

Science and the UFO phenomenon:

It is incorrect to claim that all serious scientists rejected the UFO phenomenon as a manifestation of an alien presence on our planet. There are serious scientists who now accept to discuss this, despite the high risk of jeopardizing their career and the mockeries of most of their less-informed colleagues. Publicly, most of them chuckle, privately, they see UFOs too.

An article By Pr. Peter Sturrock:

Peter A. Sturrock, Professor of Space Science in Stanford's School of Engineering and Professor of Astrophysics in its Applied Physics Dept., studied mathematics at Cambridge Univ., England, won the Rayleigh Prize in 1949 and a prize fellowship in 1952. Dr. Sturrock went to Stanford in 1955, and was appointed a professor there in 1961.

Since 64 he has chaired its Institute for Plasma Research and now also chairs its astronomy program. He is a Fellow of APS [American Philosophical Society] and RAS [Royal Astronomical Society].

Source:

Taken from *Astronautics and Aeronautics* magazine, USA, May 1974, page 60 and on.

The article:

UFO Reports from AIAA Members

by PETER A STURROCK, Stanford University

Most UFO reports concern the experiences of laymen, but scientists and engineers divulge accounts resembling others when asked to do so in appropriate circumstances.

For many years the "UFO phenomenon" has greatly interested the public but has elicited comparatively little response from scientists. "UFO phenomenon" means this question: Do reports of "unidentified flying objects" (UFOs) indicate or

establish a set of facts which cannot be interpreted in terms of known natural phenomena and technological devices? And, if so, can these facts be organized into consistent patterns? Popular discussions of the UFO phenomenon pay special attention to the possibility that some of the observations yield a factual pattern supporting the hypothesis that extraterrestrial vehicles visit Earth.

Most scientists hoped that the problem would be definitely clarified and possibly settled by the "Condon Report"(1) based on the "Colorado Project." Early reviews of the Report presented mixed opinions.(2,3) The published account of the UFO Symposium organized by the American Association for the Advancement of Science in 1969 revealed a wide spectrum of opinion concerning the Condon Report at that time.(4) The same is probably true today.

The American Institute of Aeronautics and Astronautics (AIAA) alone among established scientific organizations has taken the initiative in trying to bring the UFO phenomenon to the attention of serious scientists. In 1967 its Technical Committee on Space and Atmospheric Science set up a subcommittee "to gain a fresh and objective perspective on the UFO problem." In 1970 this subcommittee published a position paper. (5) Its deliberations also led to publication of two extensive accounts of notable UFO observations. (6,7)

Scientists have no doubt been discouraged from taking the problem seriously by the bizarre nature of some of the reports and emphasis upon the "extraterrestrial hypothesis" (ETH). The fact that most reports are anecdotal in nature and come from nonscientists also causes skepticism.

In his book "The UFO Experience,"(8) J.A. Hynek confronts and counters the widespread view that "scientists do not make UFO reports"; he quotes a number of reports originating with scientists.

Did Hynek tap a unique group of scientists, or would many more make similar reports given a fair reason for divulging pertinent experiences? It appeared that this question could be answered by a simple survey over a limited sample of scientifically trained persons, and that it would be possible also to obtain a cross section of opinions concerning the UFO phenomenon.

The Executive Committee of the San Francisco Chapter of AIAA gave permission for a survey of its membership. This article describes the survey and gives the results.

The questionnaire shown [below] here was mailed to all 1175 members of the San Francisco Chapter on April 9, 1973, and 423 questionnaires (36%) were returned. All subsequent percentages here refer to the number of questionnaires returned.

Question 1 asked: "What is your subjective assessment of the probability that UFOs represent a scientifically significant phenomenon?" Of the 423 returns, 93 (22 percent) gave numerical estimates (see T-1) of this probability and revealed a very wide spread of opinion, the median estimate being about $P = 0.4$, twenty-two returns having P in the range $0 < P < 0.1$, and eleven in the range $0.9 < P < 1$. Notably ten returns give $P = 0$ and five returns give $P = 1$. Since these 0 and 1 values would be

unchanged by further information, the groups giving them can not approach agreement by evaluating further information. (9)

Most returns (290, or 69 percent) gave verbal answers to Question 1. T-2 groups these, and for comparison includes the numerical returns. Those giving verbal responses shows even more dispersion in their views. Of those making verbal responses, 25 percent are definite ("impossible" or "certain"); of those making numerical responses, only 16% are definite ($P = 0$ or $P = 1$).

Of the remaining 40 returns, 33 made no response to Question 1, two made noncommittal responses, one asserted that the topic is not important, one that the topic is exciting, one that the topic should be investigated, and two (justifiably) that the question is not clear.

Here you will see the reports given in response to Question 2 of the survey, arbitrarily arranged by the times of day the person had the experience.

Many persons giving a negative answer to Question 2 nevertheless volunteered comments. For instance, eight expressed the view that further investigation is necessary, whereas one said the opposite. Two offered the opinion that UFOs are extraterrestrial, and four said that they are not. Five expressed the view that UFOs are natural phenomena; one called them a spurious phenomenon; and three stated that they consider UFOs to be "real." Three made "put-down" remarks about the whole subject, and four said that they are open minded about it.

Besides these explicit reports, several correspondents stated that they had witnessed aerial phenomena which they could not identify, but did not describe a specific event in detail. One person thought that the phenomena could have been identified if he had a background in meteorology. Another stated that he had frequently seen what he thought were shooting stars. Another person recalled observing an event which he could not identify at the time. but which turned out to be the launching of a missile from Vandenberg AFB.

An aircraft pilot, with 41 years of flying time, much at night, reported many sightings of meteors, satellites and other objects. On one six-hour flight from Nandi to Honolulu, he once saw four satellites (point-like objects, seen by reflected light, at a distance of 150-200 n.mi.). He reported also seeing meteors as well as objects of space junk-hardware luminously burning up, showing various colors, and looking like fireballs.

Another correspondent referred to an event recorded on film exposed in a rocket experiment at White Sands Missile Range in 1965. Details of this observation were not included in the questionnaire, but had been transmitted to me at an earlier date, independently of this survey. For this reason, details of this event are not included in this article.

Scientists, as the reader sees, will respond to a questionnaire concerning UFOs. The questionnaire sent to AIAA's San Francisco Section members prompted a high proportion of returns and almost all respondents were willing to give their names. It

is probable that the guarantee of anonymity helped gain a high return.

The responses show no consensus whatever concerning the nature and scientific importance of the UFO phenomenon. Views cover the entire spectrum from "impossible" to "certain" in reply to the question, "Do UFOs represent a scientifically significant phenomenon?"

Of those making positive reports (answering "yes" to Question 2), some subsequently interpreted their observation as a known phenomenon (R.3, R.10, and R.16). Some others may in fact be known phenomena. For instance, R.5 may have been caused by a barium-cloud experiment; R.7 might have been a launch from Vandenberg AFB; R.9 may have been St. Elmo's fire; and R.13 may have been a rocket trail.

On the other hand, some of the reports are in fairly close accord with types of UFO observation classified by Hynek.(8) (Hynek's classification is concerned, of course, only with observations which he could not explain in terms of known phenomena or devices.) In particular, R.1, R.5, and the first part of R.12 mention moving disks; R.3 describes a pair of stationary disks; and the latter part of R.12 recounts a group of more than ten disks.

It is notable that, of 21 or more events involved in the survey's returns, only two are said to have been reported. In no case did a scientist go on public record as having seen a strange phenomenon. So it appears, from this survey, that if you want to find out whether scientists see UFOs you must ask them, and you probably must guarantee them anonymity.

This survey certainly achieved its chief aim. It shows that a sample of scientifically trained persons reports aerial phenomena similar to so-called "UFO reports."

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UFO questionnaire:

What is your subjective assessment of the probability that UFO's represent a scientifically significant phenomenon?

Have you ever witnessed an aerial phenomenon which you could not identify ?

Yes/No (Check one)

If the answer is "Yes," please continue. If "No," please complete No.8.

Please give place, date, time (am /pm).

Did you report the event? Yes/No If so, to which organization?

Please give a narrative account of the event on a separate sheet of paper.

If you have not covered the following points in your narrative account, please give the following information:

What were you doing at the time?

Age at time of observation:

Number of witnesses:

Weather conditions:

Duration of sighting:

Number of objects:

Maximum angular diameter of largest object:

Point-like: Smaller than Moon: Larger than Moon:

Estimate of closest approach of nearest object:

Was object(s) luminous? Color(s)?

What answer would you have given to Question 1 before you witnessed this event?

The following information is requested for our files but will not be divulged:

Name:

Address:

Tel.No. (optional):

Brief statement of scientific training:

T-1 Numerical Response to Question 1

"What is your subjective assessment of the probability that UFOs represent a scientifically significant phenomenon?"

P N(P) P N(P)

0 10 .4 1

10⁻⁹ 1 .5 17

10⁻⁶ 2 .55 1

10⁻⁴ 1 .6 2

10⁻³ 2 .7 2

.01 7 .75 1

.05 3 .8 5

.08 1 .85 1

.1 5 .9 10

.15 1 .9 1

.2 13 1 5

.3 1

=====

T-2 Verbal Response to Question 1

Degree Verbal: Numerical

Impossible 38 13% 10 14% $P = 0$

Impossible 91 32% 22 14% $0 < P \leq .1$

Possible 68 23% 45 58% $.1 < P \leq .9$

Probable 58 20% 11 12% $.9 < P < 1$

Certain 35 12% 5 5% $P = 1$

Box: Reports by AIAA members

REPORT 1.

50 mi N.E. of St. Louis Missouri

July, 1947 9-10 a.m.

Age: 14

Nailing corrugated panels on a barn roof.

Witnesses: 0

Weather: clear, no clouds

Duration: less than 1 min.

One object: smaller than Moon. Moved east to west, slightly south of direction overhead, at 10-20,000 ft

Not luminous. Disk-shaped, uniform white

Not reported

REPORT 2.

Napa, Calif. ca 1956, summer (too long ago to recall accurately)

Age: 29

Working in backyard

Witnesses: 1

Weather: clear

Duration: 5 min.

One object, point-like. Closest approach, 4-5 mi. Luminous, silver/white

Not reported

REPORT 3.

Dayton, Ohio, 1949, 2-5 p.m.

Age: 30

Witnesses: 4-5

Weather: clear and sunny

Duration: 3 hr.

Two objects, larger than Moon. Closest approach, 2-3 mi. Silver, reflective object.

Reported to Wright Field UFO Project.

Narrative account: My wife and I and a woman friend were sitting

in the backyard of our house in Dayton, Ohio in 1949. It was a

Sunday afternoon, sunny clear sky when we sighted two stationary

disks at an elevation angle of 30° or less. All three of us saw

them as well as neighbors we called. I studied them through 7x35

binoculars and noticed three lines connecting the disks,

follows:

[Sketch not included so far]

(The sketch does not convey this, but the disks were essentially

horizontal with the left one larger and above the right one.) I

called the Wright Field Tower and described the location but

they could see nothing. The tower was approximately 10 miles from my home.

The next day, my wife, myself and several neighbors were interviewed by the AF UFO Project from Wright Field. I have since decided we must have seen an unusual kite.

REPORT 4.

Central Nevada, spring 1952. Dusk.

Age: 22

Driving home from fishing trip.

Witnesses: 3 others.

Weather: clear

Largest object: larger than Moon. Closest approach, approximately 5 mi (?) Luminous - sufficient to light horizon.

Dull white.

Not reported

Narrative account: Observed rapidly moving bursts of light for a period of over 2 hr. Four of us saw several "events" at various directions from N to SW (135°) from our vantage point. The sightings occurred near NAS Fallon, Nevada. We ruled out any Navy activities and, although the area is a marshy one, the bursts were not associated with methane luminescence, which we had all seen before. I lived near the area for 25 years and made several (like hundreds) of trips to this area and never saw another event.

REPORT 5.

University of British Columbia, Vancouver. January, 1970. 7 p m.

Age: 28.

Walking home from class.

Witnesses: 0

Weather: dark, cold and clear.

Duration: 10 min.

One object smaller than Moon. Closest approach: unknown.

Luminous, orange

Not reported.

Narrative account: Sighted orange disk, which drifted slowly for some time, then suddenly shrank and disappeared. After disappearance, could detect no occlusion of starry background

REPORT 6.

Eastern U.S. (on airline flight) 1960 7 p.m.

Age: 35

Weather: clear, just at end of twilight

Duration: few min.

Three objects, smaller than Moon. Luminous, red.

Not reported

Narrative account: Three red images of indeterminate size and range maintained same position relative to aircraft for several minutes

REPORT 7.

Santa Cruz Mountains. California April 6, 1973. 7:45 p.m.

Age: 51
Driving on Interstate 280 in west San Jose
Witnesses: 2
Weather: clear
Duration: 2-3 sec
One object, point-like, at 25-30 mi. Not luminous, bright, reddish.
Not reported
Narrative account:
Object appeared about 45° up from the horizon and appeared to be climbing slightly leaving a trailing sparkle similar to space hardware coming into atmosphere. Looked like the typical drawings of Christmas Star.

REPORT 8.

6 mi. north of Esparto, Calif. Late 1930s. 8-10 p.m.
Age: 9-12.
Witnesses: 0
Weather: clear, probably summer
Duration: many seconds.
One object, either point-like or smaller than moon. Closest approach, less than 1 mi. Luminous, blue glow.
Not reported
Narrative account:
Relatively young when the event occurred. I recall standing outside observing the stars when this blue glow seemed to descend from the sky and it appeared to land in a neighboring field. This frightened me so I went inside. I have no memories beyond this. It was a clear warm night.

REPORT 9.

South of Whiskey Town Lake, Calif. Summer, 1967, around 9 p.m.
Age: 47
Camping
Witnesses: 1 other
Weather: warm (80 F), humid, clear
Duration: approximately 1 min.
One object, smaller than Moon. Closest approach, 1 mi. Luminous, bluish white
Not reported
Narrative account:
Bright object moved east to west along transmission lines, then faded out. It moved several hundred yards. Several non-exotic explanations could account for sighting, but none could be confirmed or denied.

REPORT 10.

Palo Alto, Calif ca. 1953 About 9 p.m.
Age: 50.
Engaged in amateur astronomy
Witnesses: 2
Weather: clear.
Duration: 20 sec.
Three objects, smaller than Moon. First estimate of distance 100,000 ft; later estimate 50 ft. Luminous, dusky color

Not reported

Narrative account:

While making astronomical observations in my backyard, I and another observer witnessed a most convincing illusion of three slightly luminous craft flying at great altitude and speed and in complete silence.

About a week later the phenomena recurred. This time one of them broke formation and made a noise and I realized they were white owls gliding in perfect silence (as only owls can), made to appear slightly luminous by diffuse city lights from below. An owl flies like a ghost.

REPORT 11.

Foothills near Ojai, California. 1963. 9-10 p.m.

Age: 20

Camping.

Witnesses: none

Weather: clear

Duration: 10 min.

One object, point-like, at indeterminate distance. Luminous white.

Not reported.

Narrative account:

I was on a weekend outing with some boy scouts and around 9 or 10 p.m. I went to bed under the stars (no tent or coverings).

While I was awake and looking at the stars I noticed an object (about as bright and having the size of the north star) moving at right angles. These angles were very long and sharp. In my estimation they were above the capabilities of modern aircraft. The object then left the field of view at exceptional speed.

REPORT 12.

North of Jordanton, Texas. About December 31, 1951 (+ 1 yr).

Around 9:30 p.m.

Age: 12+

Standing on the front porch of the house with my father looking to the north.

Witnesses: 2

Weather: cool, low clouds occasionally, after storm

Duration: 2-3 min.

One object, smaller than Moon, some miles away. Luminous, color of mercury street lamp, but much brighter.

Not reported

Narrative account:

The phenomenon I observed was at least twenty years ago, yet it is still fresh in my mind as to what I saw.

There had been a storm, and to the north there was an area that was clear with a few clouds to the left, right and higher up.

There was a Moon out.

The "object" I saw resembled a disk of light as one might expect from the reflection of a searchlight on the base of the cloud ceiling. The area surrounding the "object" was bathed with considerable after-glow. The path of the object was such that it dipped and turned more or less in figure eight. There appeared to be some regularity to its motion. The sky around the "object" was clear. The path of the object took it near the horizon and back up a few degrees. I watched it for several minutes before

it disappeared.

Today, I would be prone to dismiss it as a search-light except for the brilliance and the lack of clouds, or any visible shaft of light.

Earlier "UFO" type sighting occurred in the summer of 1947 - several (more than 10) disk-like objects flew overhead. (They appeared to tumble and oscillate). My grandmother called my attention to them as flying saucers. They did look like disks to me then. This was during the period of the "Lubbock lights".

REPORT 13.

Virginia City, Montana. August 10, 1972. 10 p.m

Age: 31

Vacation visit to ghost town taking pictures

Witnesses: at least 4.

Weather: very clear sky.

Duration: 5 sec.

Could not see object, only trail.

Estimated distance: 15 mi.

Not reported, but heard on news next day

Narrative account:

Orange streak across sky from high altitude. High velocity object - orange trail remained

REPORT 14.

Stanford California. Spring, 1965 (or 1964). 10 p.m

Age: 21

Witnesses: 2

One object, smaller than Moon.

Not reported

Narrative account:

At about 10:00 p.m. on a clear windless evening in the spring of 1965 (I think), my fiancée (now wife) and I were standing outside Florence Moore Hall on the Stanford University campus. We both observed a phenomenon for which I have no explanation

We noticed a lighted object overhead at an altitude I estimated to be 2000 - 4000 ft. We watched it for roughly a half-hour before leaving, with the object still visible and doing its thing. The object was silent, but it moved slowly along a closed path which, in my opinion, could have been negotiated only by a noisy helicopter or possibly by a quietly powered balloon. The path appeared to be an elongated racetrack oval at a constant altitude. The turns at the ends of the oval were extremely tight, and I think I could discern deceleration going into the turns and acceleration coming out. I think it took the object 5-10 min. to complete a circuit.

Only the light(s) of the object was (were) visible, so I couldn't estimate its dimensions. I don't recall the nature of the light(s), except that it (they) was (were) discrete and there was some color.

My memory of the particulars of the sighting is obviously hazy, but I was (and still am) perplexed by how the object could remain airborne at such a low speed and without audible propulsion, and by how it repeatedly followed the same path. I did not report this sighting

REPORT 15.

Portola Valley, California. October 10, 1970. 10 p.m.

Age: 29

Walking dog in backyard

Witnesses: 1

Weather: Clear. star-lit sky Duration, 1 min

One object, smaller than Moon, 500-1000 ft away. Luminous, initially intensive, then fading; steadily pulsing bluish white.

Not reported

Narrative account:

On or about October 10. 1970, I was walking our dog in our backyard at about 10 p.m., when a bright, bluish-white object giving steadily pulsating (from weaker to strongly bright) light appeared overhead in slightly northerly direction (i.e above Stanford Accelerator or thereabouts) and slowly moved in easterly direction toward Palo Alto and the Baylands. After a minute or so, trees obscured vision and phenomenon was lost from sight. It was definitely different from an airplane, or meteor(ite) since it appeared to maintain its altitude, estimated at 500-1000 ft. There was no noise whatsoever associated with the phenomenon.

Called wife to witness it.

REPORT 16.

Stanford, California 1961, 11 p.m.

Age: 31

Resting before falling asleep

Witnesses: 0

Weather: cloudy

Duration, 1 sec

One object, smaller than Moon. Estimated distance, several miles. Seen in sky visible from bedroom.

Not reported, because a plausible explanation of a searchlight on some low clouds was suggested by colleagues the next day.

REPORT 17.

Pacific Ocean, 200 n.mi. east of Wake Island flying at 18,000 ft. 1951, 11:00 Z.

Age: 44

Event seen from astrodome of DC-6 navigating aircraft

Witnesses: 1

Weather: scattered cumulus

Duration: less than 1 min

One object smaller than Moon (No known flares or rockets in area, no ships). Closest approach: 200 feet. Luminous, green, steady color.

Reported to flight operations at Wake Island

Narrative account:

Bright green ball of light from below altitude of aircraft, 10,000 ft., rose above, remained steady, then drifted off in distance.

REPORT 18.

(a, b, c) (All reported by same person)

Narrative accounts follow.

a.
On official duties, mid-February, 1945 - about 21:00 hr. About 35 mi. northeast of Brussels, Belgium.
Weather: clear, excellent visibility, starry skies
Sighting above a heavily defended area with IAZ rules of engagement in effect. No hostile or friendly aircraft within IAZ or above. Large bright object (white and yellow, with occasional red or blue) traversed a rectangular course for about 15 minutes slowly then made a very fast vertical escape. Altitude of item indeterminate but estimated to be greater than 5000 ft. Item not detected by extensive surveillance, gun-laying, and navigation radar networks of anti-V1 (buzz bomb) defenses. Item definitely not friendly or hostile aircraft, pilotless aircraft, balloon, or parachute. Sighting not correlatable with observed, detected or reported intelligence.

b.
Los Altos, California (at home, August 12, 1972). 10:11 hr.
Clear weather. Excellent visibility.
Prior to sighting I received telepathic communication to go to kitchen window to witness flight of four UFOs. Telepathic communication sustained. Four silver vehicles observed about Mt. Bielawski (elevation 3231 ft.) on Skyline Drive, several miles south of Mountain View, California. This observer requested visible manifestation by vehicles. Vapor trails formed by four vehicles operating in intricate maneuvers. Vehicles disappeared on steep ascending and receding course.
Sighting lasted about 3 min.

c.
While traveling in automobile on February 18, 1973, received telepathic message about UFO sighting next day vicinity of San Luis Reservoir Complex. On February 19, 1973, at approximately 10:45 hr sighted UFO in vicinity of Hollister, California, while traveling east on Route 152.
Weather: clear. Visibility excellent.
No aircraft balloons, parachutes or pyrotechnics in area.
Before reaching San Luis Reservoir Complex, a large ball of light (estimated diameter of 20 ft) traveled on a maneuvering north-south course at approximately 2500 ft. and disappeared in Antimony Peak (elevation 3300 ft.). Light was gold color.
Telepathically this observer informed that UFO was a probe.
Sighting about 1-2 min.



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