-depth case investigations, details of which were provided to the Committee.

McDonald told the Committee that, "no other problem within your jurisdiction is of comparable scientific and national importance...the scientific community, not only in this country but throughout the world, has been casually ignoring as nonsense a matter of extraordinary scientific importance."

ß **Despite an apparent positive response from some Committee members, the requests of McDonald and other scientists for further action by the Congress never materialized.**

## **Seeking UN sponsorship**

Between 1975 and 1978, Sir Eric M. Gairy, Prime Minister of Grenada, proposed to the United Nations General Assembly that the UN establish “an agency or a department of the United Nations for undertaking, coordinating, and disseminating the results of research into Unidentified Flying Objects and related phenomena.”

Hynek, with his associate Dr. Jacques Vallee and Lt Col. Larry Coyne, a US Army pilot who almost collided with a UFO in December, 1978, asked that the United Nations “provide a clearing house procedure whereby the work already going on globally can be brought together in a serious, concentrated approach to this most outstanding challenge to current science.” He pointed out that UFOs had been reported in 133 member states of the UN and that there existed 1300 cases where “there appears physical evidence of the immediate presence of the UFO.”

β **Like the Congressional hearings of 1968, the proposals got nowhere at the UN.**

## **The research of Dr. Peter Sturrock**

In 1997, Dr. Peter A. Sturrock, emeritus professor of applied physics at Stanford University and emeritus director of Stanford’s Center for Space Science and Astrophysics, organized and directed a four-day workshop funded by philanthropist Laurance Rockefeller. The purpose of the conference was to rigorously review purported physical evidence associated with UFO reports and to assess whether the further acquisition and investigation of such evidence is likely to help solve the UFO problem.

Seven investigators presented cases with photographic evidence; luminosity estimates; radar evidence; interference with automobile functioning; interference with aircraft equipment; apparent gravitational or inertial effects; ground traces; injuries to vegetation; physiological effects on witnesses; and analysis of debris.

β **A review panel of nine distinguished scientists from diverse fields recommended continued careful evaluation of UFO reports stating that, “New data, scientifically acquired and analyzed” could provide useful information and “physical scientists would have an opportunity to contribute to the resolution of the UFO problem.”**

## **The French government studies the phenomenon**

The French space agency known as CNES (Centre National d’Études Spatiales) has been the only government agency to conduct a consistent, non-military investigation into UFO incidents for over twenty years through its agency called SEPRA (Service d’Expertise des Phénomènes de Rentrées Atmosphériques).

In 1999, four-star General Bernard Norlain, former commander of the French Tactical Air Force, and other retired generals and admirals from the French Institute of Higher Studies for National Defense; Jean Jacques Velasco, head of SEPRA; Andre Lebeau, former head of CNES, and a team of scientists and engineers, released an historic study titled *UFOs and Defense: What Should We Prepare For?* The group called themselves the COMETA, meaning “Committee for In-depth Studies.”

The French group spent three years examining nearly 500 international aeronautical sightings and radar/ visual cases, and previously undisclosed pilots' reports. Their three-year study drew on data from government and military sources around the world. It concluded that about 5 percent of sightings on which there is solid documentation seem to be "completely unknown flying machines with exceptional performances that are guided by a natural or artificial intelligence."

- β **To address the problem, the COMETA urged international action. It recommended that the European Union undertake diplomatic action with the United States "exerting useful pressure to clarify this crucial issue, which must fall within the scope of political and strategic alliances." The group openly challenged US denial of the UFO problem.**

### **Britain's former defense chief weighs in**

Great Britain's former Chief of the Defense Staff and five-star Admiral Lord Hill-Norton has taken an outspoken stand in favor of scientific research. Two years ago, in response to his government's public dismissal of a multiple-witnessed landing of a glowing craft that left physical ground traces at Bentwaters Air Force base in 1980, he said:

- β **"This should be the subject of rigorous scientific investigation and not the subject of rubbishing by tabloid newspapers."**

### **Aviation safety is a concern**

In 2000, Dr. Richard Haines, a retired senior aerospace scientist from NASA-Ames Research Center and formerly NASA's Chief of the Space Human Factors Office, authored a report documenting over 100 cases of pilot encounters with unidentified aerial phenomena that raise safety concerns, including 56 near misses. The objects paced the aircraft at relatively near distances, disabling on board instrumentation and sometimes caused pilots to make sudden, evasive changes in their flight paths. Most incidents remain unreported due to the ridicule and official debunking policy that the pilots face. According to the report, "Aviation Safety in America – A Previously Neglected Factor," published by the National Aviation Reporting Center on Anomalous Phenomena (NARCAP) founded by Haines,

- β **"Responsible aviation officials should take [these] phenomena seriously and issue clear procedures for reporting them without fearing ridicule, reprimand or other career impairment and in a manner that will support scientific research."**

### **It's time for a scientific study of UFOs**

The national security argument is no longer acceptable as a justification for the U.S. government withholding of decades old reports of events and physical samples that may have been recovered. Scientists are the proper authorities to determine the true nature of the UFO phenomena. They stand ready and waiting to conduct comprehensive, ongoing studies, if only the resources are provided. The public appears ready to support the research with its tax dollars, if only they are given the opportunity.

- β **The policies and attitudes of certain government officials and agencies must change so that the investigation of unidentified aerial phenomena can move forward with the rest of contemporary science.**

# Science and the Failure To Investigate Unidentified Aerial Phenomena

## Overview

“Physicists working in Europe announced yesterday that they had passed through nature's looking glass. . . opening up the possibility of experiments in a realm once reserved for science fiction writers,” stated a September *New York Times* article about the creation of antimatter.<sup>1</sup>

A scientific probe into unidentified aerial phenomena, also known as UFOs, could do the same thing. Yet there has been no independent, federally financed scientific research conducted on these phenomena since 1969, despite intense public interest. A September 2002 Roper Poll, prepared for the SCI FI Channel, showed that 56% of Americans believe that UFOs are something real and 72% believe that the government is not telling the public everything it knows about UFO activity.<sup>2</sup>

UFOs are not science fiction. In the 1950's the Air Force defined them as “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 positively identified as a familiar object.”<sup>3</sup> There is no implication of origin inherent in the meaning of the word “UFO.” It simply means “unidentified.”

These objects have been observed in our air space for over fifty years. Trained observers - pilots, air traffic controllers, radar operators, scientists, military personnel -- and government agencies around the world have reported and documented spectacular events visually, photographically and on radar. Accounts of these incidents are widely available in the literature.<sup>4</sup>

Most of the thousands of UFO reports submitted each year can be explained. But approximately 5% to 10% represent solid objects capable of speeds, maneuverability and luminosity far beyond current known technology.<sup>5</sup> As far as we know, these are not natural and they are not manmade. The question is: What are they? Why haven't scientists been able to study them and provide us with answers?

Those scientists who have examined the evidence agree that for the benefit of all humanity, our government must disclose information on the phenomenon to facilitate a full-fledged, independent scientific investigation spanning many disciplines.

## “The phenomena is something real”

In 1947, Lt. General Nathan Twining, Commander of Air Materiel Command at Wright Patterson Air Force Base, sent a now-famous secret memo concerning “Flying Discs” to Brig. General George Schulgen, Chief of the Air Intelligence Requirements Division at the Pentagon.

“The phenomena is something real and not visionary or fictitious,” he wrote. “The reported operating characteristics such as extreme rates of climb, maneuverability (particularly in roll), and action which must be considered evasive when sighted or contacted by friendly aircraft and radar, lend belief to the possibility that some of the objects are controlled either manually, automatically or remotely.” Twining described the objects as metallic or light-reflecting, circular or elliptical with a flat bottom and domed top, and usually silent.

The AMC Commander stressed the need for “physical evidence in the shape of crash recovered exhibits which would undeniably prove the existence of these objects.”<sup>6</sup> In order to make a detailed study and investigation, the Air Force established the top secret Project Sign. It presented an “Estimate of the Situation” to Chief of Staff General Vandenberg, concluding that the evidence indicated UFOs were interplanetary. Vandenberg decided the report lacked proof and sent it back; it was declassified and burned shortly thereafter.<sup>7</sup>

From then on, it was clear to Air Force investigators that the effort must shift to a search for other explanations, such as Soviet spacecraft or weather balloons. Project Sign was renamed Project Grudge, which became Project Blue Book in 1951. With no access to case information classified higher than Secret, the project was largely a public relations effort attempting to explain away as many sightings as possible.

### **Government enlists scientists to undermine science**

Documents show that while grappling with the reality of unexplainable flying objects, some government officials could not so easily dismiss the possibility of something interplanetary. In July of 1952, the FBI was briefed through the office of Major General Samford, Director of Air Intelligence, that it was “not entirely impossible that the objects sighted may possibly be ships from another planet such as Mars.” Air Intelligence is “fairly certain” that they are not “ships or missiles from another nation in this world,” the FBI memo reports.<sup>8</sup>

Another FBI memo stated some months later that, “Some military officials are seriously considering the possibility of planetary ships.”<sup>9</sup>

The CIA had urgent national security concerns. H. Marshall Chapman, Assistant Director of Scientific Intelligence, told the Director of Central Intelligence (DCI) in 1952 that, “Sightings of unexplained objects at great altitudes and travelling at high speeds in the vicinity of major U.S. defense installations are of such nature that they are not attributable to natural phenomena or known types of aerial vehicles.”<sup>10</sup>

The agency decided to establish a “national policy” as to “what should be told the public regarding the phenomenon, in order to minimize risk of panic,” according to government documents. It would be presented to the National Security Council. Chapman said the DCI must be “empowered” to initiate the research necessary “to solve the problem of instant positive identification of unidentified flying objects.”<sup>11</sup>

To do so, the DCI would “enlist the services of selected scientists to review and appraise the available evidence...”<sup>12</sup> The office of scientific intelligence began an association with H. P. Robertson, specialist in physics and weapons systems from the California Institute of Technology, “toward establishing a panel of top scientists and engineers” for this purpose.<sup>13</sup>

In January 1953, the CIA Office of Scientific Intelligence convened its advisory panel of “selected scientists” for a cursory, four-day review of some UFO cases and film footage. The group fulfilled its mission of establishing the desired national policy: A covert “educational program of training and debunking” designed to reduce the number of UFO reports. It suggested using “mass media such as television, motion pictures, and popular articles” to reduce public interest and gullibility, with the

assistance of psychologists and advertising experts. Civilian groups studying UFOs should be “watched” due to their influence on public thinking.

The final recommendation was that “the national security agencies take immediate steps to strip the Unidentified Flying Objects of the special status they have been given and the aura of mystery they have unfortunately received.”<sup>14</sup>

The pronouncements of the panel forever affected attitudes in the media toward the subject of UFOs. Ridicule remains the predominant mainstream media response to the subject, despite the fact that those dismissing it have not looked at the evidence and are uninformed. Attitudes of the scientific community are greatly impacted by media condescension and censorship of this issue.

J. Allen Hynek, professor of astronomy at Ohio State University and later chairman of the Astronomy Department at Northwestern University, was an official technical consultant to Project Blue Book for two decades. As a skeptic and debunker himself when beginning his work for the Air Force, Hynek sat in on most of the Robertson panel meetings. He said later that the panel gave short thrift to real science. “The implication in the Panel Report was that UFOs were a nonsense (non-science) matter, to be debunked at all costs,” Hynek wrote in 1977.<sup>15</sup>

After interviewing astronomers on the subject of unidentified flying objects just prior to the Robertson Panel meeting, Hynek noted that even discussing the subject led to an “overwhelming fear of publicity” for these scientists.

In a 1952 classified report for the Air Technical Intelligence Center (ATIC) at Wright Patterson Air Force Base, Hynek recommended that the UFO question be given “the status of a scientific problem,” freeing the scientists from the restraints of secrecy which confuse the public. “The number of truly puzzling incidents is now impressive,” he reported. “The first effort should be to determine with great accuracy what the phenomena to be explained really are and to establish their reality beyond all question.”<sup>16</sup>

His request was not granted. Instead, five months later the Robertson Panel “made the subject of UFOs scientifically unrespectable. For nearly 20 years not enough attention was paid to the subject to acquire the kind of data needed even to decide the nature of the UFO phenomenon,” Hynek said.<sup>17</sup>

### **Air Force press release misrepresents scientific data**

Following the 1952 overflights of unidentified objects in Washington DC, which were picked up on radar at two Air Force bases and chased by F-94 jets<sup>18</sup>, the Air Force turned to the Battelle Memorial Institute, a prestigious scientific research organization. It asked the Institute scientists to address the following question: Do the objects officially designated as “unknowns” differ from the “knowns?” If one examines the basic characteristics of color, speed, shape, light brightness, number of objects and duration of observation, are the descriptions similar for both groups? Through a statistical analysis, it could be determined at what probability the unknowns and knowns were actually the same. If the characteristics of both groups are close to the same, one could deduce that the unknowns are probably misidentifications of ordinary things. If they differ strongly, then one could argue that UFOs are “real.”

Performed under the supervision of ATIC, the findings of this study were presented in the 1955 Project Blue Book Special Report #14, classified Secret.<sup>19</sup>

When standardized statistical tests were applied to over 2000 sightings, the probability was less than 1% for each of the five characteristics (other than brightness) that the unknowns and knowns were the same. Yet the report's conclusion blatantly disregarded these definitive results. It stated, "The results of these tests are inconclusive since they neither confirm nor deny that the unknowns are primarily unidentified knowns, although they do indicate that relatively few of the unknowns are astronomical phenomena."

The unknowns were defined in the Battelle report as distinct from known objects such as balloons, astronomical data, aircraft, and miscellaneous and psychological manifestations. They were also defined as clearly distinct from those sightings with insufficient information. In other words, there was enough information to determine the unknowns were not anything known. Yet the summary stated the false contradiction that "all unidentified aerial objects could have been explained if more complete observational data had been available."<sup>20</sup>

Another finding of the study was that unknowns constituted 33% of all sightings from 1947 – 1955 for which the reliability of the sighting was categorized as "excellent." Yet the press release never presented this. It only cited the unknowns from the first four months of 1955, which were a low 3%, as if that was the relevant determination of the study.

The press release concluded that no evidence for "flying saucers" was found.<sup>21</sup> This simply was not true. Although the report contained extensive data and applied sound scientific techniques, the scientists presented nonsensical conclusions unrelated to that data.

Blue Book Special Report #14 was never made available to the press or public so they could read it for themselves. The press summary was conveniently used to further debunk the issue, in support of the Robertson Panel recommendations. Battelle even kept its involvement secret from the press and public.

After the report was declassified, Hynek attempted to retrieve the records and working papers of the Battelle study, which the study had stated were being preserved for reference. The Battelle Memorial Institute – "an otherwise flawless scientific research organization" -- told him they had been destroyed.<sup>22</sup>

## **Congress hears from scientists**

On July 29, 1968 the House Science and Astronautics Committee was pressured by public reaction to some dramatic UFO sightings to hold a day-long "Symposium on Unidentified Flying Objects" because "the rigid and exacting discipline of science should be marshaled to explore the nature of phenomena which reliable citizens continue to report," according to the then Chairman Representative J. Edward Roush of Indiana."<sup>23</sup>

The testimony of Dr. James E. McDonald, senior physicist of the Institute of Atmospheric Physics and Professor of Meteorology at the University of Arizona, was the most extensive. A respected authority and leader in the field of atmospheric physics, McDonald had authored highly technical papers for professional journals. He spent two years examining formerly classified official file material and radar tracking data on UFOs; interviewing several hundred witnesses; and conducting in-depth case investigations, details of which were provided to the Committee.



McDonald told the Committee that no other problem within their jurisdiction compared to this one. “The scientific community, not only in this country but throughout the world, has been casually ignoring as nonsense a matter of extraordinary scientific importance.” McDonald indicated that he leaned towards the extraterrestrial hypothesis as an explanation, due to “a process of elimination of other alternative hypotheses, not by arguments based on what I could call ‘irrefutable proof.’”<sup>24</sup>

Dr. James Harder, a University of California professor of civil engineering, explored possible propulsion systems for interstellar travel that could be used by those UFOs demonstrating incredible maneuvers at high speeds without any noise. “On the basis of the data and ordinary rules of evidence, as would be applied in civil or criminal courts, the physical reality of UFOs has been proved beyond a reasonable doubt,” he said. UFOs have demonstrated “scientific secrets we do not know ourselves.”<sup>25</sup>

Dr. Hynek recommended that a Congressional UFO Scientific Board of Inquiry set up a mechanism for the proper study of UFOs “using all methods available to modern science” and that international cooperation be sought through the United Nations.<sup>26</sup>

Despite an apparent positive response from the Committee members, the requests of the scientists for further action by the Congress never materialized.

### **The Air Force tries closing the book**

In 1966, the Air Force commissioned the University of Colorado to conduct a definitive, impartial study on all the UFO data accumulated by Project Blue Book. Headed by physicist Dr. Edward U. Condon, the project was profoundly flawed right from the start.

A memo by project coordinator Robert Low to two University Deans on August 9, 1966 discussing the pros and cons of taking on the project was unearthed by two project members who were fired for making it public.

If the project were to be undertaken, Low laid out the problem:

One has to approach it objectively. That is, one has to admit the possibility that such things as UFOs exist. It is not respectable to give serious consideration to such a possibility...one would have to go so far as to consider the possibility that saucers, if some of the observations are verified, behave according to a set of physical laws unknown to us. The simple act of admitting these possibilities just as possibilities puts us beyond the pale, and we would lose more in prestige in the scientific community than we could possibly gain by undertaking the investigation.

But Low offered a way out:

Our study would be conducted almost exclusively by non-believers who, although they couldn't possibly prove a negative result, could and probably would add an impressive body of evidence that there is no reality to the observations. The trick would be, I think, to describe the project so that, to the public, it would appear a totally objective study but, to the scientific community,

would present the image of a group of nonbelievers trying their best to be objective, but having an almost zero expectation of finding a saucer.<sup>27</sup>

Condon had no problem making his negative attitudes towards his subject matter public. In January 1967, he stated in a lecture that, “It is my inclination right now to recommend that the Government get out of this business. My attitude right now is that there's nothing to it.” He added “but I'm not supposed to reach a conclusion for another year...”<sup>28</sup>

In fact, Condon himself did not participate in the analysis of the carefully researched case studies that made up the bulk of the 1000 pages of the Condon Report, “Scientific Study of Unidentified Flying Objects,” released early in 1969. But his own summary – all that most of the press and public would ever read – closed the door to any hope of scientific research in the years to come.

Like the Battelle report, the lengthy body of the study provided some excellent scientific analysis, verifying the reality of the UFO phenomena. Investigator William K. Hartman, astronomer from the University of Arizona, stated in Case 46 (McMinnville, OR) that, “This is one of the few UFO reports in which all factors investigated, geometric, psychological, and physical appear to be consistent with the assertion that an extraordinary flying object, silvery, metallic, disc-shaped, tens of meters in diameter, and evidently artificial, flew within the sight of two witnesses.”<sup>29</sup>

Gordon Thayer concluded for one of his cases that, “The apparently rational, intelligent behavior of the UFO suggests a mechanical device of unknown origin as the most probable explanation of this sighting.”<sup>30</sup> For another case, he wrote, “The preponderance of evidence indicates the possibility of a genuine UFO in this case.”<sup>31</sup>

Regardless, Condon's summary stated that, “Nothing has come from the study of UFOs in the past twenty years that has added to scientific knowledge...further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby.”<sup>32</sup> And the National Academy of Sciences (NAS) endorsed Condon's recommendation. “A study of UFOs in general is not a promising way to expand scientific understanding of the phenomena,” it concluded seven weeks later.<sup>33</sup>

Condon added insult to injury by telling *The New York Times* that his investigation “was a bunch of damn nonsense,” and he was sorry he “got involved in such foolishness.”<sup>34</sup>

The American Institute of Aeronautics and Astronautics (AIAA), however, came up with a different conclusion. After spending a year and a half studying the actual text of the Condon report, an AIAA panel stated that Condon's summary did not reflect the conclusions contained in the report but instead “it discloses many of his [Condon's] personal conclusions.” The AIAA found no basis in the report for Condon's determination that further studies had no scientific value. These scientists said that, “a phenomena with such a high ratio of unexplained cases (about 30%) should arouse sufficient curiosity to continue its study.”<sup>35</sup>

Twenty-nine percent of the cases studied in the Condon report remain unexplained to this day.<sup>36</sup>

### **Is UFO technology beyond existing scientific knowledge?**

In conjunction with the Condon report, the Secretary of the Air Force announced the termination of Project Blue Book, thereby claiming no more official involvement with the investigation of UFOs. In

another slap in the face to science, his press release declared that no sightings “categorized as ‘unidentified’ represented technological developments or principles beyond the range of present scientific knowledge.”<sup>37</sup> However, the existence of advanced technology by UFOs had been well established through military and pilot reports of their behavior, beginning with the Twining memo. At the time, the public did not have access to the documentation now available, which proves the Air Force contradiction.

In 1952, Project Magnet, a classified Canadian Government study on UFO reports by Wilbert B. Smith released by the Canadian government in the 1970’s, stated the following:

It can be deduced that the vehicles have the following significant characteristics. They are a hundred feet or more in diameter; they can travel at speeds of several thousand miles per hour; they can reach altitudes well above those which would support conventional aircraft or balloons; and ample power and force seem to be available for all required maneuvers. Taking these factors into account, it is difficult to reconcile this performance with the capabilities of our technology, and unless the technology of some terrestrial nation is much more advanced than is generally known, we are forced to the conclusion that the vehicles are probably extra-terrestrial, in spite of our prejudices to the contrary.

Smith concluded:

Such vehicles of necessity must use a technology considerably in advance of what we have. It is therefore submitted that the next step in this investigation should be a substantial effort towards the acquisition of as much as possible of this technology, which would no doubt be of great value to us.<sup>38</sup>

In 1960, Iowa Congressman Leonard G. Wolf stated his concern in the Congressional record that UFOs could cause accidental war if mistaken for Soviet weapons. Gen. L. M. Chassin, NATO coordinator of Allied Air Services, warned that a global tragedy might occur “if we persist in refusing to recognize the existence of these UFO’s.” Rep. Wolf stated that all defense personnel “should be told that the UFOs are real and should be trained to distinguish them - by their characteristic speeds and maneuvers – from conventional planes and missiles...the American people must be convinced, by documented facts, that the UFOs could not be Soviet machines.” Since UFOs could be distinguished from Soviet and US conventional aircraft and weaponry by the “documented facts” of their characteristic speeds and maneuvers, General Chassin was making it clear that the objects were displaying a technology not yet acquired by any country.<sup>39</sup>

UFO technology was undoubtedly of interest to those scientists working secretly with government agencies. In 1976, two F-4 Phantom crews of the Imperial Iranian Air Force pursued a brilliant UFO, which ejected a second object. While speeding toward the F-4, the smaller object disabled the jets weapons control system and communications at the instant the pilot attempted to fire a missile.<sup>40</sup>

UFOs shut down and restarted the Kuwait Oil Company’s pumping equipment in 1978, prompting the Kuwaiti government to send a committee of “experts” from the Kuwait Institute for Scientific Research to investigate. According to a US State Department document, “The KISR Committee rejected the notion that the ‘UFOS’ were espionage devices but remained equivocal about whether they were of extraterrestrial origin.”<sup>41</sup>

The documentation shows that in the decades following the close of Blue Book, the Air Force continued its UFO investigations behind closed doors, due to continuing national security concerns<sup>42</sup> - despite the fact that the Air Force stated in 1969 that Blue Book was closed because “no UFO reported, investigated and evaluated by the Air Force has ever given any indication of threat to our national security.”<sup>43</sup> The Air Force claims that this is still the case today, even though government agencies refuse to comply with Freedom of Information Act (FOIA) requests on the basis of “national security.”

Information that has been obtained under FOIA and even some official government reports themselves contradict the government’s denial of national security concerns, both before and after the closure of Blue Book. Recently, military reports and ongoing government investigations in countries such as England, France, and Chile also provide contradictory information.<sup>44</sup>

In 1975, U.S. fighter jets attempted to pursue UFOs as recorded in North American Aerospace Defense Command (NORAD) logs.<sup>45</sup> Defense Department reports state that UFOs were pursued by U.S. Air Force fighter planes after the objects hovered over three supersensitive nuclear missile launch sites that same year.<sup>46</sup> Iranian and Peruvian air force planes tried to shoot down unidentified craft in 1976 and 1980.<sup>47</sup> F-16s from Belgium armed with missiles pursued a UFO in 1990.<sup>48</sup> Certainly these incidents were of national security concern in each country over which they occurred.

The Air Force press release gave a third reason for its termination of Blue Book: “There has been no evidence indicating that sightings categorized as ‘unidentified’ are extraterrestrial vehicles.”<sup>49</sup> No alternative explanation for a very real phenomena was provided to the public. Many qualified investigators would take issue with the “no evidence” declaration (as had Air Force and FBI officials), pointing out that although much more evidence must be acquired, it is proof that we lack. In any case, scientists are the proper authorities to make this determination. They must be provided with the necessary government documents, physical samples and resources to do so.

## **Science in default**

Less than two weeks after the closure of Project Blue Book, the American Association for the Advancement of Science (AAAS) held a symposium on Unidentified Flying Objects which had been planned for over a year. Astronomers, physicists, sociologists, psychologists, psychiatrists, and *The New York Times* science editor presented papers. Again, James McDonald – who had added another year of intensive study since his presentation before Congress - was the strongest voice in laying out details of unexplained cases and advocating for adequate scientific research.

He pointed out the clear weaknesses of the Condon study. Claims of scientific competence were “the single most serious obstacle that the Air Force has put in the way of progress” with “the regrettable consequence of denying scientists at large even a dim notion of the almost incredible nature of some of the more impressive Air Force-related UFO reports,” he said in his landmark paper, *Science in Default: Twenty-two Years of Inadequate UFO Investigations*.<sup>50</sup>

## **President Carter and NASA**

Less than a decade later, President Jimmy Carter attempted to reopen the door to scientific inquiry into unidentified flying objects, partly due to his own sighting for which he filed a report. In July 1977, his Science Advisor Frank Press wrote to NASA Administrator Robert Frosch recommending that NASA

set up a “a small panel of inquiry” to see if there were any “new significant findings” since the Condon Report. “The focal point for the UFO question ought to be NASA,” he said

Frosch’s initial response was positive and open, and he began the process of internal review of the request.

The Air Force, which claimed to have had been out of the UFO business since 1969, seemed to have some concerns. Colonel Charles E. Senn, Chief of the Community Relations Division at the Air Force, stated in a September letter to NASA’s Lieutenant General Duward L. Crow, “I sincerely hope that you are successful in preventing a reopening of UFO investigations.”<sup>51</sup>

NASA eventually turned down the White House request from the President’s office. Frosch said that NASA needed “bona fide physical evidence from credible sources.” Due to the absence of such evidence, he said that, “we have not been able to devise a sound scientific procedure for investigating these phenomena.” Therefore, no steps would be taken.

Dr. Richard C. Henry, professor of astrophysics at Johns Hopkins University, was then Deputy Director of NASA’s Astrophysics Division and privy to some of the decision making process. In a 1988 essay for the *Journal of Scientific Exploration*, Henry takes issue with Frosch’s claim of “an absence of tangible or physical evidence.”<sup>52</sup> He says there was an abundance of relevant evidence at the time.<sup>53</sup>

Henry says Frosch’s statement denying the existence of a sound scientific protocol was also false. “The National Academy of Sciences endorsed the Condon study of UFO’s, and specifically endorsed their procedures (protocol). It hardly does for us to say no sound protocol is possible!” he wrote in a memo to NASA Space Science Administrator Noel Hinners. “The point is, that to be meaningful the protocol must cover the possibility that the UFO phenomenon is due in part to intelligences far beyond our own.”

Although he outlined some possibilities, Henry was not able to draw a definite conclusion as to why NASA turned down the request from the President of the United States.<sup>54</sup>

## **Raising the issue at the United Nations**

Between 1975 and 1978, Sir Eric M. Gairy, Prime Minister of Grenada, proposed to the United Nations General Assembly that the UN establish “an agency or a department of the United Nations for undertaking, coordinating, and disseminating the results of research into Unidentified Flying Objects and related phenomena.”<sup>55</sup>

With his associate Dr. Jacques Vallee and Lt Col. Larry Coyne, a US Army pilot who almost collided with a UFO in December, 1978, Hynek asked in a speech to the UN that it “provide a clearing house procedure whereby the work already going on globally can be brought together in a serious, concentrated approach to this most outstanding challenge to current science.” He pointed out that UFOs had been reported in 133 member states of the UN and that there existed 1,300 cases where “there appears physical evidence of the immediate presence of the UFO.”

Hynek highlighted a new French study, conducted by scientists from many disciplines in cooperation with the Gendarmerie under the auspices of the Centre National d'Études Spatiales (CNES), the French equivalent of NASA. The case studies were “exemplary and far superior to the previous studies in other countries...the implications for science and the public at large of this French investigation are profound,” he said.

Hynek's remarks reflected the sad state of affairs for many American scientists who dared to take an interest in UFOs. These individuals were associated with “large and prestigious scientific organizations, both government and private” which “are silent or even officially derisive about the UFO phenomenon,” Hynek told the United Nations. Those with “intimate knowledge of the UFO phenomenon are restrained by organizational policy to remain officially silent about their interest and in private work with UFO matters.”<sup>56</sup>

Mercury astronaut Gordon Cooper also asked the United Nations for “a top level, coordinated program to scientifically collect and analyze data from all over earth...”<sup>57</sup>

But like the Congressional hearings of 1968, the proposals never went anywhere.

### **Recent developments and high-level foreign interest**

Regardless of the consistent disregard by key U.S. institutions, the UFO problem would not go away. In the 1980's, two extraordinary cases involving the landing of objects leaving physical evidence were documented by military personnel and scientists in England<sup>58</sup> and France.<sup>59</sup>

“This should be the subject of rigorous scientific investigation and not the subject of rubbishing by tabloid newspapers,” said England's former Chief of the Defense Staff and five-star Admiral Lord Hill-Norton in 2000. He was responding to his government's public dismissal of the multiple-witnessed landing of a glowing triangular craft that left three depressions at Bentwaters Air Force base in 1980.<sup>60</sup> Deputy Base Commander Lt. Col. Charles I. Halt provided a detailed description of the objects, the landing, and the physical evidence in a classified Air Force memo.<sup>61</sup>

Events in the U.S. were also significant, although barely noticed by the media. In March 1997, hundreds of people across Arizona reported seeing huge triangular objects, hovering silently in the night sky. One series of lights were caught on videotape. Following a thwarted effort by Phoenix City Councilwoman Frances Barwood to investigate, a U.S District court demanded a search for information from the Department of Defense about these aircraft. Despite irrefutable documentation of the event, DoD responded that it could not find anything about the existence of the triangles. This heightened citizen's fears: How could our government not know about something huge flying low over major population centers?<sup>62</sup> Even Senator John McCain acknowledged that this incident, known as the “Phoenix Lights,” has “never been fully explained.”<sup>63</sup>

In 2000, four policemen at different locations in St. Claire County, Illinois, witnessed a similar craft exhibiting extreme rapid motion, again unacknowledged by nearby Scott Air Force Base or the Federal Aviation Administration.<sup>64</sup>

Dr. Peter A. Sturrock, emeritus professor of applied physics at Stanford University and emeritus director of Stanford's Center for Space Science and Astrophysics, has taken the lead in reactivating a scientific evaluation of the UFO phenomenon. He conducted a 1975 survey of the American

Astronomical Society and found that 75% of the respondents wished to see more information on the subject published in scientific journals. Due to the fact that the journals rejected papers on the UFO problem out of hand, Sturrock founded the Society for Scientific Exploration (SSE) and its *Journal of Scientific Exploration (JSE)*, which began publication in 1987. With associates in more than 40 countries, the *JSE* provides a forum for the presentation and debate of topics that are not otherwise discussed in scientific societies.<sup>65</sup>

Sturrock is perhaps one of the most eminent scientists ever to apply the conventional scientific method to the UFO phenomenon. He won the 1986 Hale Prize in Solar Physics from the American Astronomical Society, the Arctowski medal in 1990 from the National Academy of Sciences, and the 1992 Space Sciences Award from the 40,000 member American Institute of Aeronautics and Astronautics for his “major contribution to the fields of geophysics, solar physics and astrophysics, leadership in the space science community, and dedication to the pursuit of knowledge.”

In 1997, Sturrock initiated and directed a four-day workshop at the Pocantico Conference Center in Tarrytown, New York, funded by philanthropist Laurance Rockefeller. The purpose of the conference was to rigorously review purported physical evidence associated with UFO reports, in order to assess whether the further acquisition and investigation of such evidence is likely to help solve the UFO problem.

Seven investigators presented cases with photographic evidence; luminosity estimates; radar evidence; interference with automobile functioning; interference with aircraft equipment; apparent gravitational or inertial effects; ground traces; injuries to vegetation; physiological effects on witnesses; and analysis of debris.

A review panel of nine distinguished scientists from diverse fields (mostly “decidedly skeptical agnostics” who did not have prior involvement with UFOs, according to Sturrock) reviewed the presentations and provided a carefully worded summary. The panel was “not convinced that any of the evidence involved currently unknown physical processes or pointed to the involvement of an extraterrestrial intelligence.” Continued careful evaluation of UFO reports was recommended. “New data, scientifically acquired and analyzed” could provide useful information allowing physical scientists “to contribute to the resolution of the UFO problem.”

In contradiction to the Condon summary, the panel concluded that the UFO problem is not simple, and “whenever there are unexplained observations, there is the possibility that scientists will learn something new by studying these observations.”<sup>66</sup>

### **Pilots continue to report sightings of unidentified aerial phenomena**

A few years later, Dr. Richard Haines, a retired senior aerospace scientist from NASA-Ames Research Center and formerly NASA’s Chief of the Space Human Factors Office, authored a report documenting over one hundred cases of pilot encounters with unidentified aerial phenomena (UAP) that raise safety concerns, including fifty-six near misses.

Haines had spent thirty years developing a 3,400 case, international database of first hand sightings by commercial, military and private pilots. His independent study “Aviation Safety in America – A Previously Neglected Factor” also draws on FAA, NTSB and NASA files.<sup>67</sup> With an international team of scientists and aviation specialists, he recently founded the National Aviation Reporting Center on

Anomalous Phenomena (NARCAP), which facilitates pilot reporting and studies a wide range of aerial phenomena impacting aviation safety.

Pilots represent the world's most experienced and credible observers of air traffic with extensive specialized training. In the study, they report sightings of varied geometric forms displaying colors and lights and conducting high-speed maneuvers that are inconsistent with known aircraft or natural phenomena.

Pilots and crew members report that the objects approached and paced their aircraft at relatively near distances, disabling on board instrumentation. Sometimes speeding objects narrowly avoided a head-on collision by a sudden, 90-degree turn. On other occasions, pilots made sudden, evasive changes in their flight paths due to the object's proximity or dynamic behavior. Cockpit distraction is always a concern "when the crew is faced with an extremely bizarre, unexpected and prolonged luminous and/or solid phenomena cavorting near their aircraft," says the report.

Haines says that the hundreds of UAP reports he has analyzed, some dating back to the 1940's, "appear to suggest that they are associated with a very high degree of intelligence, deliberate flight control, and advanced energy management."

The study documents the ridicule and "psychological negative feedback system" that pilots have faced since the 1950's due the official debunking policy. Most pilots never file reports at all.<sup>68</sup>

In 1986, veteran Japan Airlines Captain Kenju Terauchi and his crew encountered a huge craft over Alaska reported in the media and investigated by the Federal Aviation Administration (FAA). "Most unexpectedly two space ships stopped in front of our face, shooting off lights," reported Terauchi. "The inside cockpit shined brightly and I felt warm in the face." Terauchi's reporting of the incident resulted in his temporary dismissal, despite the FAA determination that he was stable, competent and professional.<sup>69</sup>

John Callahan, former Division Chief of the Accidents and Investigations Branch of the FAA in Washington, D.C., has in his possession the radar recorded data, air traffic control voice transcripts, FAA report, and computer printouts of the Terauchi event. He says he attended a meeting about the incident with the FBI, the CIA, and President Reagan's Scientific Study team in which he was told, "this event never happened, we were never here and you are all sworn to secrecy."<sup>70</sup>

"I saw a UFO chase a Japanese 747 across the sky for over half an hour on radar. And it's faster than anything that I know of in our Government," said the high level FAA official in 2001. "It still bothers me that I've seen all this, I know all this, and I'm walking around with the answer, and nobody wants to ask the question to get the answer."<sup>71</sup>

### **International openness vs. U.S. secrecy**

Other countries, whose governments are open about their interest in getting the answer, have challenged the policy of official secrecy in the United States.

The French space agency CNES has been the only government agency to conduct a consistent, non-military investigation into UFO incidents for over twenty years. It's project first called GEPAN



(Groupe d'Études des Phénomènes Aérospatiaux Non-identifiés) was renamed SEPRA (Service d'Expertise des Phénomènes de Rentrées Atmosphériques) in 1988.<sup>72</sup>

In 1999, four-star General Bernard Norlain, former commander of the French Tactical Air Force, and other retired generals and admirals from the French Institute of Higher Studies for National Defense; Jean Jacques Velasco, head of SEPRA; Andre Lebeau, former head of CNES, and a team of scientists and engineers, released an historic study titled *UFOs and Defense: What Should We Prepare For?* The group called themselves the COMETA, meaning "Committee for In-depth Studies."<sup>73</sup>

The group spent three years examining nearly 500 international aeronautical sightings and radar/visual cases, and previously undisclosed pilots' reports. Their study drew on data from official sources, government authorities, and the Air Forces of other countries.

Confirming the aviation safety concerns of the Haines study, one multi-witness case presented by the study involved a 1994 Air France sighting of an object that instantaneously disappeared, as recorded on radar; another described a 1995 Aerolineas Argentinas Boeing 727 encounter with a luminous object that extinguished airport lights as the plane prepared to land.

The authors' note that about 5 percent of sightings on which there is solid documentation cannot be easily attributed to earthly sources, such as secret military exercises. This 5 percent seem "to be completely unknown flying machines with exceptional performances that are guided by a natural or artificial intelligence," they say. Some scientists have developed theoretical models for travel from one solar system to another and for technology that could be used to propel the vehicles, the report points out.<sup>74</sup>

The best explanation is "the extraterrestrial hypothesis," the report concludes. Although not categorically proven, "strong presumptions exist in its favor and if it is correct, it is loaded with significant consequences."

To address the problem, the COMETA urged international action. It recommended that France establish "sectorial cooperation agreements with interested European and foreign countries" on the matter of UFOs. The European Union should undertake diplomatic action with the United States "exerting useful pressure to clarify this crucial issue, which must fall within the scope of political and strategic alliances." The group openly challenged US denial of the reality of UFOs.<sup>75</sup>

In 1997, the Chilean government formed the Committee for the Study of Anomalous Aerial Phenomena (CEFAA) under the direction of the Ministerial Department of Civil Aeronautics (DGAC), the equivalent of our FAA. Official observations of anomalous aerial phenomena at a remote Chilean airport prompted this action, following official acknowledgement that unidentified objects were flying over national territory.

The agency uses "serious, objective and scientific analysis to determine if these phenomena have meant any risk to the security of aerial operations," says CEFAA executive secretary Gustavo Rodríguez Navarro, a retired air traffic controller.<sup>76</sup>

Like the members of the COMETA, Ricardo Bermudez Sanhuesa, General of Chile's Air Brigade and President of the CEFAA, believes that international cooperation is important "to provide an incentive for universities and scientific organizations to work in multidisciplinary teams in all the branches of

this science” and to establish “a uniform method of investigation processes and analysis.” General Bermudez says that CEFAA contacted the United States government on two occasions but was ignored each time.<sup>77</sup>

Peru has also begun conducting official, yet public, UFO investigations. In December 2001, the Peruvian Air Force created the Office for the Investigation of Anomalous Activity, under the direction of Air Force Commander Jose Luis Chamorro.

“There are several mysteries that we believe are highly important and which merit our full attention,” Chamorro says. “If we can arrive at definitive conclusions, our work will be highly beneficial to Peru and all of humanity.”

Unexplainable events in the sky are frequent in Peru, Chamorro says. Out of hundreds of calls coming into his office every month, about a dozen are credible sightings with no easy explanation. Chamorro told the *Miami Herald* last September that a video taken in Chulucanas, Piura in late 2001 shows a huge ship sitting in the sky for nearly two hours. “The ship made no noise and did not move. You can see the shape, which includes even windows,” he said.<sup>78</sup>

### **Scientists call for systematic investigation**

Given the irrefutable evidence of extraordinary objects in the skies around planet Earth, and the high standing of those who have requested further scientific investigation, what stands in the way? And what can be done to overcome the obstacles?

According to Peter Sturrock, scientists face a lack of sustained funding for research; harbor a false assumption that there is no data or evidence; have a perception that the topic is “not respectable;” and believe that the Condon report settled the question. Despite overwhelming public demand – which often drives scientific research – scientists simply aren’t motivated.

Sturrock says that the single biggest obstacle to the study of UFOs has been the paucity of available physical evidence. To remedy this situation, he proposes improving techniques for the retrieval of physical evidence through field investigations and its laboratory analysis; planned experiments in the lab testing physical effects; systematic cataloguing of case reports and a search for patterns in the data; and the development of theories based on the facts using scientific inference.

“In principle, we can prove a hypothesis not only by finding strong evidence in its favor, but also by finding strong evidence against every other possibility,” he says.<sup>79</sup> This is the approach taken by the French COMETA group in the determination of their hypothesis in 1999.

The need for physical evidence points to the critical nature of a renewed FOIA initiative into Project Moon Dust and Operation Blue Fly, the secret Air Force units which retrieved objects of unknown origin, as revealed in government documents released in the 1990’s. So far, scientists have been denied the fragments and the final determinations of these investigations.<sup>80</sup>

Because the UFO problem makes them uncomfortable, scientists are prone to interpreting the issue theoretically and then giving a theoretical reason for dismissing it. For example, Astronomer Francis Drake stated in 1998 that if UFO reports are real, they must be due to extraterrestrial spacecraft. However, interstellar travel is impossible, therefore the reports must be discounted. This argument

boils down to: It cannot happen; therefore it does not happen. “In normal scientific research, observational evidence takes precedence over theory,” says Sturrock, “if it does happen, it can happen.”<sup>81</sup>

Computer scientist and astrophysicist Jacques Vallee, who has traveled the world studying the UFO problem for decades and was a close associate of Hynek, points out that a key problem is that scientists need journals and “unbiased venues” other than *JSE* to debate this increasingly deep and complex problem.<sup>82</sup> “New radical hypotheses may be needed to study the problem, beyond the limited polarization between skepticism and belief in ‘extraterrestrials,’” he says.<sup>83</sup>

Dr. Bernard Haisch, Director of the California Institute for Physics and Astrophysics and author of over a hundred published papers, agrees. “I propose that true skepticism is called for today: neither the gullible acceptance of true belief nor the closed-minded rejection of the scoffer masquerading as the skeptic.” Haisch was the editor of the *JSE* for twelve years. “Any scientist who has not read a few serious books and articles presenting actual UFO evidence should out of intellectual honesty refrain from making scientific pronouncements,” he says. “To look at the evidence and go away unconvinced is one thing. To not look at the evidence and be convinced against it nonetheless is another. That is not science. Do your homework!”<sup>84</sup>

The COMETA believes the central barrier to scientific progress lies in the lap of the United States. The world’s superpower ignores the research and ridicules the UFO phenomenon. “Only increasing pressure from public opinion, possibly supported by the results of independent researchers, by more or less calculated disclosures, or by a sudden rise in UFO manifestations, might perhaps induce U.S. leaders and persons of authority to change their stance,” the group states.

The French group notes that conventional scientists are burdened by the prevailing concept of “anthropocentric humanism”- the belief that man is “the best nature can produce in this small corner of the galaxy” and remains the sole controller of his destiny. To acknowledge the possible existence of beings outside our planet with vastly superior technological capabilities and scientific understanding is both “frightening and unacceptable” and would leave us feeling infantile. “The social position of the scientific elite would be considerably compromised,” their report says.<sup>85</sup>

A more contemporary - perhaps radical by some standards – perspective is provided by Johns Hopkins astrophysicist Richard C. Henry. “We humans are newborn babes...our Earth is merely a minute portion of an inconceivably vast universe [of which] we are only an utterly unimportant element,” he says. It is possible that other civilizations are visiting us, for reasons we can’t conceive. He has a message to the scientists of our planet: “Collect and collate evidence of anomalous phenomena! What kind of a civilization would *not* collect and collate evidence of anomalous phenomena? Only a foolish and short-sighted civilization indeed!”<sup>86</sup>

## **It’s time for a scientific study of UFOs**

Despite intense public interest and the weight of fifty years of evidence provided by scientists, pilots, military officers and government agencies around the world, there has been no independent, federally financed scientific research conducted on these phenomena since the flawed and biased 1969 Condon report. We are long overdue for an ongoing, comprehensive study in the United States that leading scientists have been requesting for decades.

The national security argument is no longer acceptable as a justification for U.S. government withholding of reports of events decades old. If sources and methods need protecting, this is legitimate. If information on Soviet objects or man-made technology is sensitive, this is also understandable. Neither of these aspects is of concern to the matter at hand. Scientists must be able to access all other information and any physical samples in the possession of U.S. government agencies.

We have evidence of objects and bizarre anomalies in our skies that appear not to be natural or man made. This is a remarkable state of affairs. Clearly, it is worthy of the highest level of scientific exploration.

American scientists stand ready and waiting to take this on, if only the resources are provided. The public appears ready to support the research with its tax dollars. It is clear that the policies and attitudes of certain government officials and agencies must change so that the investigation into these mysterious phenomena can “pass through nature's looking glass” along with the other great discoveries of contemporary science.

## Notes

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<sup>1</sup> Overbye, Dennis; “More Sci Than Fi, Physicists Create Antimatter” *New York Times*, Sept. 9, 2002.

<sup>2</sup> Roper Number: C205-008232 , “Americans Beliefs and personal Experiences, UFOs and Extraterrestrial Life,” September 2002 by RoperASW via OmniTel, on 1,021 male and female adults.

<sup>3</sup> Headquarters 4602D AISS, Draft “Guide to Identification, Unidentified Flying Objects” Date unknown. Contained in Clifford S. Stone, *UFOs are Real* (SPI Books, 1997).

<sup>4</sup> For starters: Edward J. Ruppelt, *The Report on Unidentified Flying Objects* (Garden City, N.Y.: Doubleday, 1956); J. Allen Hynek, *The UFO Experience: A Scientific Inquiry* (Marlowe & Company, NY, 1972,1998); David Jacobs, *The UFO Controversy in America* (Bloomington: Indiana University Press, 1975); the files of Project Blue Book, available through the National Archives or in Brad Steiger, editor *Project Blue Book: The Top Secret UFO Findings Revealed*, (Balantine Books, NY,1976); Clifford E. Stone, *UFOs are Real* (SPI Books, 1997); Peter A. Sturrock, *The UFO Enigma: A New Review of the Physical Evidence* (Warner Books, NY, 1999); *UFOs and Defense: What are we prepared for?* The French Association COMETA, study from the Institute of Higher Studies for National Defence, July 1999.

<sup>5</sup> The French Association COMETA, study from the Institute of Higher Studies for National Defence, July 1999, estimates 5% of sightings are true UFOs. Other estimates are higher. In 1985, J. Allen Hynek put the figure at 20% (interview by Dennis Stacy.) Peter Sturrock points out that 29% of the cases in the Condon report of 1969 remain unidentified today. It is impossible to know the exact figure.

<sup>6</sup> General Nathan F. Twining to Commander, Air Material Command, “AMC Opinion concerning ‘Flying Discs’” 23 September 1947 (Contained in Edwin U. Condon, Project Director *Scientific Study of Unidentified Flying Objects*, 1969) p. 894-95.

<sup>7</sup> Ruppelt, pp.62-63; Hynek *UFO Experience* p.173.

<sup>8</sup> W.P. Keay, FBI Memorandum "Flying Saucers" July 29, 1952 (contained in Bruce Maccabee, *UFO FBI Connection: The Secret History of the Government's Cover-Up* (Llewellyn Publications, MN 2000).

<sup>9</sup> W.P. Keay, FBI Memorandum "Flying Saucers" October 27, 1952 (Maccabee, Ibid).

<sup>10</sup> H. Marshall Chadwell, memorandum for Director of Central Intelligence, Dec 2 1952.

<sup>11</sup> H. Marshall Chadwell, memo for Director of Central Intelligence “Flying Saucers” 11 Sept. 1952, p.3-4.

<sup>12</sup> “Unidentified Flying Objects” 4 Dec 1952 IAC-M-90.

<sup>13</sup> H. Marshall Chadwell, memorandum for Director of Central Intelligence “Unidentified Flying Objects” Dec. 10 1952.

<sup>14</sup> F .C. Durant, Report of Meetings of Scientific Advisory Panel on Unidentified Flying Objects, Convened by Office of Scientific Intelligence, CA January 14-18, 1953.

<sup>15</sup> Hynek, *UFO Report* p.23.

<sup>16</sup> J Allen Hynek, “Special Report on Conferences with Astronomers on Identified Flying Objects” to Air Technical Intelligence Center, Wright Patterson Air Force Base, August 6, 1952, p.18, 20.

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<sup>17</sup> Hynek, *UFO Experience* p.169.

<sup>18</sup> Ruppelt pp 160-167; Peter Carlson, "Alien Armada!50 Years Ago, Unidentified Flying Objects From Way Beyond the Beltway Seized the Capital's Imagination" Washington Post, July 21, 2002

<sup>19</sup> Project Blue Book Special Report No. 14 "Analysis of Unidentified Flying Objects," Project No. 10073 (Air technical Intelligence Center, Wright-Patterson Air Force Base, Ohio, 5 May 1955); Hynek, UFO Report, p.272.

<sup>20</sup> Project Blue Book Special Report No. 14 "Analysis of Unidentified Flying Objects."

<sup>21</sup> Air Force Releases Study on Unidentified Flying Objects, Department of Defense, Office of Public Information, Washington DC, No. 1053-55 Oct. 25, 1955.

<sup>22</sup> Ibid. p. 274-275.

<sup>23</sup> Hearings before the Committee on Science and Astronautics, U.S. House of Representatives, Ninetieth Congress "Symposium on Unidentified Flying Objects" July 29, 1968 (U.S. Government Printing Office, Washington 1968) p.1.

<sup>24</sup> Ibid. p. 32; 83.

<sup>25</sup> Ibid. p. 121;124.

<sup>26</sup> Ibid. p. 14-15.

<sup>27</sup> Robert J. Low, memo to E.James Archer and Thurston E. Manning "Some Thoughts on the UFO Project," August 9, 1966. Contained in Marcia S. Smith with George D. Havas, revisions and updates, Science Policy Research Division, *The UGO Enigma* Congressional Research Service, June 20, 1983; Appendix C.

<sup>28</sup> John Fuller, "Flying Saucer Fiasco," *Look*, May 14, 1968

<sup>29</sup> Condon, Edward U., Project Director and Daniel S. Gillmor, Editor *Scientific Study of Unidentified Flying Objects* (Bantam, NY, 1969) p.407.

<sup>30</sup> Ibid. p. 164.

<sup>31</sup> Ibid. p. 248.

<sup>32</sup> Ibid p. 1.

<sup>33</sup> Review of the University of Colorado Report on Unidentified Flying Objects by a Panel of the National Academy of Sciences, 1969.

<sup>34</sup> "Air Force Closes Study of UFO's" *New York Times*, Dec. 18, 1969.

<sup>35</sup> Kuettner, J.P. et al "UFO: An Appraisal of the Problem, A Statement by the UFO Subcommittee of the AIAA" *Astronautics and Aeronautics*, 8, No. 11.

<sup>36</sup> Peter Sturrock., interview for "Out of the Blue," documentary film produced and directed by James Fox, Tim Coleman, Boris Zuboff, 2000

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- <sup>37</sup> Office of Assistant Secretary of Defense (Public Affairs) News Release No. 1077-69 “Air Force to Terminate Project Blue Book” Washington, DC December 17, 1969.
- <sup>38</sup> Wilbert B. Smith “Project Magnet Report” (Canadian Department of Communications file 5010-4 vol.5) 1952, pp.10-11 (contained in Stone, *UFOs are Real*).
- <sup>39</sup> Leslie Kean, “UFO theorists gain support abroad, but repression at home,” *Boston Globe*, May 21, 2000.
- <sup>40</sup> JCS Communication Center of the USDAQ Tehran Message 230630Z, September 1976, released through the Department of Defense. Also, Henry S. Shields “Now You See It, Now You Don’t” Unites States Air Force Security Service, *MIJI Quarterly* Report 3-78, October 1978.
- <sup>41</sup> US State Department Cable, Jan. 29, 1979; (contained in Stone).
- <sup>42</sup> General Carroll H. Bolender, USAF memo, October 20, 1969.
- <sup>43</sup> AF News Release No. 1077-69, op cit.
- <sup>44</sup> England: Nick Pope, former Ministry of Defense official, *Open Skies, Closed Minds* (Dell, 2000) and interview with former Ministry of Defense Chief Lord-Hill Norton for “Out of the Blue” produced and directed by James Fox, Tim Coleman, Boris Zuboff. France: see COMETA report “UFO’s and Defense: What Are we Prepared For?” and work of SEPRA at CNES. Chile: work of CEFAA.
- <sup>45</sup> 24<sup>th</sup> NORAD Region Senior Director’s Log, November 1975; NORAD Command Director’s Log, November, 1975.
- <sup>46</sup> Ward Sinclair and Art Harris, “UFOs visited U.S. bases, reports say” *Washington Post*, 1979.
- <sup>47</sup> Iran: JCS Communication Center and Shields, op.cit. Peru: Department of Defense, Joint Chiefs of Staff message, June 3 1980. A round UFO initially hovering over air base was chased by an SU-22 and fired upon at close range but the UFO out-ran the plane.
- <sup>48</sup> Authorized by Belgian Ministry of Defense, *Paris-Match*, July 5, 1990. Radar-images of UFO of March 30 and 31, 1990. Interviews with Colonel De Brouwer, Chief of Operations, Belgium Air Force. In three cases, when pilots achieved radar lock on with UFO, UFO drastically changed its behavior with a sudden dive at very high speed with no sonic boom.
- <sup>49</sup> AF News Release No. 1077-69, op cit.
- <sup>50</sup> Carl Sagan and Thornton Page, editors *UFO’s – A Scientific Debate* (Norton Library by arrangement with Cornell University Press, 1974).
- <sup>51</sup> Charles E. Senn, letter to Duward L. Crow, September 1, 1977
- <sup>52</sup> Richard C. Henry, “UFOs and NASA” *Journal of Scientific Exploration* (Vol.2, No. 2 pp.93-142, 1988); letters (except Senn) included in appendices.
- <sup>53</sup> A 1968 State Department telegram (released under a FOIA request for Project Moon Dust and Operation Blue Fly) verifies that samples from objects of unknown origin were sent to NASA. It states that divers found a metal “dome-shaped object” nose down on the ocean floor off Cape Town, “scorched under tremendous heat.”

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According to the document, NASA found that the object consisted of “almost pure aluminum” but could offer no “clue” as to its origin or function

<sup>54</sup> Henry, op.cit.

<sup>55</sup> Smith with Havas, *The UGO Enigma* Congressional Research Service op. cit. p. 100.

<sup>56</sup> J. Allen Hynek, speech to the United Nations, Nov. 27th 1978. Astrophysicist and field investigator Jacques Vallee and Lt Col. Larry Coyne, a US Army pilot who almost collided with a UFO, also presented statements.

<sup>57</sup> L. Gordon Cooper, letter to Ambassador Griffith, Mission of Grenada to the United Nations, Nov. 9, 1978

<sup>58</sup> USAF Lt. Col. Charles I. Halt, Bentwaters Base Commander to British Ministry of Defence, memorandum “Unexplained Lights” Jan.13, 1980.

<sup>59</sup> Jean-Jacques Velasco, “Report on the Analysis of Anomalous Physical Traces: The 1981 Trans-en-Provence UFO Case” *Journal of Scientific Exploration* (Vol. 4, No. 1, 1990) Investigated by GEPAN which later became SEPRA of CNES. See also the French COMETA report “UFOs and Defense: What Are We Prepared For?” July, 1999.

<sup>60</sup> Lord Hill Norton, interview for “Out of the Blue ” op.cit. For a first hand account of this incident, see

<sup>61</sup> Charles I. Halt, Lt. Col, USAF, Memo, Department of the Air Force, Headquarters 81<sup>st</sup> Combat Support Group, “Unexplained Lights,” Jan. 13, 1981

<sup>62</sup> Associated Press, “Judge orders U.S. to provide additional data in UFO case” Feb. 17, 2000; Kean, *Boston Globe*, op.cit. Hynek’s 1985 essay “The Roots of Complacency” provided at the end of this report describes a similar series of events that occurred in New York State in the 1980’s.

<sup>63</sup> FoxNews, Feb 29, 2000.

<sup>64</sup> Stephanie Simon, Folks Know Truth Is Out There, but Flying Object Is Still Unidentified” *Los Angeles Times*, January 18, 2000; Heather Ratcliffe, “UFO sighting brings media attention, investigative team to Southern Illinois” *Post-Dispatch*, January 12, 2000.

<sup>65</sup> Peter A. Sturrock, *The UFO Enigma: A New Review of the Physical Evidence* (Warner Books, NY, 1999).

<sup>66</sup> Ibid. Members of the Scientific Review Panel: V. R. Eshleman (Co-Chair), T. E. Holzer (Co-Chair), J. R. Jokipii, F. Louange, H. J. Melosh, J. J. Papike, G. Reitz, C. R. Tolbert, and B. Veyret. Investigators: R. F. Haines, I. von Ludwiger, M. Rodeghier, J. F. Schuessler, E. Strand, M. D. Swords, J. F. Vallee, and J-J. Velasco

<sup>67</sup> Richard F. Haines, “Aviation Safety in America – A Previously Neglected Factor” NARCAP Report 01-2000, October 15, 2000; also see Leslie Kean, “Pilot encounters with UFOs: New study challenges secrecy and denial,” *The Providence Journal*, May 3, 2001.

<sup>68</sup> Ibid.

<sup>69</sup> UPI, “JAL Airliner Sighting Over Alaska,” 1986; For a detailed research report with additional references on this case see Bruce Maccabee, “The Fantastic Flight Of JAL 1628”



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<sup>70</sup> John Callahan, "UFO incident involving a Japanese Boeing 747-- November 1986;" presentation at George Washington University symposium, Nov. 8, 2002.

<sup>71</sup> John Callahan, interview for *Disclosure* (Crossing Point Inc, 2001).

<sup>72</sup> See Sturrock "The GEPAN/SEPPA Project" by F. Louange and J. J. Velasco, p. 131-136.

<sup>73</sup> COMETA (an association) "UFOs and Defense: What Should We Prepare For?" First released in French in a special issue of the magazine *VSD*, July 1999. Other members are: General Denis Letty of the Air Force, former auditor (FA) of IHEDN, General Bruno Lemoine of the Air Force (FA of IHEDN); Admiral Marc Merlo (FA of IHEDN); Michel Algrin, Doctor in Political Sciences, attorney at law (FA of IHEDN); General Pierre Bescond, engineer for armaments (FA of IHEDN); Denis Blancher, Chief National Police superintendant at the Ministry of the Interior; Christian Marchal, chief engineer of the national "corps des Mines", Research Director at the "National Office of Aeronautical Research" (ONERA); General Alain Orszag, Ph.D. in physics, engineer for armaments. Other contributors include Francois Louange, President of Fleximage, specialist of photo analysis; General Joseph Domange of the Air Force, general delegate of the Association of auditors at IHEDN.

<sup>74</sup> Ibid. This has been established by numerous contemporary physicists, such as best-selling authors Dr. Brian Greene and Dr. Michio Kaku.

<sup>75</sup> Ibid.

<sup>76</sup> Gustavo Rodríguez Navarro, personal interview with Leslie Kean, Dec 31, 2000.

<sup>77</sup> Ricardo Bermudez Sanhuesa, personal interview with Leslie Kean, Jan. 31, 2001. According to Bermudez, in 1998, the CEFAA contacted the U.S. Embassy in Chile expressing the Committee's interest in working with a U.S. agency "to share experiences, policies, procedures, etc. regarding this topic." In July, 2000, the CEFAA sent the U.S. Embassy a request for consultation with the Pentagon. "Both requests went unanswered," General Bermudez said.

<sup>78</sup> Lucien O. Chauvin, "Peruvians seek discovery and profit in UFOs" *Miami Herald*, Sept. 28, 2002.

<sup>79</sup> Sturrock, op.cit.,p. 163.

<sup>80</sup> SCI FI Channel, Press release, Oct. 22, 2002. "The SCI FI Channel has joined with John Podesta, President Clinton's former chief of staff, to call for more declassification of government records. As part of its advocacy effort, SCI FI is backing a Freedom of Information Act initiative to obtain government records on cases involving retrieval of objects of unknown origin by the secret Air Force operations Project Moon Dust and Operation Blue Fly. Assisting SCI FI in its FOIA effort is the Washington, D.C. law firm of Lobel, Novins and Lamont."

<sup>81</sup> Sturrock, op. cit., p.160.

<sup>82</sup> Jacques Vallee, *Revelations: Alien Contact and Human Deception* (Ballantine Books, NY, 1991) p.284.

<sup>83</sup> Jacques Vallee, "Report from the Field: Scientific Issues in the UFO Phenomenon," presentation at George Washington University symposium, Nov. 8, 2002. For two papers by Vallee, see *JSE* Vol. 12, no. 3 (1998) "Estimates of Optical Power Output in six cases of unexplained aerial objects with defined luminosity characteristics," pp. 345-358 and "Physical Analyses in ten cases of unexplained aerial objects with material samples," pp. 359-376.

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<sup>84</sup> Bernard Haisch, message on [www.ufoskeptic.org](http://www.ufoskeptic.org) “An Information site on the UFO phenomenon by and for professional scientists.” September, 2002.

<sup>85</sup> COMETA, op.cit.

<sup>86</sup> Richard C. Henry, “Human Beings in the Galaxy: ...*or Babes in the Woods*,” presentation at George Washington University symposium, Nov. 8, 2002.

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## Appendix

### "The Roots of Complacency"

An unpublished essay by Dr. J. Allen Hynek

*Dr. J. Allen Hynek left this essay on a diskette at the home of his friend Dr. Willy Smith on August 30, 1985. At the time, he was investigating the Hudson Valley "boomerang" sightings in New York, and this was a draft preface for a book about them. A few weeks after writing this piece, Hynek went into surgery. His health rapidly declined in the ensuing months, and he died in April, 1986.*

*The investigation into the Hudson Valley sightings was published in the 1987 book NIGHT SIEGE, authored by Hynek, Bob Pratt and Philip J. Imbrogno. As detailed in the book, the first incident was reported on December 31, 1982, and the sightings continued until the book's publication, with a concentration of incidents during the summer of 1984. "The Roots of Complacency" (as Hynek himself titled it) is quite different from the preface to NIGHT SIEGE in its passion and intimate, unedited style. In what appears to be his last essay, Hynek questions the underlying cause of the very dilemma that this paper addresses.*

- L.K.

Something truly astonishing happened.... Not far from New York City, along the Hudson Valley, as hundreds of astonished people looked up, many driving along the Taconic Parkway, they saw something no one had ever seen before.

Some called it a "Space-ship from outer space" (for want of anything better) but it was generally described by numbers of competent, professional persons as startlingly brilliant lights, in the form of a "V," or Boomerang, silent, slowly-moving, and very large close-by object. It has often popularly been called the "Westchester (County) Boomerang."

The world has never known about this, even though the event happened not once but several times, and over the course of several years. To all intents and purposes, this was a non-event. The media across the world has remained dumb. Local papers, radios and TV's, it is true, did momentarily carry spots along with the daily news, but there the news just vanished.

How is it possible that in the United States, where even trivial events are often flashed across the world, only one TV and radio network carried an account of this utterly astounding event? Far, far lesser stories are spewed forth across the world!

Could it possibly be that the whole thing just never happened? No: many times there was good, but extremely local, media coverage; many hundreds have personally attested to us, and to many others, that the "Westchester Boomerang" was most undeniably, very truly real to them. Furthermore, many witnesses at a given time were geographically separate, and unknown to each

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other. Cars along the Taconic Parkway, a well traveled highway, stopped, and passengers looked in amazement, many frightened and bewildered at the spectacle.

Police department "blotters" proved that many calls came to several local police stations, and we have tape recordings of a number of the police involved. The Boomerang was undeniably real; it was not a chimera!

Yes, something astonishing transpired, but was no one "minding the store," was everyone asleep at the switch? What about law enforcement agencies (whose duty is certainly to alert and assist when something amazing is afoot); what about civilian and military personnel?

When hundreds of largely professional, affluent people, in suburban areas, are astonished, awestruck, and many frightened by what they could only regard as a very bizarre event, would this not at least warrant and bring forth some comment from the nation's media? And what about law officers, government officials and... what of the FAA which supposedly monitors the airwaves over which the "Boomerang" repeatedly flew, and thus constituted a serious hazard, especially over the Taconic Parkway?

And what of scientists, to whom these events should have been of breathtaking scientific concern? But nothing... except, oh yes, a writer so inept at his task that not once did he check, even briefly, the voluminous tapes and other material amassed by the present authors: a remarkable example of investigative reporting.

His conclusion: the Boomerang was caused by nothing more than a flight of small planes flying in formation, a totally untenable conclusion in view of the facts.

It would appear that we really have TWO astounding stories, rather than just one... different but related... and equally incomprehensible: the story of the low-flying luminous Boomerang (in itself which could rank high in the annals of science fiction... if it were science fiction!) and the second, a totally unaccountable dereliction of duty (and there seems to be no other word for it), a complete indifference to accountability.

It was a malady which appeared to plunge all who encountered it, EXCEPT the witnesses, into a deadly stupor. Such a malady, or perhaps a virulent virus of apathy and indifference to duty, could immobilize cities and a whole country. Of course, we don't know what the Boomerang was really about, for:

-- the Police and other law enforcement officers were derelict and failed in their duty to assist the many who called [in] fear and danger, as well as in awe and wonder.

-- the FAA utterly failed to be concerned for air safety, flight rules, navigation lights, when told that some utterly strange and possibly menacing object was cruising close over streets and houses.

-- the Military was derelict by not attending to public safety and matters of National Defense (the country could have been subtly invaded!)

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-- the Scientists failed to uphold their "Hippocratic" oath of science: they were derelict in following the quest [of] an outstanding mystery.

-- the media, well, where were they? Truly derelict. Always avid news hounds, rushing to their typewriters or microphones to rush the news to the world (good, bad and trivial), but where were they? Hardly any of the 50 States heard the Boomerang story.

Why? Utterly indifferent and apathetic? If so, why?

Of the two stories, that of the Boomerang is by far the more directly told. Bizarre and fantastic though it may be (and is) it merely needs competent retelling. The facts are on record. From the hundreds of cassette tapes in the thousands of statements made by witnesses, the Boomerang is a matter of record. But the second story, well, that is another matter.

This story is not at all directly told. Here there are no cassette tapes, no clear cut descriptions, and no policeman, no scientist, no military man, no media person, no FAA has recorded why they were derelict. We can only infer, as one might infer from the pages of history. We can only deduce and play detective. And we must try, for this second story, more truly a puzzle, could be of utmost importance to finding out how we, as humans, act under stress, trauma, and fear... for the Boomerang had all of these!

The puzzle has far more parts than the tale of the Boomerang. It is, indeed, a part of a continuing story of mankind's pioneering search for adventure and meaning, but repeatedly dashed and frustrated by those who cannot look to the heights of the pioneer: by the "it will never fly" or "it can't be done" mentalities. These who always must say that since it can't be done, there is no need to even think about it or even talk about it.

Therein lies the spawning ground of indifference, of apathy, and [of] dereliction of duty.

All those who didn't follow through on the Boomerang event were not willfully derelict: they were merely the thousands of "it will never fly" and "it can't be done" and so there is no need to think about it. The corollary is: "Since it can't be done, whomever said it had been done, were simply deluded... they must have been mistaken, and so no need to look into it further." It is the failure to seek for the light of the tunnel because there couldn't be a light.

Intellectual adventure is sterile when there is continual inability to seek answer to challenges, to seek ways out of the tunnel of indifference. In the story of the Boomerang, the FAA, the media, scientists, politicians, the military.... all may momentarily touch upon the mystery, but suddenly it appeared that apathy saps further energy to incentive, and in its stead is a great desire [for] nothing... it becomes a hotbed of inertia... a great desire to do nothing, fobbing it all off in the guise of a handy solution, like "planes in formation."

It is not as from a seeming direct desire to be in duty, but it is more as though the call for duty has vanished, or as though some bad fairy had administered a sleeping potion, an apathy draught.

How else might one hold that otherwise responsible law enforcement, FAA, military, the media etc. would renege on their duties?

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There is a more realistic answer than calling upon some bad fairy (though it would certainly fit the facts) and that is that it all lies in our human (mental) nature. A psychologist would express it more professionally, but it simply amounts to the fact that the human mind has definite limits for acceptance and accountability. In the history of science this syndrome has been seen many times and in many ages. For instance, how often has it occurred that totally revolutionary ideas, so novel at first as to be utterly neglected or discarded... a form of apathy and total indifference.

As a homely analogy, one might say that such a totally novel idea "overheats the mental human circuits" and the fuse blows (or the circuit-breaker cuts out) as a protective device for the mind. The time is not yet right for the age and the new idea might just as well not have been there in the first place. Mankind was not yet able to handle it.

Thus when mankind is presented with a totally bizarre, shocking, traumatic event (the Boomerang?), a mental circuit cuts out. Instead of a challenge for action, there is a dead battery. This is, of course, well known in individual cases of amnesia in, for example, "shell shock": could it be that a collective amnesia or apathy can come into play? If so, might it be possible that collectively people can react traumatically, as to the Westchester Boomerang, to a collective amnesia, whether they are policemen, media people, the FAA etc.?

Whatever be the case, the effect is real. Many instances in history.... and the Boomerang is its most recent and spectacular example... when the breaking point of the collective mind occurs, it must openly disregard patent evidence of the senses: it can no longer encompass them within their normal borders.

The Holocaust perpetrated by Hitler in WW II is another sample: people simply refused to accept, and were indifferent to the evidence, because their minds couldn't bring themselves to accept that such a Holocaust could possibly be, despite ample evidence. It was also a "mental circuit breaker," a general apathy and a will to indifference.

The Boomerang and the Holocaust are but striking samples of what happens when the collective mind willfully disregards evidence, when "it can't take it." The entire modern UFO syndrome is another: ARTICLE; here we have utterly ample evidence of the global nature of the UFO phenomenon. [In] thousands of instances and over many countries, the evidence for the UFO phenomenon is clear, but those in position of policy and authority (FAA, educators, scientists etc) are deaf or purposely obtuse. Apathy goes hand in hand with the ability to accept even the most inane answers, anything whatever, just to stave off the necessity to think.

So we cannot at the moment expect to do [but] little about the wealth of material collected on the Westchester Boomerang (or for the much more abundant wealth of UFO material). The circuits are closed; apathy holds sway. But history has shown that in time the information and questions dam breaks, sometimes cataclysmically, and later, why, lo and behold, the pundits by a complete irrational turn of fact, will say, "Oh, we knew this all the time!"

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## The Author

Leslie Kean is an investigative journalist whose feature stories, news analysis and opinion pieces have appeared in the *Boston Globe*, *Baltimore Sun*, *Philadelphia Inquirer*, *International Herald Tribune*, *Globe and Mail* (Canada), *Sydney Morning Herald*, *Kyoto Journal*, *The Journal of Scientific Exploration*, *Burma Debate*, *The Nation*, *Providence Journal*, *Sacramento Bee*, *Minneapolis Star Tribune*, *Vancouver Sun*, *the Nation* (Thailand), *Internazionale* (Italy), *VSD* (France), *Irish Independent*, *Bangkok Post*, *Gazette* (Montreal), *The Commercial Appeal*, *Honolulu Star-Bulletin*, *Journal of Commerce*, *St. Louis Post Dispatch*, *San Francisco Examiner*, *Cincinnati Enquirer*, *Duluth News Tribune*, *Las Vegas Review Journal*, *San Francisco Bay Guardian*, *The Progressive*, *IF Magazine*. Her stories have been syndicated through Knight-Ridder, Scripps-Howard, New York Times Wire Service, Pacific News Service and the National Publishers Association.

Since 1998, Kean has been an associate producer and co-host for an investigative news program on KPFA Radio, a Pacifica station broadcast from the San Francisco Bay Area.

Her books and publications include *Perspectives: Drugs and Society* (Coursewise Publishing, Inc. 2000), *Stone Soup for the World* (Conari Press, 1998), *Drugs, Society and Behavior 98/99* (Dushkin/McGraw-Hill, 1998), and *Burma's Revolution of the Spirit: The Struggle for Democratic Freedom and Dignity* co-authored with Alan Clements (Aperture, 1994; White Orchid Press, 1995, Thai and Burmese Editions).

## Acknowledgements

The author wishes to thank Ed Rothschild of PodestaMattoon for his invaluable assistance with this report and Larry Landsman of the SCI FI Channel for the invitation to write it. Most importantly, gratitude is extended to the many diligent researchers and courageous scientists who won't stop asking the right questions.