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# Close Encounters

—the eyes of Texans are upon them

Something strange was moving up there! Across the glittering star fields of a moonless Texas night it crept, a small orange light, pulsating slightly and growing brighter. Abruptly, it changed direction. Reddish now, it proceeded at right angles to its former course, away from the smudge of light on the horizon that marked a distant city.

A flight controller hunched intently over his radarscope. Its eerie glow illuminated an expression of amazed disbelief. A silent whistle escaped from his pursed lips. An 80° turn at 16,000 mph and out of range already? Involuntarily, his throat muscles tensed to speak to the pilot of the only plane on the scope, then relaxed. Who would believe him? Probably an equipment malfunction, he thought. Yet stories told by old-timers, stories at which he had scoffed, began to filter into his mind.

Much lower now, the object skimmed slowly over an area of rough terrain. A lone car probed the dark

county road with high beams. Nearing the crest of a hill, it switched to low as a glare showed someone was coming. The beer net on 34/94 was pleasant company. Suddenly there was only dead silence. Worse yet, the engine and headlights had quit at the same moment!

Too busy braking to question the source, the driver was thankful for the light as he brought the car to a stop on the berm. But now the approaching blaze looked like a jet-propelled magnesium flare. Just as it seemed that it must smash right into the car, it was up and over and off into the sky behind. And a ham sat quietly, shaking for five minutes before realizing that the engine was running, the headlights were on, and the repeater was chattering away as though nothing had happened. "What was *that*?" was still his only thought.

At that moment, not far away, as it had all day, every day for months, a unique laboratory waited to answer that question. Near the very limit of their sensitivity, recording instruments deviated slightly

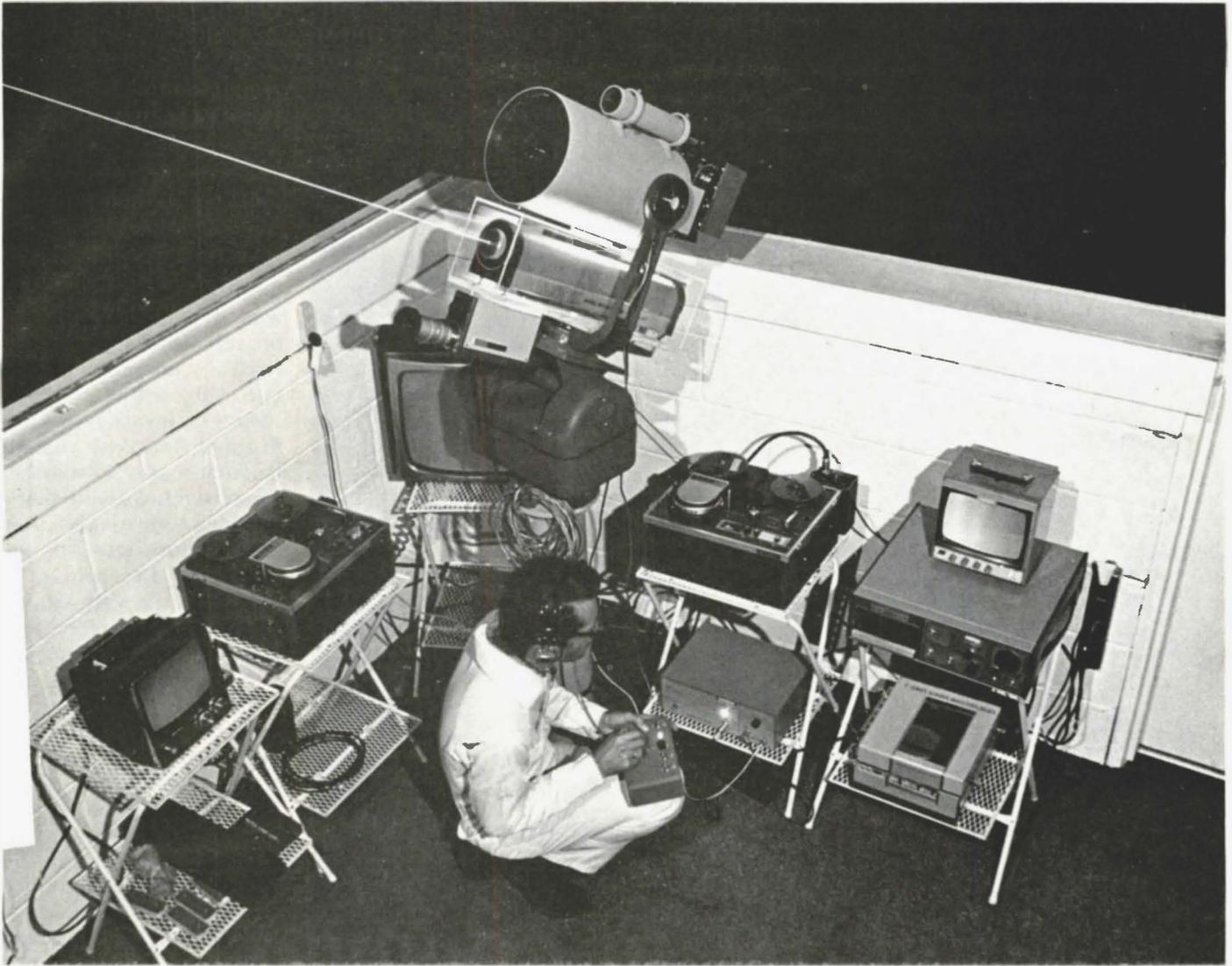
from the norms of their tireless monitoring. Inside a low building, pale by starlight against the dark hillside, electrons surged through microcircuitry. A minicomputer swiftly executed its intricate series of commands. An alarm shrilled, alerting duty personnel. Quickly all posts were manned, and the sophisticated technology of the only known scientific facility in the world dedicated solely to UFO research was ready for what might come.

Still adjusting headsets, observers manning three phototheodolites at widely separated locations on the 400-acre site scanned the stars for one that moved, waiting for instructions. They were not long in coming. "Magnetic anomaly, 270 degrees, increasing in intensity. Stand by." Inside the laboratory, the director studied the endless white tongue of paper extruding slowly from the chart recorder. Eight fine lines were being penned on it, measuring the output of various sensors. Periodic blips indicated time signals being received on 60 kHz from WWVB. Two of the

channels were now showing deviation well above their baselines. Attention shifted expectantly to the color video terminal.

From high atop a tower rising into the darkness above a nearby building, powerful radar pulses were sweeping a 12-mile radius. For several rotations there was no unusual return. Then, "Radar lock-on!" As coordinates of the UFO were relayed to the field observers, excited cries doubled in the headsets. "Got it! Orange lenticular object, moving in fast."

All three phototheodolites were now tracking the object. Each operator concentrated on keeping the image of the UFO centered on an illuminated spot in his aiming scope, while shaft encoders on the pan-and-tilt heads of the telescopic cameras were feeding coordinates into the computer. At the same time photographic evidence was being collected, data sampled from each of the three locations every few seconds was being processed into a video display. The UFO's path was seen superimposed over an im-



*Photo A. Laser beam made visible by water vapor refraction pierces the night from the UFO light-pulse experiment apparatus at the Laboratory for Instrumented UFO Research near Austin, Texas. Capable of transmitting up to 2.5 million bits of response-test data per second, this red-light laser device can also be used to measure UFO distance and test the hypothesis that light beams may be bent in the vicinity of some UFOs.*

age of the area beneath it. Actual distance readings were being printed out for permanent record.

Busy as it was, though, the computer was also performing a number of other vital functions. As the vidicon operator focused on the approaching UFO, it measured the arc subtended by the image and computed the size of the object. It also computed the visibility radius of the object, and retrieved the names and phone numbers of ARGUS volunteers who should be able to see it. Several telephone lines were being pulsed with the dual tones so familiar to

autopatch users, and sleepy voices began answering phones shrilling on bedside stands miles away. As each answered, the name and phone number was printed out and the volunteer heard, "This is an Operation ARGUS alert! Please do as you were instructed."

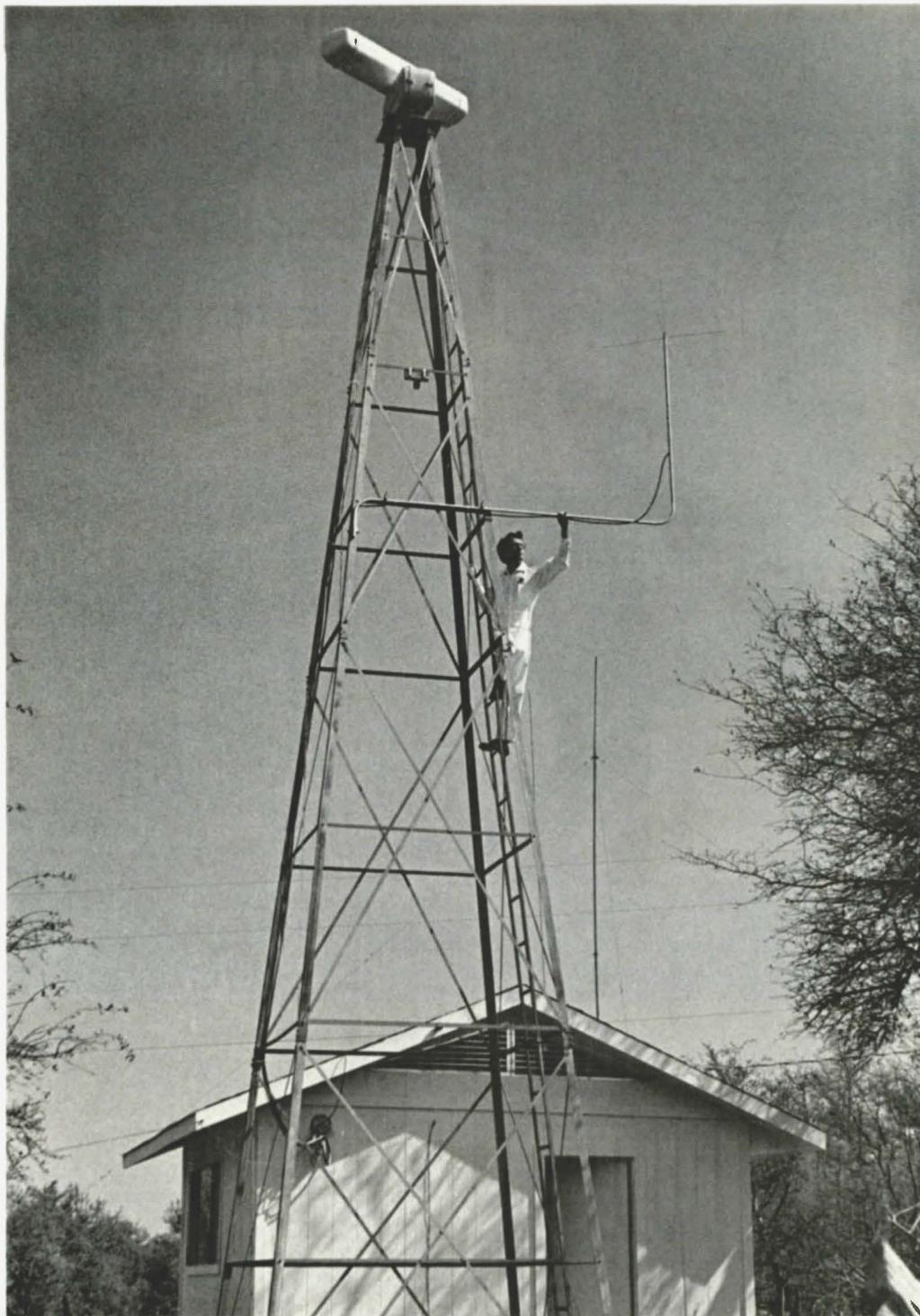
Suddenly wide awake, the observers hastily pulled on clothes, jammed feet into shoes, and grabbed binoculars and cameras on the run. This night they were not to be disappointed. Here was UFO event-sharing on a silver platter, in contrast to the ordeals suffered by

our friends in "Close Encounters" on the silver screen.

Unlike the movie, the scenario we have imagined is hardly fantasy. This laboratory actually exists. At this very moment, whatever the time, its equipment is scanning the sky, waiting for the real thing to happen. This is where history may be made—Project Starlight International, or PSI.

In the rattlesnake-infested hill country northwest of Austin, Texas, accessible only by four-wheel drive, lies the 400-acre site of the Laboratory for Instrumented UFO Research,

a facility unique in the world. At this remote location, field research is conducted for Project Starlight International, a research division of the Association for the Understanding of Man, which is a nonprofit educational organization based in Austin. PSI's purpose? To document scientifically and irrefutably the existence of UFOs. Ray Stanford, founder and managing director, is an acknowledged expert in the field of UFO research. Author of *Socorro "Saucer" in a Pentagon Pantry*, he conducted a fascinating and well-documented investigation of the Socorro,



*Photo B. PSI's Operation ARGUS radar and radio-frequency monitoring laboratory. With a radius of 12 miles, this radar unit will provide UFO distance data for Operation ARGUS, a computer-centered tracking system of highly sophisticated design covering a range of 472 square miles.*

New Mexico, landing of April 24, 1964. According to Stanford, there is no known research facility in the world dedicated to UFO investigation which even approaches the sophistication and capability of PSI.

This high-powered re-

search effort is directed by a professional astronomer, Dr. Daniel H. Harris, Ph.D., from the University of Arizona. Dr. Harris, something of a modern pioneer, is the first scientist to accept a full-time paid position in UFO research. Right now, final touches are be-

ing completed on the most sophisticated of the equipment, and the laboratory will be fully operational. Much of the equipment is already scanning Texas skies twenty-four hours a day. And a most impressive array of scientific goodies it is indeed.

What are the prospects for irrefutably documenting a close encounter? Much better than you might think, as witness the photographs showing only one of several UFOs observed at the site. But wouldn't it be better to go to the UFOs rather than hope they appear at one location? Actually, that was the historical approach. During the green fireball episode in the late '40s and early '50s, teams of investigators for Project Twinkle rushed from one area to another where sightings were being reported. Invariably, they arrived too late to see anything. The UFOs, it seems, didn't wait around for them. PSI decided that it would be more productive to establish a permanent laboratory with sophisticated equipment and man it around the clock, seven days a week. The other option is still open, however. A vital core of instruments can be transported on short notice by four-wheel-drive van to any location where it might be needed.

Until now, most UFO research has been anecdotal. Witnesses of past events could be interviewed and second- or third-hand information could be correlated. Infrequently, a fortuitous amateur photograph, usually of very poor quality, might turn up. Or perhaps a bit of soil from a purported landing site could be secured for analysis. Immense effort went into analyzing and rehashing data of this kind, and there is a lot of it. UFOCAT, the computerized files associated with the Center for UFO Studies, now contains over 60,000 close encounters. And Ted Bloecher has indexed over 1500 close encounters of the third kind, in which contact with entities was reported.

However, there was no way to study UFOs directly and scientifically. Like the weather, lots of people talked about UFOs, but nobody did anything about them—except for the military, which was busy trying to shoot them down.

Scientific voices have cried in the wilderness almost from the beginning of the modern UFO era in World War II, urging serious investigation. Back in 1968, the House Committee on Science and Astronautics held a hearing on UFOs. Dr. Garry C. Henderson, then project leader on the lunar surface gravimeter/surveying system, proposed an implemented plan to acquire hard facts about the existence and nature of UFOs. He even detailed the instruments which should be used. And Carl Sagan, an astronomer who is as outspoken an advocate of the well-inhabited universe theory as he is a skeptic about UFOs, has said that anyone really interested in the supposed phenomenon should use high-quality instrumentation to probe its nature. Finally, someone is doing just that!

PSI is equipped to study a broad range of physical effects which might be associated with UFOs. Their objective is to gather a maximum range of hard data and to disseminate this information quickly to members of the scientific community. At a local level, larger numbers of people, probably including some hams, will be able to share in UFO events through Operation ARGUS.

The Greeks, as usual, had a word for it. Argus was a character in Greek mythology who had eyes all over his body to make him a good watchman. At the Laboratory for Instrumented UFO Research, ARGUS stands for Automated Ringup on Geo-

located UFO Sightings, and we have illustrated how it might work in practice. But there is a lot more to scientific UFOlogy than this.

UFOs have been reported to cause magnetic, radio-frequency, electrostatic, and gravitational effects, as well as temperature changes, barometric disturbances, and sounds. PSI's automatic recording equipment therefore includes three magnetometers and a gravimeter, as well as a microbarometer, an electrometer, and a sky camera activated by magnetometer deviations. An ambient microphone records voice input and audio effects, while a highly-directional microphone can handle distant sounds. The eight-channel, sensor-activated chart recorder displays low-frequency data up to 150 Hz correlated with universal time from WWVB. Radio-frequency scanners and recorders also incorporating UTC input cover the rest of the spectrum.

A computer-interfaced magnetometer system has been completed which will process field-effect data. Newly-designed sensors with 60-Hz filters respond up to 700 Hz and are oriented in three dimensions. Thus a three-dimensional video model of the magnetic field around a UFO can be displayed, showing each component in a different color. Pulsations or changes in light emitted by a UFO can be monitored by an electronic system utilizing solid-state sensors having a bandwidth of 10

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Table 1. Major UFO research organizations.

MHz.

OZMA and CYCLOPS are strange-sounding names for serious projects funded by the U.S. government to search for intelligent life in space. Possible communications from selected stars have been monitored. SETI, Search for Intelligent Life, is an ongoing NASA project which is developing designs for a very large system of antennas and computers for the purpose of contacting extraterrestrial life. Since NASA scientists are convinced of the importance of such endeavors, PSI has not neglected this aspect of UFO research. Are UFO intelligences, if they exist, capable of or interested in exchanging intelligent communication? To answer this question, a

modulatable Liconix 605M helium-neon laser has been installed which can transmit voice, code, or television signals. Any modulated light response which a UFO might make to the laser signals can be detected as sound or as a TV image.

Radio transmissions other than noise have not been reported from UFOs. Disruption of radio transmission and reception, on the other hand, is frequently reported. This is why laser light rather than rf was chosen for a communication experiment. According to many reports, what appear to be coherent light beams of various colors have been projected from UFOs. And searchlight beams directed at UFOs have been seen to bend sharply, due perhaps

DAY	BAND	MHz	UTC	EST	NET CONTROL	QTH
Saturday	40	7.237	1200	0800	N1JS	MA
Saturday	75	3.975	1300	0900	WA9ARG	IL

Table 2. MUFON amateur radio SSB nets—weekly.



Photo C. An early prototype program display on Operation ARGUS's color video terminal, showing simulated UFO tracking over a computerized topographic map. Tracking and laboratory instrument data is automatically displayed below the map.

to some field effect or variations in atmospheric density. These are phenomena worthy of investigation for which the laser equipment could be used. In addition, the system can be adapted to determine the distance of an object with extreme accuracy using reflected laser light.

As you might expect, photographic documentation is an important aspect of the laboratory program. UFOs within range will find that they are captured on 35mm moving picture film. A Super-8mm sound movie camera with a 1-to-12 ratio zoom lens is also available. From various stations at the site, three automatically synchronized 35mm cameras, one of which is equipped with a diffraction grating for spectral studies, record any UFO event. High-resolution, close-up images of objects being tracked can be obtained

using Schmidt-Cassegrain telescopes of 2,110mm and 1,250mm focal lengths, as well as a 240mm telephoto lens on the 35mm movie camera.

UFOs have often been reported to investigate new or unusual light patterns on the ground. Some have responded to lights flashed or directed at them. For this reason, a light pattern response experiment has been devised, although it is rarely used. A hundred-foot circle consisting of ninety-one 150-Watt spotlights contains a single light in its center. Solid-state circuitry and a microprocessor make it possible to sequence the lights in any desired pattern, or even to mimic the light patterns of a UFO.

K12XBJ, the only known radar facility in the world dedicated exclusively to UFO research, was licensed by the FCC on June 8, 1977. Although it is

planned to install a more effective system for broad-range sky coverage when funds permit, the present Raytheon Model 1700 covers a 12-mile radius with 360-degree rotation. Operating on 9375 MHz, its 7.5 kW pulses can detect reflective objects up to 20 degrees above the horizon.

How big was the UFO? This easy-sounding question is one of the most difficult to answer accurately when a sighting has occurred. Was the object very large and far away, or was it small but close to the observer? Few people run around with optical range finders in their pockets, and it is rare that a UFO passes in front of some background object which can provide a distance reference. At PSI, however, Operation ARGUS can determine distance electronically by radar. Not all UFOs reflect radar signals, apparently,

but this poses no problem. Accurate horizontal and vertical coordinate data from shaft-encoders on optical tracking equipment can be triangulated by the computer to provide actual distance, horizontal distance, and altitude. If the area of an image can be measured, the size of the object can then be computed from the distance data.

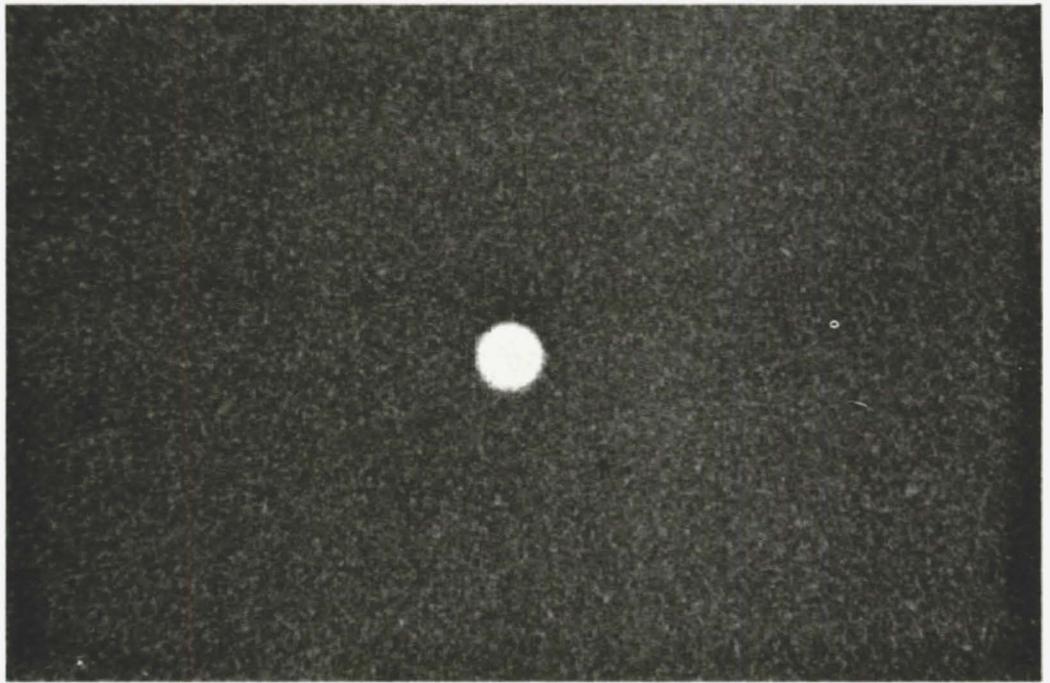
When a UFO is being tracked, the ARGUS computer has been programmed to select from its memory of 472 square miles of terrain that sector of a full-color topographic map over which it determines the object to be passing. The path of the UFO then appears on the video display superimposed over the image of the terrain. Sequentially-tracked positions are indicated by successive letters or numbers. The entire episode, correlated against UTC, can be retrieved from computer memory for later study. Ground objects over which the UFO passed or hovered as well as possible landing sites will thus be a matter of record. They can be examined for evidence later, if the UFO departs before a mobile unit can reach the site.

We've had a look at the GUS of Operation ARGUS, which is primarily technological. The AR, automated ringup, deals with people, for it is in this way that local volunteers can get involved. Ray Stanford terms this aspect of the operation "UFO event-sharing." Here is a concept of great potential to us as amateur radio operators, wherever we may live. As a movie, "Close Encounters" was great entertainment and could even be considered educational in some respects. But, fantasy aside, what is the actual status quo with regard to UFO knowledge at the

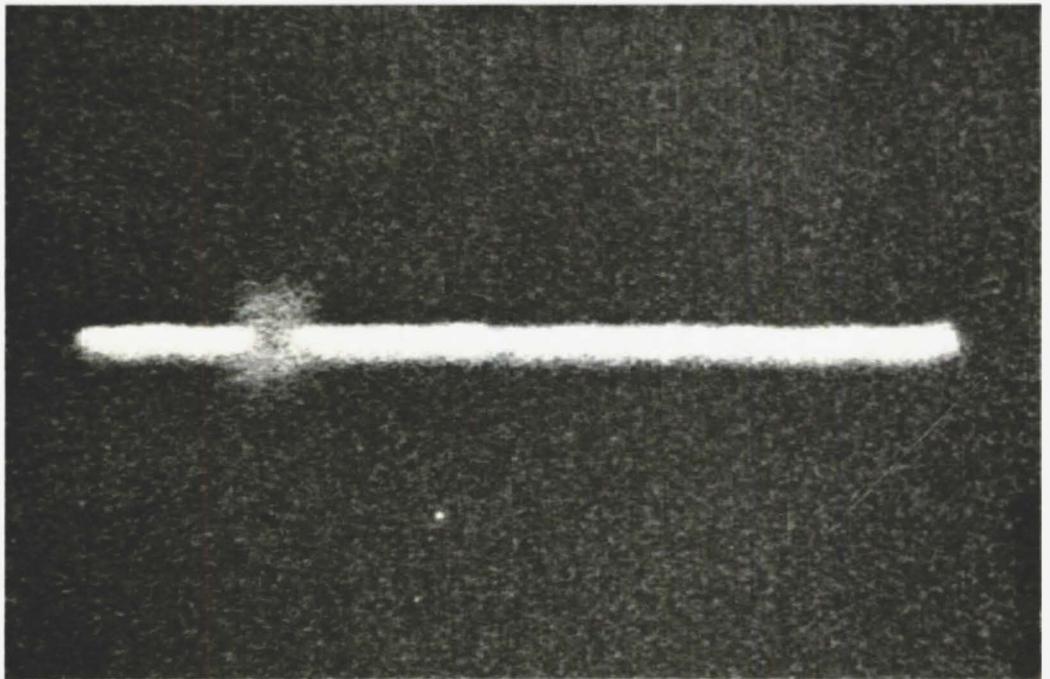
present time?

To be honest about it, there is a great diversity of opinion on the subject. UFOlogists, many of whom have been investigating the phenomenon for thirty years, present a spectrum of opinion. Some take the position that little or nothing is known concerning the true nature of the UFO. Official government interest vanished with the dissolution of Project Bluebook and the issue of the infamous "Condon Report," which as much as denied their existence. On the other hand, a number of authorities believe that the reason for governmental disinterest, including the recent refusal of NASA to reopen the field for investigation, is that they already know all about UFOs. In his book, *Situation Red: The UFO Siege*, Leonard Stringfield builds a strong circumstantial case that intact spacecraft have been recovered from crash sites, and that extraterrestrial humanoids have been autopsied. If so, it now appears unlikely that military authorities will voluntarily expose these facts to public view. However, a lawsuit filed by one UFO group against a government agency under the Freedom of Information Act could produce evidence of such concealment.

Between these viewpoints, one finds many theories about the nature of the UFO. Some UFOlogists believe that the phenomena may be psychic in nature. Others think UFOs are a mass neurosis, a psychological projection from the race mind. A few like the idea that they are a control mechanism, designed to influence human evolution in the manner we saw dramatized in the movie "2001." Most, however, believe the evidence points to hardware from



*Photo D. Second-generation print of possible UFO which hovered for nearly 10 minutes beginning at 8:58 pm on December 10, 1975. Tri-X film, 5-second exposure with 300mm f/4 lens. Forty-eight photos were obtained during this event, which occurred prior to installation of PSI's more sophisticated equipment.*



*Photo E. Second-generation print of same object as Photo D moving off to left during 8-second exposure. Note strange burst-like effect not apparent to observers. Approximately 9:09 pm, Tri-X film with 300 mm f/4 lens. Typical of those taken by the PSI staff during the December 10, 1975, event, the photos are encouraging but not considered definitive concerning the nature of UFOs.*

outer space, vehicles from some distant star system which operate through space/time in a manner we cannot yet comprehend. It is this hardware aspect of

UFOs which renders them susceptible to instrumental investigation. We may be on the way to answering what UFOs are, but the questions of where they

are from and why they are here will ultimately have to be answered as well.

Where, then, does all this leave us, as interested citizens who want to know

the truth? And what can we do to help, or to be prepared when the next "flap" or wave of activity once more fills our skies with something strange?

There are things we can all do. For those fortunate enough to live in the vicinity of Austin, training and participation in PSI activities as a volunteer might be possible. The expense of supporting a research effort such as this suggests a way in which we might contribute. As radio amateurs, however, we have unique qualifications for participating in UFO event-sharing on a national as well as a local level.

We can keep informed through groups which correlate and communicate information, such as the Center for UFO Studies. Dr. J. Allen Hynek, Chairman of CUFOS, was technical advisor for the

production of "Close Encounters." Much of the realism of this film can be attributed to the case information he was able to provide. We can also join or support investigatory groups such as MUFON or GSW, for example. MUFON amateur radio nets meet weekly. On Saturday mornings at 1200 UTC, the 40 meter section meets on 7237 kHz, and the 75 meter section meets at 1300 on 3975.

Every section of the country has investigators trained by some organization to investigate UFO incidents. They are often interviewed by the media. Most of them would be more than happy to speak at a radio club meeting, or to know that local hams are ready to help during a local UFO flap. Many of them need education in the tremendous capabilities amateur radio has for

tracking and reporting sightings and landings. Repeater groups in particular may be interested in learning who to call and what to do if UFOs appear in their area. So the relationship can be one of mutual benefit. Getting qualified investigators to the site of a UFO incident, while it is still in progress if at all possible, is the key to solving the mystery. The government agencies can offer no help, since they have officially declined to investigate UFOs. The police, if they do anything at all, generally report the incident to the Center for UFO Studies via their hotline. Ultimately, news of the incident may filter down from there to the headquarters of one of the investigatory groups such as MUFON. A local investigator is finally informed and hopefully reaches the scene. By then, the UFO and most of the

evidence is long gone. Wouldn't it be much more efficient if hams knew who to contact in their own area to report an encounter? And a call on the 2 meter repeaters in any city ought to furnish plenty of tracking observers or witnesses in a hurry. We can't all have a Project Starlight International in our backyard, but we do have an HT, a mobile, or a low-band rig and know how to communicate. We also have some technical training which helps in describing a UFO and its effects. Working together, we can solve the UFO problem.

Current UFO activity has recently shifted from South America to Australia. The lull in sightings in the U.S. may end at any time. UFOs, the eyes of Texas are upon you! And we'll be keeping ours open, too. ■

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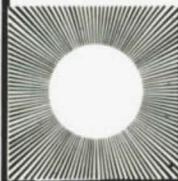
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