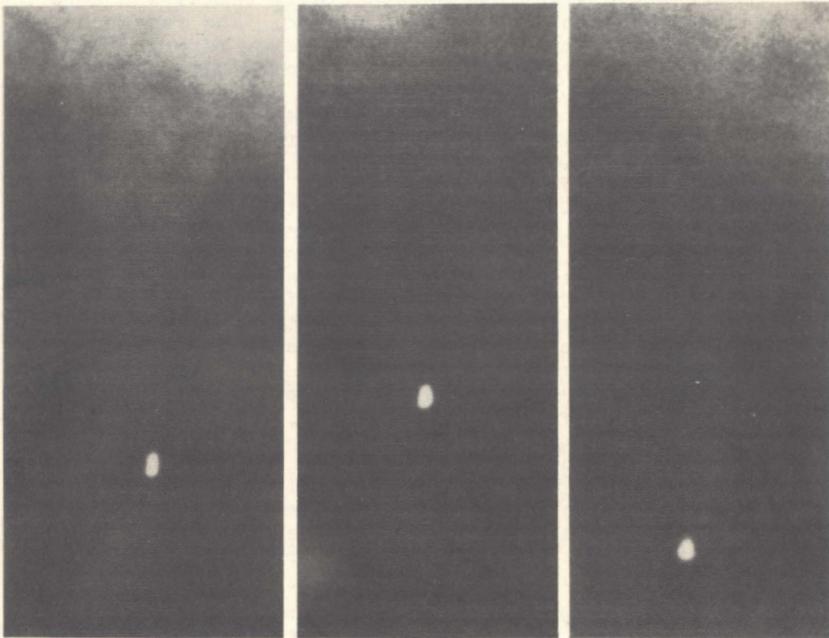


'SAUCERS'

Vol. VII - Nos. 3 & 4 Fall/Winter 1959/60 70¢ Per Copy



FRAME ENLARGEMENTS from 16mm Kodachrome movie footage of a possible UFO filmed by Ray Stanford in Corpus Christi, Tex., on July 28, 1959. (See page 20.) Although taken only seconds apart, these photos indicate that the object—whatever it was—rapidly changed shape. The UFO on film appears to have more luminosity than surrounding clouds.

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EDITORIAL

IT IS GRADUALLY BECOMING OBVIOUS that the division of so-called "objective" researchers into one camp and the proponents of "subjective" research into another has created an almost insurmountable problem. The writer, for one, does not think that the UFO issue will be resolved by rehashing old and the infrequent new sighting reports, nor in expending major effort to expose every fraud that pops into the UFO scene.

This writer believes it unlikely that the future is liable to bring UFO sightings substantially better and more authenticated than those already on record. The research has become strictly empirical, and with fewer reports these days, we are obviously losing the battle of public acceptance. If the public were to be convinced of the validity of UFO's on the basis of good, authenticated UFO reports by reliable observers, and simultaneous trackings by radar, the phenomena would have been accepted long before now.

THE NEXT LOGICAL STEP obviously is to attempt contact, communication, or at least attempt sightings where good observers and equipment are present. But many so-called objective groups and researchers have become so openly and vehemently opposed to anything involving extra-terrestrial communication that they seem embarrassed to even try. And the extreme skepticism and ridicule expressed by many serious groups have been so overwhelming that one must question the possibility of whether a responsible person would ever claim contact if such were eventually made.

We therefore submit that it is well nigh the time to exploit some imaginative efforts to establish, or attempt to establish, some form of "contact" or "communication." While this has been tried by many before, we feel that only a concerted, purely scientific and orderly approach will produce anything comparable to worthwhile results.

Let us elaborate slightly. Firstly, we believe that any solo attempt is almost worthless. There must be at least two, and preferably more, responsible witnesses on hand at all times. And there should be at least one 16mm motion picture camera available equipped with a telephoto lens and Kodachrome film. (It is our opinion that good motion pictures offer by far the best evidence obtainable for analytical evaluation. Refer SAUCERS, Autumn 1958.)

The article in this issue of SAUCERS by Robert C. Beck certainly advocates a substantial variety of possible instrumentation to use for UFO sighting and contact junkets. Detailed records should be kept at all times (including photographs of prevailing sky/weather conditions), for even negative results will be statistically valuable.

Since beginning this Editorial, we have come across a fascinating report by Physicists Philip Morrison and Giuseppe Cocconi of Cornell University. They advocate attempting communication now with alien intelligences which might be expecting signs of life to develop "near the sun." (See "Short Shots" (Cont.)

elsewhere in this issue.)

"We therefore feel that a discriminating search for signals deserves a considerable effort," Morrison and Conlon conclude. "The probability of success is hard to estimate; but if we never search, the chance of success is zero."

We heartily concur.

* * *

THEY SAY THAT all good things must come to an end.

And it is with deepest regret that we announce the termination of publication of SAUCERS with this issue. The research has treated us well; and we are indeed grateful for the hundreds of kind, unselfish and intelligent persons with whom we became acquainted. Our only satisfaction in suspending operations is the knowledge that the research is in very competent and capable hands. The combined talents of all active UFO researchers today is probably beyond duplication for such an anomalous endeavor.

It is well known that we are not necessarily optimistic about the future of UFO research as it now stands. But with this planet's emergence into the space age, some unexpected developments begin to loom on the horizon. If we are fortunate, we shall see more projects of the nature of the National Radio Astronomy Observatory's program (Project Ozma) to attempt to intercept intelligent signals from alien planets.

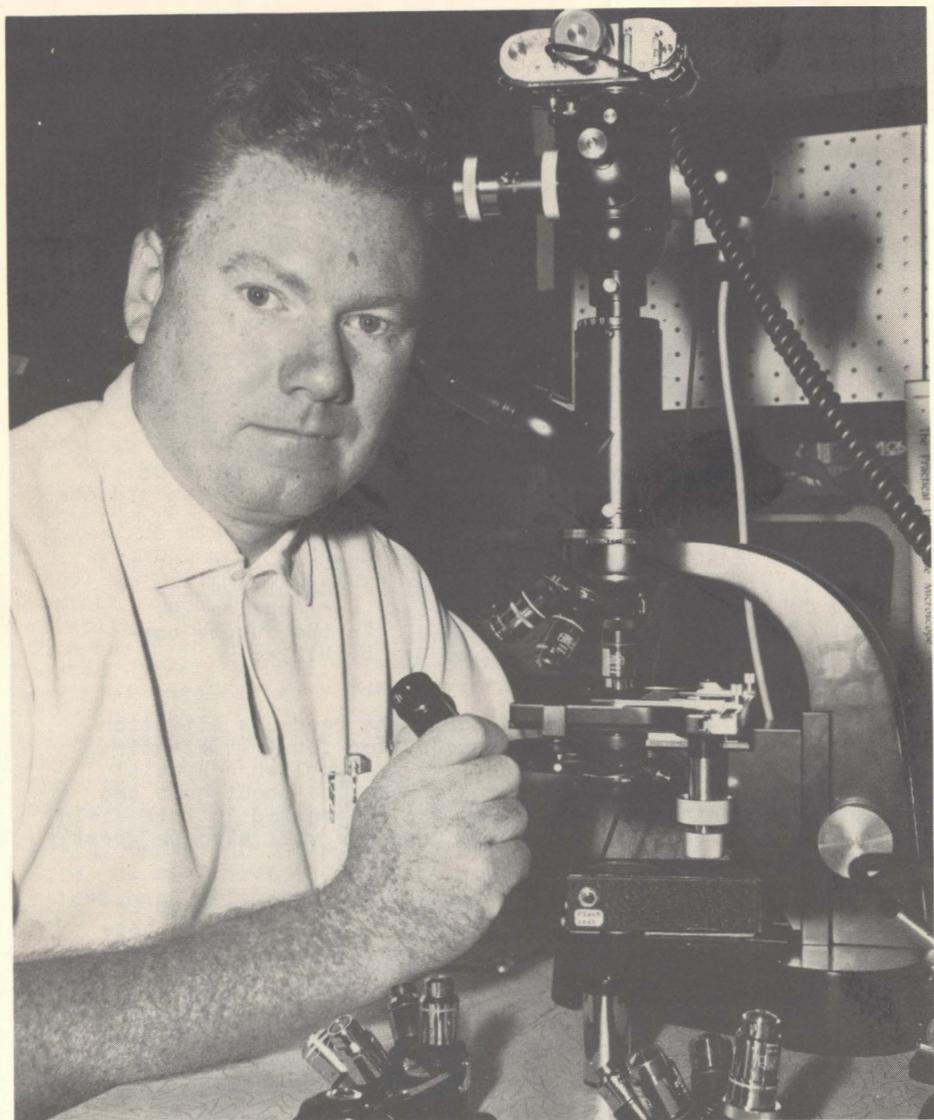
* * *

NOTE CHANGE IN ADDRESS. We have removed from our old (but trusty) post office box, and our permanent address is now as follows: 1420 S. Ridgeley Drive, Los Angeles 19, Calif. Please so note in your files. In the future correspondence should be addressed to Max B. Miller.

* * *

IN THIS ISSUE, we wish to draw the reader's attention to Bob Beck's article on "Instrumentation for UFO Detection." If future interest is sufficient, we may publish a special supplement, or detailed specs and schematics about this and other instrumentation. So if you are interested in this field of research, please write to us. Comments will also be greatly appreciated.

Inasmuch as our principal reason for closing shop is monetary (this issue alone costs more to print than we have in our UFO fund), it will be impossible to rebate to those who still have active subscriptions the amount due them. However, we have a plan which we hope will be acceptable to all concerned. We will give any two back issues of your choice (excluding the few numbers almost out-of-print: 2, 7 and 8) for each issue that is now due you. (A complete listing of available back issues was published in the last issue of SAUCERS.) To find out how many issues you are entitled to, double the number written at the bottom of page 28. For issues 2, 7 and 8, you may choose any of these as an even exchange for the issues you would normally receive.



ROBERT C. BECK, AUTHOR of the accompanying article, is seated before a Leitz Labolux III microscope in his photomicrography lab. Photos by Max B. Miller.

INSTRUMENTATION FOR UFO DETECTION

By ROBERT C. BECK

(Editor's Note: Robert C. Beck is well known to UFO researchers in Southern California. In the Editor's opinion, Bob Beck has done more in the way of innovating, developing and collecting instrumentation relative to the detection of UFO's than every other UFO investigator in the United States put together. Those who know Bob know that his ingenious and dedicated talents have yet to be stumped by any problem facing UFO investigation. He received his Bachelor degree in Engineering from the University of Southern California in 1948. Bob was chief engineer for the Wilcox Company, where he secured the basic patents on today's portable electronic flash systems, and was an instructor of communications and math at a Los Angeles school while he practiced consulting electronic engineering in his spare time. As a photo-journalist, Bob became chief staff photographer for the Los Angeles office of Graphic House, and he has dozens of magazine covers to his credit. In 1951, our ubiquitous contributor became a flight test and instrumentation engineer for the Lockheed Aircraft Corp., and his work frequently took him to Edwards AFB and the Naval Ordnance Test Station at Inyokern. Bob left Lockheed to become the chief design engineer for an optical and electronic research corporation, from whence he went into his own business. He is currently president of Monitor Electronics Research Corp. and owner of Color Control Company, the latter a Los Angeles film laboratory. He is a "ham" radio operator and a licensed pilot (flying his own Cessna). Bob is also Chief of Radiological Defense for California's Civil Defense District 17. He holds a number of patents on optical and electronic devices, and he has just completed a postgraduate course in photomicroscopy at UCLA. "UFO's," declares Bob, "are the only thing that will still get me out of bed at midnight!")

* * *

SINCE ITS INCEPTION, the subject of Ufology has been smothered under a tirade of senseless, subjective, mystical and sometimes hysterical rantings from people with little more than the will to believe. It seems that every spiritualist, psychic and borderline psychotic has found a "home" in pseudo-scientific "revelations" ranging from "contacts" to "teleportations to Venus."

This doesn't prove—or disprove—anything. I've been a pilot long enough to know that 95% of the strange things in the sky are NOT UFO's, but that 5% remaining deserves any amount of effort to resolve it. Our government has assumed a perplexing position. They deny any objective evidence of "extra-terrestrial visitors," yet they continue to spend millions to solve this "non-existent" dilemma. And since our entire economy is based on "energy"—i.e., coal, gasoline, electricity, atomics, etc.—the first researchers to come up with "the answer" will not only disrupt the entire system, if it is made known, but will hurtle mankind into a revolutionary new age. If Russia should beat us to the solution of the UFO's method of propulsion, we shall be faced with some prodigious problems.

(Cont.)

INSTRUMENTATION FOR UFO DETECTION

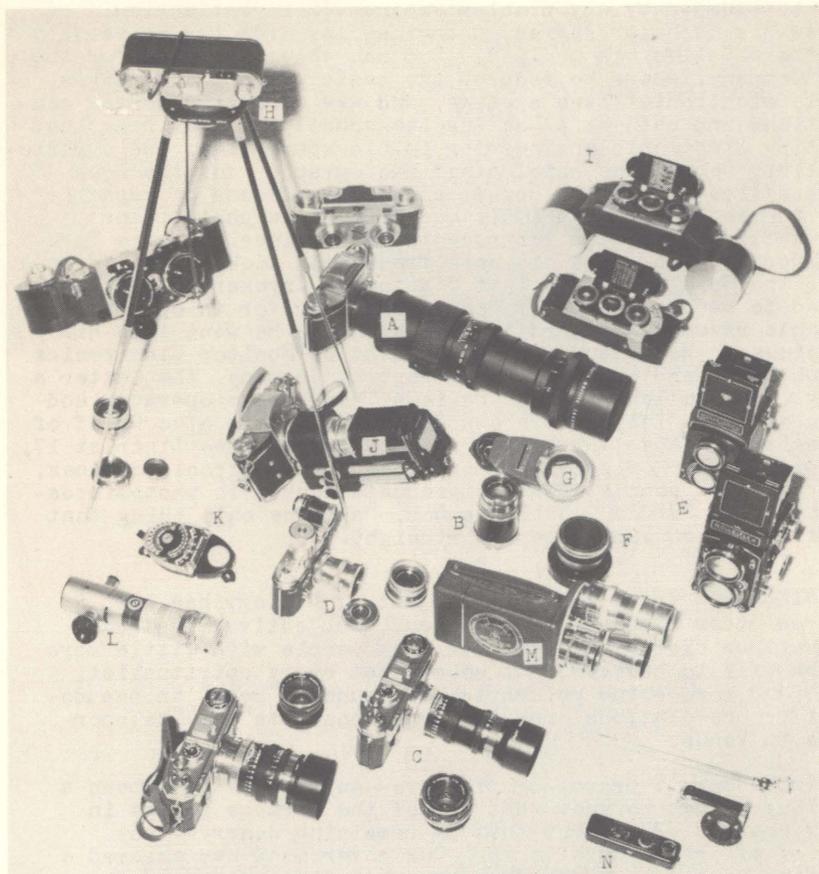


FIG. 1—PHOTOGRAPHIC INSTRUMENTATION. (A) 400mm Tele-Megor telephoto lens; (B) 150mm Schneider Tele-Xenar; (C) two Nikon SP's with assorted lenses; (D) Robot Star; (E) Rolleicord and Rolleiflex 2 1/2x2 1/2 cameras; (F) 40mm f/3.5 Makro-Kilar "D" close-up lens; (G) Heiland Ring Light, an electronic flash for macro-photography; (H) Leica with Boowu close-up attachment; (I) Stereo-Realist camera with 50ft. Kodachrome back (this is one of four stereo cameras in the back row); (J) Exakta attached to Novaflex slide-copying device; (K) Norwood incident light meter; (L) S.E.I. reflected light meter; (M) 16mm Bell & Howell Automaster camera; and (N) black Minox IIIs with built-in exposure meter.

INSTRUMENTATION FOR UFO DETECTION

BECAUSE OF THE GOVERNMENTAL policy of secrecy, it occurs to every honest investigator at one time or another that he is strictly on his own in developing his data. I do not buy crystal balls, ouija boards, seances, mystical telepathic revelations, astral projections and the thousand and one other gimmicks responsible for most of the "saucer revelations" being published daily. In fact, being objective, I would have serious doubts about the authenticity of my own eyes unless a camera and film recorded the same image I "thought" I had seen. For these reasons, and because any subject of so serious a nature demands positive proof, we are outlining several approaches to UFO instrumentation.

An instrument merely aids your own perceptics in knowing what really happened. For example, you don't know what time it really is unless you hear a time signal or see a clock. In this case the clock is the instrumentation. If you're at a race track, you can make sure of who is leading in the far turn with binoculars. Here the binocular is the instrumentation. And since UFO's span such a broad spectrum of phenomena, we'll break the subject down into a few basics.

PHOTOGRAPHIC INSTRUMENTATION

MOST POPULARIZED UFO PHOTOGRAPHS always seem to be made with a box Brownie. This is better than nothing, I suppose, but coupled with the drug store processing, the scratches, cinch marks in the emulsions, lens flare, glove-compartment fogging, and just plain dirt, most of these "little round balls" are mighty suspect.

The Air Force, in gunnery tracking, missile instrumentation, etc., has at its disposal extremely complex and expensive photo instrumentation. Their phototheodolites and radar guided telescopes are well known. The average UFO investigator must content himself with less pretentious gadgets.

MY OWN STABLE OF PHOTO GEAR, usually carried in the car trunk or in the trailer for desert-hopping, is shown in Fig. (1). I prefer the compromise of small film size and convenience over the technically better cut film sizes. The bigger the camera, the better the shot, but the less portability. Telephoto lenses are available inexpensively for 35mm cameras. For light tripod work and hand-holding, the 400mm f/7.5 Tele-Astronar (58 lines per mm. resolution; list price: \$59) is my favorite. The more expensive (\$100-\$175) 400mm Tele-Megor f/5.5 (A) is not only heavier but less sharp. Another telephoto is the 150mm Scheider Tele-Xenar (B). All telephotos of more than 150mm focal length should be used with the single-lens reflex-type camera (Exakta, Pentax, Practica, etc.).

For shorter lenses—normal, wide-angle, etc.—the Leica, Canon, Nikon (C) and kindred German/Japanese interchangeable lens rangefinder cameras are preferred. At least two camera bodies are useful for optimum convenience, since one might be loaded with color and the other with fine grain panchromatic film. At night, the fastest films available are loaded. Ansco's

(Cont.)

INSTRUMENTATION FOR UFO DETECTION

Super Hypan (500 ASA) is my first choice, with Agfa Isopan Record (1600 ASA) and Kodak Tri-X (400 ASA) running close seconds.

On "remote" set-ups, where the camera is left planted and operated automatically by radio signals from some distance away, I use the Robot Star (D) tripped by a radio-controlled solenoid. This gives 55 pictures on a single 36-exposure factory load. The camera can be spring wound, pre-focused, and left for surveillance of a remote area. Field shots (showing surrounds, sky conditions, witnesses, etc.) are best handled with the $2\frac{1}{4} \times 2\frac{1}{4}$ twin-lens reflexes, such as the Rolleiflex and Rolleicord (E).

TECHNICAL SHOTS, or those involving "evidence" (including small fragments, hardware or field specimens) are shot with the Exakta and the 40mm f/3.5 Makro Kilar "D" lens (F) which focuses down to better than 1:1 (two inches). The f/3.5 Makro Kilar is a much better and sharper lens than the more expensive f/2.8 model. A Heiland "Ring Light" (G) coupled to a Mecablitz transistorized strobe is used with the Makro Kilar and Exakta for top quality copying of extremely small objects. (A discontinued Mecablitz 100 can now be purchased for \$25 to \$35.) The 40mm Makro Kilar is an excellent all-around, general purpose semi-wide-angle lens, since it will focus on any object from two inches to infinity without accessory extension attachments.

Document or photograph copying is best accomplished with the Leica and a Boowu close-up attachment (H). For a few cents per frame, you can "microfile" anything you can see, in any light. This handy device folds into a pocket-sized package that goes with me everywhere in a briefcase. In a very few seconds, it can be set up to make a permanent 35mm record, in black-and-white or color, of any written or printed page or document or photograph or object up to its field of view. It is shown set-up (H) for a standard $8\frac{1}{2} \times 11$ -inch sheet of paper.

FOR THE ULTIMATE IN REALISM, 3-D stereo colorslides are the answer. If your object is close enough to see clearly, a Stereo Realist (I) or Revere will preserve the most accurate rendition. (Two stereo cameras in the back row have 50ft. bulk Kodachrome film backs.)

Directly under the Leica microfilming rig is an Exakta box attached to a Novaflex slide copying device (J). The camera lens is removed and screwed into the bellows extension. A slide to be copied in the field is then inserted into the front holder. The strobe is held 15 inches from the ground glass for a normal Kodachrome-to-Kodachrome duplicate, and the Exakta shutter is fired at 1/50th. Excellent duplicate transparencies can thus be made in the field where your subject does not want to "loan" them out for the usual laboratory delay.

A Polaroid Land camera is carried for on-the-spot "quickies" and for exposure tests for other cameras. (Cont.)

ABOUT EXPOSURE: for general use, the Norwood incident light meter (K) is the hands down choice among the majority of experts. But for "impossible" situations, the S.E.I. reflected light meter (L) is the only thing know that will take an exact reading off the face of the moon, or some object far removed from the camera. (It will even read the ground glass of a telescope-mounted camera aimed at a planet, etc.) Although expensive (\$170 list), this is the most useful universal meter known.

I prefer stills to movies, but still carry a Bell & Howell 16mm Automaster (M) because of its ease of magazine film loading and emulsion changing in the middle of a roll. Lenses from extreme wide-angle to over 6" focal lengths are available.

And the black Minox IIIs with built-in exposure meter (N) goes with me on my belt whenever I leave the house.

FIGURES (2a) and (2b) show the long-range photo instrumentation. The Cave 6-inch f/7 reflecting telescope (A) is



used with an Exakta or Pentax body for eyepiece projection. There is a full set of orthoscopic oculars in addition to two excellent achromatic Barlow lenses (each of which extends normal magnification about three diameters) and a 16.3mm Galoc ocular (apparent field: 75°).

A Bushnell "Space-master" (B) with four eyepieces revolving on a turret can be used either for visual observation or photographic work with equivalent focal lengths up to 4800mm. Smaller spotting scopes (C & D) with Barlow lenses are used for surveillance of sky or terrestrial areas.

FIG. (2a). (A) Six-inch Cave reflecting telescope; (B) Bushnell 60mm turret Spacemaster telescope attached to Exakta camera; (C) small 50mm refracting telescope on equatorial mount; (D) compact 30x60 terrestrial telescope; (E) 400mm Tele-Megor attached to another Exakta camera body.

Fig. (2b) illustrates our 3½-inch Deluxe Questar (F), which is based on possibly the most advanced design of any astronomical telescope currently manufactured. The Questar
(Cont.)

is a catadioptric telescope of a slightly modified Matsukov design employing an aspheric correction plate over a $3\frac{1}{2}$ -inch objective mirror figured to better than $1/64$ th wave. This gives a resolution of approximately 0.8 seconds of arc, which is comparable to the Dawes limit for the standard 6" reflector. Two fine oculars and a built-in achromatic Barlow lens give magnifications of 40x, 80x and 160x. The telescope was specially designed for the simple attachment of either the Exakta or Pentax camera for astrophotography.

WHEN IT COMES TO UFO PHOTOGRAPHY, the least pretentious device is perhaps the most useful. If you are thinking of owning one camera, and an inexpensive one at that, we heartily recommend the type known as a "glove compartment special." This is any folding roll film bellows-type taking 120 or 620 film, and making $2\frac{1}{2} \times 3\frac{1}{4}$ pictures. These "oldies" can be bought used for \$5 to \$15, and have $f/4.5$ lenses with Compur shutters to $1/250$ th second. The focal length is usually around 105mm, which is a medium telephoto compared to lenses on 35mm cameras, and the big negative can be enlarged nicely even with drug store processing. They carry easily folded in your pocket, and if stolen, there is little loss. For general overall performance without resorting to special fine grain home processing, etc., these old jobs are unsurpassed.

A WORD ABOUT PLANETARY and lunar observing and photography. Our Questar, a beautiful little seven pound package, is equipped with a clock drive. For precise tracking, we constructed a battery driven transistorized AC power source which supplies 115v AC at variable frequencies from 50 to 70 cycles.

For moon tracking, for example, the power supply oscillator frequency can be set at 57.893 cps instead of the house current 60 cycles. This can be set accurately in the field to compensate for seasonal changes, atmospheric refraction (near the horizon), etc., and held "right on" for extended periods. Other innovations are rotating polarizing filters for camera and ocular to detect any object on the moon's surface with abnormal reflectivity, and red and blue contrast filters.

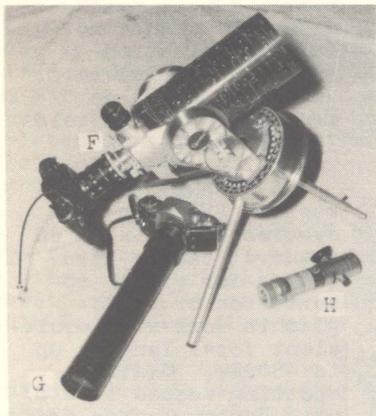


Fig. (2b). (F) Questar telescope attached to Pentax camera body (see text); (G) 400mm Tele-Astronar telephoto of unusual light-weight design; (H) S.E.I. reflecting light meter.

At the time of the Wilkins' "moon bridge" controversy, we made many photographs of the Mare Crisium at the correct colongitude (terminator position), and found absolutely nothing out of the ordinary.

Presently, the so-called "domes" are attracting some attention, as are purported changes in the craters of Plato, Alphonsus and Tycho. If something is based on our satellite, it

(Cont.)

INSTRUMENTATION FOR UFO DETECTION

should be visible with modest equipment. An object only 200 yards in diameter (about half again the size of the Capitol Bldg. in Washington) can be seen at 500x.

OPTICAL INSTRUMENTATION

OPTICAL GADGETS (Fig. 3) extremely useful would be light-weight 7x35 wide-angle binoculars (A), vest-pocket 6x15 or 10x20 binoculars (B), a pocket field microscope (C) and a pocket spectroscope (D). For seeing in total darkness (with an infra-red spotlight) or for scanning the night skies for "invisible" objects, a war surplus infra-red "snooperscope" (\$14 to \$150) (E & F) might be useful. We never discount the possibility of objects (besides jets) radiating a lot of heat. (This data might be useful in the future in attempting to resolve the source of propulsion of UFO's.) Similarly, an ultra-violet screen with a wide aperture mirror will reveal shorter wavelength emissions in the sky.

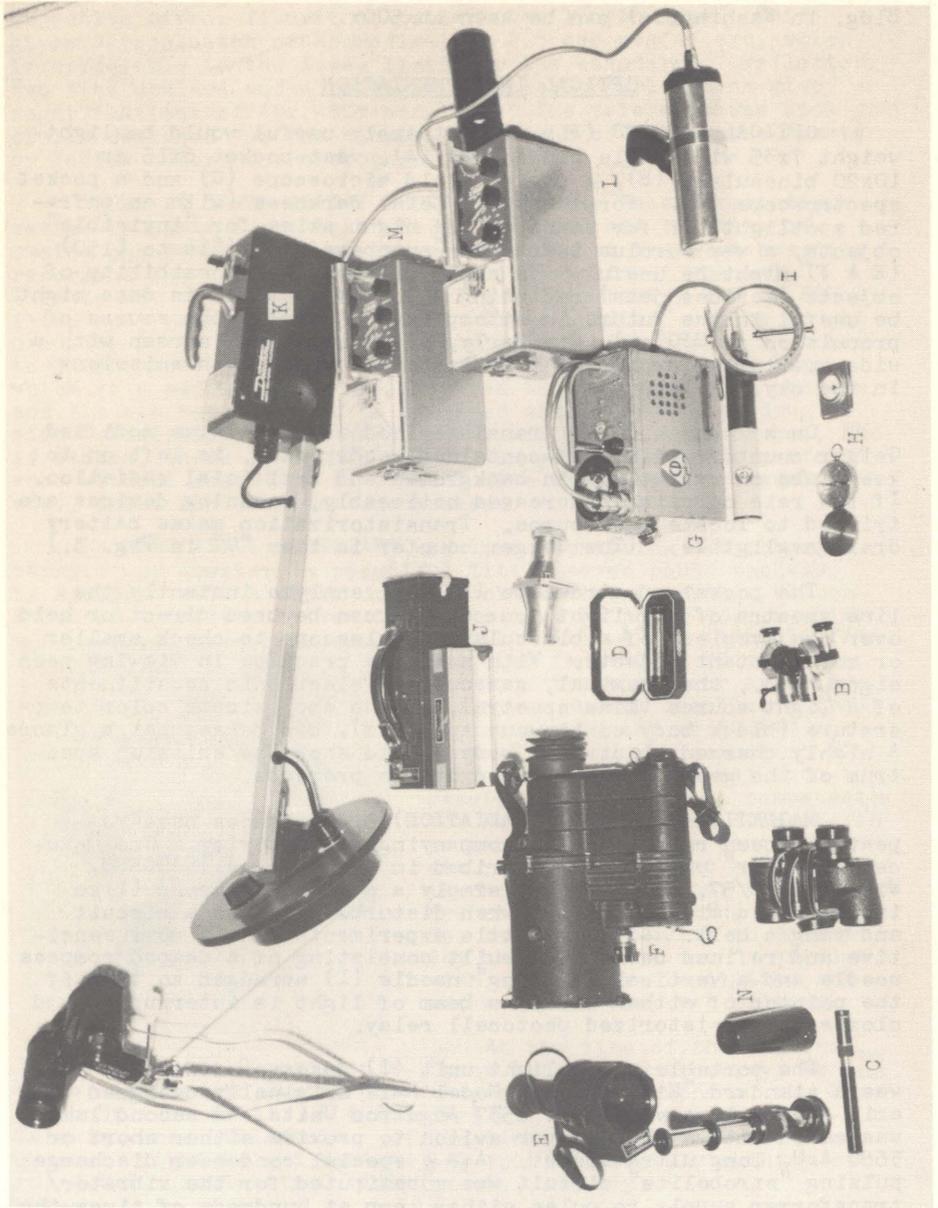
On a "search," our transistorized and otherwise modified Geiger counter, with self-contained loudspeaker, is left on to keep tabs on variations in background and artificial radiation. If the rate of clicks increases noticeably, scanning devices are tripped to locate the source. Transistorization makes battery drain negligible. (The Geiger counter is item "G" in Fig. 3.)

The pocket spectroscope (D) will analyze instantly the line spectra of any light source. It can be used direct or held over the eyepiece of a binocular or telescope to check smaller or more distant objects. With a little practice in viewing neon signs, etc., the chemical, gaseous and electronic constituents of a light source (line spectra), or the approximate color temperature (black body continuous spectrum), can be seen at a glance. A highly charged electrical body should show the emission spectrum of the gases being ionized by its presence.

MAGNETIC (AS WELL AS RADIATION) disturbances have repeatedly been reported as accompanying UFO activity. One "saucer detector" previously described in these pages (SAUCERS, Winter 1956/57, pp. 5-6) was simply a magnetic compass (like items "H" in Fig. 3), which when disturbed, closed a circuit and rang a bell. After a little experimentation, a more sensitive and refined device was built consisting of a damped compass needle and a vertical "dipping" needle (I) arranged so that if the pointer of either moves, a beam of light is interrupted and closes a transistorized photocell relay.

The portable black light unit (I) deserves mention. This was a standard "Mineralight" Model M-12 originally designed to emit short ultra-violet of 2537 Angstrom Units. A second lamp was added with a change-over switch to provide either short or 3660 A.U. long ultra-violet. And a special condenser discharge pulsing "strobolite" circuit was substituted for the vibrator/transformer supply to pulse either lamp at hundreds of times the light output of the factory unit. Thus the range is stretched from a few inches to several feet without burning up the quartz lamps.

(Cont.)



ON A FEW OCCASIONS, we have to look for melted metal fragments, meteorites, or small "hardware." The handiest gadget we've found is the Detectron Model 47 (K) which has also been transistorized, and a built-in speaker added to replace the headphones. Its "squeal" will locate a metal particle the size of a pinhead. The scintillation counters (L & M) have one and six inch crystals respectively, and are almost too sensitive to use against today's background radiation.

Hensoldt (N) and Leitz folding microscopes round out the auxiliary field kit.

ELECTRONIC INSTRUMENTATION

FIGURE 4 SHOWS ELECTRONIC SEARCH and recording apparatus. Two battery operated tape recorders—a Bell Cub briefcase-type (A) and a pocket Mohawk Midgetape Chief (B)—have been mu-metal shielded to magnetically quiet their motors. The recorders can be fed by an extremely high gain, low-noise transistorized amplifier and preamplifier shown here in their open case (C).

The pre-amp is a Fisher Hi-Fi unit with selected transistors, and the power amplifier is a low-noise Lafayette kit. Overall gain is over 150 db. A self-contained speaker monitors the input, while a series of matching transformers in magnetic shields adapts the pre-amp to a number of input devices. One of these is a vacuum-tube photocell unit, the size of a cigarette pack, which can be used as a light-beam receiver, or held at the focus of a large mirror to "listen" to audio variations in upper atmosphere lights. The small demodulator probe is a wide-band R.F. unit working from microwave to high audio frequencies. This "scans" the entire radio spectrum for signals. (Cont.)



Fig. 4. Some electronic instrumentation, including two portable tape recorders (A & B), a high gain amplifier (C), "infinite impedance" electrometer and demodulator (D), a voltmeter and assorted coil induction pickups.

ANOTHER INPUT DEVICE is a directional coil assembly wound on a ferrite core for detecting audio or induction currents. This particular input probe is so sensitive that it will easily pick up the slight magnetic field and tap a telephone by induction from about 10 feet away with no connecting wires. Also atmospheric "whistlers" and other disturbances can be heard at any hour of the day. If a UFO is using any type of drive based on magnetic induction propulsion, this will "hear" it many miles away. Unfortunately, it can only be used at full sensitivity at locations several miles from power lines.

At the lower left in Fig. 4 is an "infinite impedance" electrometer and demodulator (D). A vacuum tube with extremely high input impedance is relativistically shielded and driven as a cathode follower, which drives its own shield, to raise its impedance to thousands of megohms. This, when coupled to the amplifier, detects any electrostatic disturbances.

The static charge generated on the wings of flying birds overhead will "peg" the meter, and it is possible to stand across a 30-foot room, comb your hair, and completely "block" the system with minute crackling and static charges on the comb. Its usefulness would be in reading the "charge" on distant objects, or coupled to the high gain amplifier, to "listen" for unfamiliar sounds originating in the ionosphere. A cloud floating overhead can be recorded as the crackling of a miniature thunderstorm as its electrostatic charge shifts. Other more conventional input transducers are telephone pickups, wrist-watch microphones, etc., which feed the recorders for sensitive interviews or when investigating sightings.

We set these "probes" into operation at remote sites to scan any signals ranging from magnetic induction or disturbances, through audio, R.F., radiation, electrostatic and light changes.

COMMUNICATIONS INSTRUMENTATION

FIG. 5 SHOWS A FEW OF THE UNITS used in the field. The surplus B.C. 611-F "Handle-Talkies" (A) are used with the base station for triangulation, while the Vocaline citizens band (450 mc.) units (B) are used car-to-car. Back row shows a National NC-88 all wave fixed station receiver (C) for "air watch," an FM receiver (D) to monitor the aircraft communications bands and a battery aircraft band AM receiver (E).

The transistorized sets in the foreground—with Regency multi-band transistor converter (F)—cover all ham bands, the marine beacon and aircraft band from 200 to 400 kc., broadcast band, 1.85-4.3 mc. AM, and 4 to 12 megacycles. On a "watch," the aircraft band Zenith Royal 760 Navigator (G) is used to receive and record the regular weather and "winds aloft" broadcasts. The broadcast and short-wave transistor sets (H) are tuned to "watch" frequencies for the handle-talkies to preserve batteries at the base (trailer) station Gonset Commander installation.

(Cont.)

INSTRUMENTATION FOR UFO DETECTION



FIG. 5. COMMUNICATIONS INSTRUMENTATION includes surplus BC 611-F hand-talkies (A); battery-operated Vocaline citizens band communications units (B); National NC-88 all wave receiver (C); FM receiver (D); aircraft and AM receiver (E); Regency short wave converter (F); Zenith aircraft band receiver (G); AM and aircraft band transistor radios (H); power supply and converter (115 AC) for non-battery units (I).

THE LARGE CONVERTER (I) supplies 115 A.C. for non-battery instruments. On a full scale "alert," all of this equipment is used to keep distant teams posted and in touch. The "winds aloft" information broadcast regularly on the aircraft band is invaluable in determining the natural "drift" direction of balloons, etc.

FIELD FACILITIES

THE EXTERIOR OF THE FIELD LAB, carrying most of our gear, is shown in Fig. 6. The inside operations table is illustrated in Fig. 7. This is a custom built DKW Caravan, which sleeps

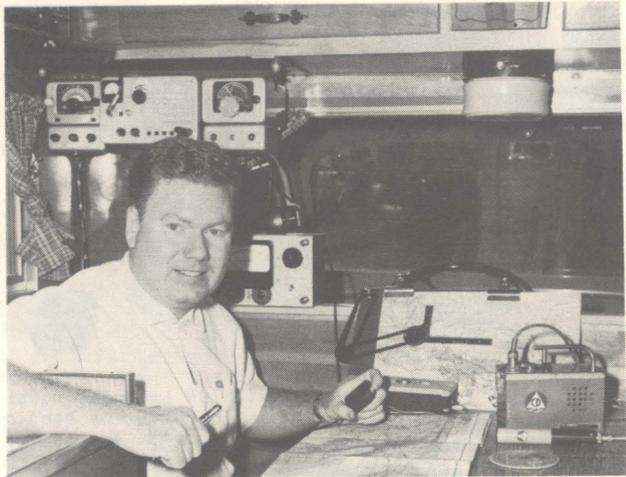


(Fig. 6)

three, has butane cooking and heating, water, air conditioning and adequate living facilities. The Conset Commander base station is visible at the top rear of Fig. 7.

Being front wheel drive, the Caravan goes to spots inaccessible to most cars. Although several inches shorter (bumper-to-bumper) than 1959 American passenger cars,

and narrower than some, it is efficiently laid out to provide comfortable living, eating and sleeping accommodations on extended "watches." Unlike most pick-up truck campers, it provides full head room inside. Power available is 6, 12 and 24 volts DC from lifetime nickel-cadmium storage batteries, and 115v. AC from converters.



(Fig. 7)

The German DKW two-cycle engine gives highway mileage up to 30 mpg, fully loaded. It is kept "ready" to move at a moment's notice with complete equipment on board. (Cont.)

LABORATORY FACILITIES

FIXED LABORATORY FACILITIES consist of a complete photo darkroom, with developing and enlarging equipment; a complete electronics laboratory for the construction and testing of special gear (Fig. 8); and limited chemical and biological testing facilities. (Fig. 9 shows the author at the photomicrography apparatus.)



(Fig. 8)

The latter contains a Leitz Labolux III stand with trinocular photo tube, coupled to a Zeiss Photo head with a four stage photoamplifying meter and a Robot camera coupled to an automatic exposure compensating sub-stage strobe (electronic flash) of my own design. Objective turn-
rets in the foreground (Fig. 9) are Wild Flourite Phase Contrast, Zeiss Plan-Apochromatic objectives, and achromatic-aplanatic and phase sub-stage condensers.

This semi-automatic set-up will make photomicrographs of any subject, living or stained. The color camera is shown



(Fig. 9)

on the table at the rear. The strobe was specially designed to shoot living micro-organisms in color, regardless of their rapidity of movement, and to eliminate vibration problems in ordinary photomicroscopy. One interesting sideline is the author's collection of blood samples from several "contactees," and from one or two persons claiming to be of quite "human."

The color camera is shown on the table at the rear. The strobe was specially designed to shoot living micro-organisms in color, regardless of their rapidity of movement, and to eliminate vibration problems in ordinary photomicroscopy. One interesting sideline is the author's collection of blood samples from several "contactees," and from one or two persons claiming to be of quite "human."

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INSTRUMENTATION FOR UFO DETECTION

PEOPLE SOMETIMES ASK just what the devil we do with all of this gear. A hypothetical investigation might run as follows:

The telephone rings at midnight. An excited voice announces that a UFO is hovering over Griffith Park.

We grab a duffle bag containing several cameras, the 7x35 binoculars, telephoto lenses, spectroscope, Geiger counters and magnetometers. After a quick look—where nothing is visible—the car is headed for the site. On the way, 330 kc. is tuned in on the Zenith Royal 760 Navigator, and the entire weather report, time, winds-aloft broadcast and kindred data are recorded on the Mohawk pocket recorder for future reference.

ARRIVING AT THE SITE, the Geiger counter is turned on and the "click-click" seems slightly above normal. The meter is read, recorded on tape by voice, and about fifteen seconds of the "clicks" recorded just as they sound.

Nothing is visible, so the sky is scanned first with binoculars, then with the infra-red snooperscope, then with the ultra-violet converter. The spectroscope is ready in a breast pocket. On an outside chance, several cameras loaded with Super Hypan are made ready at hand with varying telephoto lenses.

The case containing the high gain audio amplifier is activated, and the photocell, induction pick-up and high impedance electrostatic probe are turned on and balanced. There seems to be a strange humming coming over the magnetic detector, so a sample of this is recorded on tape, along with the time and orientation of the coil and sensitivity settings. The Geiger counter in the background is steadily increasing its rate, and the compasses are checked and recorded verbally. A second 15 second tape is made of the counter's clicks, and exact time noted.

A large light finally appears over the horizon, and while observing with binoculars, its location, direction and time are tape recorded. Our UFO turns out to be a photo-reconnaissance aircraft in the proximity of Mt. Wilson. The negative results are so recorded.

Now all is quiet. But the area is bracketed for another half hour—and we go home.

IF UFO'S EXIST, they have to leave evidence. If you can see them, you can photograph them. And you could look at the "lights" with a spectroscope and instantly see the component colors, etc. Ruppelt has stated that high radioactivity measurements have correlated closely with some UFO proximities, and a Geiger counter therefore would be an essential tool for not only "detecting" but "measuring" such activity.

(Cont.)

INSTRUMENTATION FOR UFO DETECTION

MANY CLAIM THAT UFO's emit only infra-red light, and can be photographed only with infra-red film. If there is any truth to this, certainly a "snooperscope" will show the unknown far better than indiscriminately shooting the sky with an infra-red camera. Also, in the relatively few cases of photos, the objects were small white dots or blacks specks on grainy enlargements. So certainly telephoto lenses are better able to render detail than the box Brownies.

And the alleged magnetic properties of UFO's are legendary. So why not at least carry a 15¢ pocket compass, or a dipping needle, and look at the thing in case of a sighting? I've asked many pilots reporting UFO's if their magnetic plane compasses swung east or west during the observation. But to a man, they were so thunderstruck that they didn't even LOOK at their compasses! Little clues like this would fit valuable pieces to the puzzle.

IS THE SPECTRUM OF A GREEN FIREBALL a continuous or discontinuous line spectra? If one observer had carried a pocket spectroscope and had the presence of mind to use this fountain pen-sized instrument, perhaps we would know if the phenomena were a mass of ionized gasses or a solid "black body radiator."

If even a small pair of binoculars had been handy, hundreds of sightings could now be classified.

If something is holding a UFO off the ground, that "something" can be measured and identified, and perhaps someday duplicated. But first it must be detected. This is the entire philosophy of UFO instrumentation. At least take a picture of it, even if it is a box Brownie. A weather and marine band receiver will give at least the "winds aloft" picture on the spot. Or if the time is noted, with the direction in which the UFO traveled, airport weather records can definitely later establish whether or not it was a weather balloon.

IN THE NOW FAMOUS DESVERGERS (Florida Scoutmaster) case, roots of grass were found scorched in the area of the reported "hovering." The conclusion of several UFO researchers was that an electroinductive field was responsible. Any such field would be instantly visible (via meter) and audible (magnetic pick-up) on our apparatus from many miles distant.

If electrostatic or ionization drives are used, they would be detectable for miles on an infinite impedance probe. Magnetic disturbances of low frequencies could be seen on a pocket compass if they were near enough, or from quite a distance if they are capable of stalling cars and blocking radio sets.

TO THE OFT-REPEATED QUERY: "Why do you go along on some of these impossible 'contactee' stories," I can only answer, "If anything does happen, I'd like to be there." But more important, if the evidence is negative, we should have at least one objective observer on board to counteract the exaggerations of those who "thought" they saw something.

THE JULY 28 MOVIES

By RAY STANFORD

(EDITOR'S NOTE: Saturday morning, August 1, 1959, Ray Stanford placed a long distance telephone call to the Editor to inform him of the two possible UFO motion pictures described below. Stanford said that his 8mm and 16mm films were unprocessed, and inquired as to whether he should send them directly to NICAP. I advised against such procedure, fearing that NICAP was not sufficiently acquainted with the procedure of having films processed and of the careful handling required for such films after processing. I suggested that Stanford send his films to a Los Angeles photographic consultant known to both of us, which he did. This writer had the first opportunity to view the films, which was several days before they were forwarded to Stanford. The 8mm footage lacks sufficient resolution, as the accompanying illustrations indicate. The 16mm film is excellent (see cover), but the UFO sequence is extremely short, comprising not more than three or four feet. However, one or two scenes are identical in the 8mm and 16mm films, making simulation exceedingly improbable. Unfortunately, Ray Stanford has refused to reveal the names of the eight additional witnesses because he fears he "might run into legal matters." But he states that "any investigators who would ...come here and personally investigate would meet the local witnesses for themselves.")

* * *

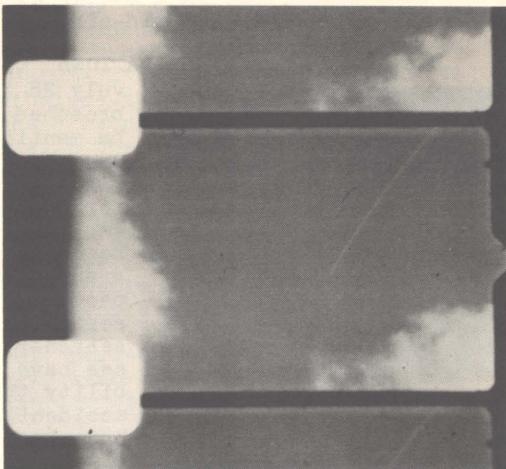
FROM JULY 27 THROUGH AUGUST 2, 1959, numerous UFO's were reported by residents of Corpus Christi, Texas. While some of these were good reports, the majority obviously had simple explanations. But one sighting was very exceptional as it occurred in daylight and had nine known witnesses (four of them formerly skeptics), and a photographic record was made of this occurrence.

I might add that there were really eleven witnesses, the latter two of which were (unlike most humans) completely objective. What they 'saw' was undistorted by prejudice or wishful thinking. And, now, I am pleased to name these trustworthy observers: a 16mm Keystone K51 Executive motion picture camera with a 75mm Kern Yvar telephoto and an 8mm Keystone K27 Capri camera with a 25mm lens. The 16mm camera was on a tripod but the 8mm was hand-held, displaying the familiar "hand-held camera jump."

THE SIGHTING TOOK PLACE between 2:10 and 2:20 p.m. on the afternoon of Tuesday, July 28, 1959, in my front yard at 2629 Lynch Street in Corpus Christi. The most interesting aspect of the observation was a jet aircraft that dove at one of the four large, cylindrical-shaped craft in the sky. The jet must have passed within a few hundred feet of the UFO. During this time, Don Chandler filmed almost the entire display with the 8mm camera. (The film in the 8mm camera was Type A Kodachrome, which was unfortunately exposed without the proper #85 conversion filter. Hence, there is some over-exposure and improper color balance in said film—Editor.) I recorded two very interesting scenes with the 16mm camera (Daylight Kodachrome—Ed.) simultaneously with the 8mm.

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SO FAR AS WE KNOW, this was the first case wherein a UFO was filmed by two movie cameras at the same time. Most frames show drifting clouds as reference points. Other scenes show the jet contrail as follows: (1) Before it began its dive at the UFO; (2) as it began the dive; (3) many scenes during the dive showing the jet approaching ever nearer to the relatively large craft (with clouds as reference objects); and (4) the jet and its rapidly dissipating contrail (due to a loss of altitude during the dive) passing beside and presumably only a few hundred feet from the huge craft. The movie shows how the jet altered its course during obviously calculated maneuvers relative to the UFO, which seemed to have the same angular diameter as the full moon when it is nearly overhead.



FRAME ENLARGEMENT from 8mm film reportedly showing the jet beginning its "dive" at the UFO.

The above was one of the most exciting aspects of the sighting, and all witnesses watched in wonderment as the comparatively tiny jet approached the craft. Now, for the first time, the observers had some reference object by which they could estimate the craft's size. As shown in the movie film, the object was about five times as large as the width of the jet's contrail. This indicates that the craft may have been up to 400 feet in length. Also, this occurrence enabled the witnesses to estimate the minimum altitude of the UFO, for the jet was leaving a contrail as it passed near the object. And jets do not leave contrails at altitudes below 30,000 feet.



Ray Stanford

THREE OF THE LARGE, cigar-shaped craft were visible in the sky at the same time (having come into view in a sequence), and a fourth was observed and filmed about five minutes later. The second object that appeared released a small, bright object beneath it. The disc went downward a short distance, then sped upward at about a 45° angle until it disappeared into the distance. Each of the craft were sharply outlined and of a blue-white opaque appearance for the first 10-12 seconds, then began to glow a bright white. (The object was tilted downward toward the camera in the reproductions on the cover.) It was while this glow surrounded the UFO that the disc darted upward.

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THE JULY 28 MOVIES

After the objects turned bright white, an ionization formed around them and they rapidly "dissipated." The cloud-like formation around the craft was of the same color and at first of the same shape, but in a matter of seconds the objects had completely "dissolved" in mid-air.

BECAUSE OF SPACE LIMITATIONS, the full details of this July 28 incident will not be broached herein, but it should be mentioned that telephone inquiries about the brilliant daylight visibility of Venus account for the witnesses being present and the two movie cameras having been set up and ready to photograph. Although subjective aspects must not be taken too seriously by the objective researcher, several of the witnesses have considered the possibility that this display was not accidental, and that it may have been intended or directed by whatever intelligence controlled the craft that we observed and photographed.



EXTREME ENLARGEMENT from 8mm movie frame showing contrail curving slightly around UFO. This is the same object that is reproduced in our cover illustrations, but tiny 8mm frame cannot resolve detail.

It may be worthy to note that the sighting was immediately reported to local naval authorities, including the Chief Security Officer (at a lower officer's request). About ninety minutes was spent by the Security Officer in asking questions regarding our observation. They said they had no explanation for the phenomenon, and were quite excited when we told them that we had filmed a jet diving at the UFO. The officer who took most of the data said the information would be forwarded to the Air Force, who "are very interested in these things."

I personally feel privileged to have been one of the witnesses of the aerial display and to have had the opportunity to operate the 16mm camera. Naval Security promised that we would receive a telephone call from them if they or the Air Force should ever identify the UFO as anything conventional. No call has been received.

I should like herewith to invite objective investigation of this incident and/or the movie footage, towards which my fullest cooperation is pledged. For investigative or other groups furnishing tapes, complete accounts of this occurrence will be recorded and sent free of charge. First class copies of the two movies will be made available (at no cost to responsible investigators) for analysis. This includes such organizations as NICAP and Congressional investigative bodies.
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(Editor's Note: In conclusion, we might state for the record that both motion picture cameras were operating at 16 frames per second. Aperture on the 8mm camera was set at f/8, and the 16mm was set at approximately f/10. It is the Editor's not inexperienced opinion that the cameras did photograph a visible object, and that super-imposure or double-exposure could not account for the images produced. What the object was remains, of course, an enigma. The first possibility to cross our minds was a polyethylene-type balloon, but we have never heard of any of the shape recorded. Also, a balloon could not possibly coincide with the descriptions offered by the witnesses—i.e., that the objects "popped" into view, changed color and brilliance and, after a view seconds, dissipated, presumably by some process of ionization. We referred to a singular "object" above, for only one object was photographed, but four in all were observed by the witnesses, according to Mr. Stanford. It should be noted that the Corpus Christi sighting is remarkably similar to several classic UFO incidents, particularly in France. Refer, The Truth About Flying Saucers by Aime Michel, pp.146 and 148. Flying Saucers and the Straight-Line Mystery, also by Michel, contains a quantity of references to similar objects.) (See top p. 26.)

THE FUTURE OF UFO INVESTIGATION

By RICHARD HALL

(Editor's Note: Richard Hall is the Secretary of NICAP, the National Investigations Committee on Aerial Phenomena, 1536 Connecticut Ave., N.W., Washington 6, D. C. Membership is open to anyone at \$5.00 per annum.)

* * *

IN THE SUMMER 1958 (Vol. VI, No. 1) issue of SAUCERS, Editor Max B. Miller published "Questions About NICAP" which were answered by Major Donald E. Keyhoe, Director of NICAP. The situation as described in Major Keyhoe's answers has changed very little since that time—the basic problem is still lack of adequate financial support to operate as efficiently as is expected of us. But there have been important gains since that time. The ultimate success of the movement to get the facts about UFO's is in sight, provided intelligent citizens become aware of the problems facing pioneers in this field and pitch in to help.

As Mr. Miller suggested, there is resentment of NICAP in some quarters and some groups which are sharply critical of NICAP. In some instances, the criticisms are at least partly valid. There is no denying that we have made mistakes and at times failed to do things which we should have done. On the other hand, some of the most vicious attacks on NICAP have been made by people who know very little about our problems, and these attacks have been entirely unfounded.

PERHAPS THE MAJOR SOURCE of disagreement among UFO groups is the problem of dealing with claims of contact with spacemen. NICAP is under constant pressure from those who

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are inclined to believe one or more of the so-called "contactees," and we are often criticized for not giving "equal space" to the people who make these claims.

FIRST OF ALL IT IS ESSENTIAL for all to realize that NICAP is the only full-time UFO organization, working constantly to dig up facts, correlate and publish information. As such it requires a reasonable amount of office space, file cabinets, other office equipment, and a staff large enough to handle a voluminous correspondence efficiently. If all members and people interested in UFO's could visit our office, they would have a better understanding of the handicaps we are working under.

The basic structure of NICAP is unquestionably sound. The Board of Governors includes prominent citizens who command respect, and the Panel of Advisers is growing to include experts in the many fields directly related to UFO investigation. The efforts of Major Keyhoe as Director need no apology. He has done everything humanly possible, and a little more, to keep the public informed of UFO activity.

NICAP's problems are on the practical level. The fact that NICAP is a non-profit organization does not mean that its staff can work for nothing. At present the staff consists of three people: Major Keyhoe, Miss Elizabeth Kendall, who works part-time in the evening, and myself. None of us has received anything approaching a regular salary, in fact a great deal of time and money has been donated to keep NICAP in existence. All three of us believe strongly in the purpose of NICAP, otherwise we would have given up long ago.

With a budget so limited that we often run short of postage, sometimes forced to delay publications while awaiting enough funds for printing costs, we do the best we can to handle a heavy load of correspondence. Although the volume of material calls for at least one full-time file clerk, no funds are available to pay even the salaries of the present small staff. The writing and editorial duties for the UFO INVESTIGATOR are another full-time occupation.

With this background, perhaps it will be easier to understand why our publication schedule has been erratic, and why we sometimes fail to answer a letter. (Although we have not been able to publish once a month as scheduled, memberships have been extended automatically to include 12 publications.)

WE WILL CONTINUE TO WELCOME constructive criticism, and we will try to be responsive to honest complaints; however, we will not substitute quantity for quality or controvert the policy established by the Board of Governors. Our goal is reliable, factual information, not rumors and unfounded tales.

Critics of our policy toward contactees have often said: "Since you obviously take it seriously that space ships might be visiting the earth, how can you deny Adamski and all the other contact stories?" To clear up a misunderstanding, NICAP has never denied the possibility of an eventual contact. We

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THE FUTURE OF UFO INVESTIGATION

maintain only that there is no proof, or even strong evidence, that such a contact has taken place yet. If UFO's are space ships, there is no reason why some could not have landed. However, this does not mean that Adamski's stories have to be true. NICAP has evidence tending to discredit other major contactees, but the cases are still considered open pending more complete information.

CONTRARY TO COMMON OPINION, we regularly gather information about contact claims for evaluation. With so many obvious fakers and charlatans confusing the situation, we have to be extremely critical and demand solid evidence. Until there is proof, or a strong case, we will continue to gather evidence whenever the claimants deserve the benefit of the doubt. However, the publication of endless polemics about these claims serves no good purpose and detracts from serious attention to factual information.

Within the limitations imposed on us by financial considerations, we are attacking the UFO problem on two general fronts: (1) through legal and constitutional means; (2) through independent investigation. In the first department, noticeable progress has been made. Several Senators and Congressmen are now on record supporting the NICAP drive for release of information on UFO's, and individual members of Congress have given special help which could lead to a breakthrough in the next session of Congress (provided NICAP is not hampered by financial pressures at the time). Liaison with Congress is one of our major activities.

THE ACQUISITION OF SEVERAL new scientific advisers, and new cooperation by existing scientific organizations, indicates that UFO's are being treated more seriously by the scientific community. In addition to these gains, NICAP is setting up teams of technical investigators (known as subcommittees) to make immediate on-the-spot investigations. Subcommittees are under formation in eight states and two Canadian Provinces, several already active. This network, to be worldwide, should result in carefully established important new information.

NICAP has endeavored to make UFO investigation respectable by dealing with factual information and encouraging intelligent citizens to take an active part. As a result, we have always received serious attention from the press and from members of Congress. We do not intend to give up the battle, but ultimate success depends on the support and active participation of all people who have a sincere desire to learn the truth about UFO's, and their understanding of the problems inherent in this campaign. For those who will believe what they want to believe, we have nothing to offer. For fact-oriented people, we can promise to do our level best within our means to get the facts. The future of UFO investigation rests with you.

"The past is but the beginning of a beginning, and all that is and has been is but the twilight of the dawn...A day will come when beings who are now latent in our thoughts and hidden in our loins shall stand upon this earth as one stands upon a footstool, and shall laugh and reach out their hands amid the stars."

—H. G. Wells, The Discovery of the Future.

SHORT SHOTS

ADDENDUM TO STANFORD REPORT. Preliminary examination of some of the movie frames indicates that the object was between eight and 15 minutes of arc in angular diameter (compared to 28 minutes for the moon). Most contrails form between 35,000 and 50,000 feet, and IF the jet was approximating the altitude of the UFO, some hypothetical estimates may be placed on the size of the object (conservatively estimating it to be 10 minutes of arc in diameter). If at zenith, the UFO would have been 87 ft. along its maximum axis at 30,000'; 116' at 40,000', and 145' at 50,000'. (Above trigonometric calculations courtesy of Oliver Dean.) It is our impression, however, that the UFO was approx. 45° above the horizon. If so, its maximum diameter would have been as follows for the respective altitudes: 123', 165' and 207'. (Modified altitude estimates by M. Miller.)

ONE OF THE MOST IMPORTANT GOVERNMENT documents relative to official censorship has been, to the best of our knowledge, completely overlooked by most UFO investigators. Entitled "SECURITY—ARMED FORCES CENSORSHIP," the Air Force Regulation is dated 24 Sept. 1954, although a later date may currently be applicable. The regulation is directed to all armed services and bears the following code numbers: Air Force: AFR 205-30; Army: SR (Special Regulation) 380-80-1; Navy: OPNAV INSTRUCTION 5530.6. Section 1, paragraph 9(a) of AFR 205-30 states: "Armed Forces censorship will not be established in time of peace unless specifically directed by the President of the United States or the Secretary of Defense except as an emergency measure taken by a major oversea commander (the commander in chief of a unified command or the theater command) based upon conclusive indications that an outbreak of hostilities is imminent."

MISCELLANY. Two Czechoslovakian meteor tracking stations photographed a fireball on April 7, 1959, enabling them to finally calculate at least one meteor's velocity with great accuracy: 46,440 mph. (AP, 6/16/59) . . . June'ichi Takanaishi, Editor of the excellent and objective English-language Flying Saucer Research Bulletin (bi-monthly: \$2 sea mail, \$4 air mail, per annum: Modern Space Flight Assn., 8-9-2, Sakurazuka-Higashi, Toyonaka-City, Osaka, Japan) reports that Yoshinari Baba, 14, has confessed that his Kaizuka City UFO photos (SAUCERS, Winter 1958/59) were faked . . . Son of the Sun by Orfeo Angelucci is probably the best written, if most controversial, of the "contactee" books to date. Story involves a doomed-to-die M.D. (unidentified) who is contacted by space beings in the California desert (where else?) and whisked to a space station in the atmosphere of Venus. Numerous discourses on a quantity of topics ensue. Those interested may purchase the book (\$3.95) directly from Orfeo Angelucci, 1119 Princeton Drive, Glendale 5, Calif. . . . The Interplanetary Space Patrol (ISP), a ham radio network devoted to UFO's and related topics, meets every Monday night at 8:30 pm GST at 3933 kc. James A. Lee (W5AAC) of Abeline, Texas is Chairman . . . Charles N. Bennett, 2449 Poplar, Kansas City 27, Mo., has been appointed Southwest Director for Tape Recorded UFO Information Service . . . The Hon. Brinsley le Poer Trench has resigned as Editor of London's Flying Saucer Review (1 Doughty St., London, W.C.1.). It has been speculated that the new Editor, Waveney Girvan (Flying Saucers and Common Sense),

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SHORT SHOTS

will employ a more conservative policy . . . The Rev. W. S. Mowery, Tipp City, Ohio wishes to contact other ministers interested in the UFO problem . . . Marjorie Hazen, 415 Detroit Ave., Mansfield, Ohio has available a tape recorded version of Flying Saucers—Fact or Fiction? for the blind . . . Ye olde editor has a report on the Gabriel Green/AFSCA convention, held at the Los Angeles Statler-Hilton last July, in the February 1960 issue of FATE. And CAVALIER sometime this spring will have a report on the last Giant Rock convention.

LAST NEW YEAR'S DAY, the National Radio Astronomy Observatory at Green Bank, W. Va., started to intercept artificial signals emanating from planets outside of our solar system. The program was unveiled in a lecture at M.I.T. last November by long-time UFO antagonist Dr. Otto Struve. Harvard-trained Astronomer Frank Drake, 29, will direct the 85-ft. parabolic antenna in this project. If there are other civilizations, opined Dr. Drake, "we would expect to find scattered throughout our galaxy, planets from which radio transmissions more powerful than ours are radiated."

The attempt will be known as "Project Ozma," named for the Queen in the Wizard of Oz. Dr. Drake points out that Oz was "a land far away populated by strange and exotic beings." The program's technical designation is SECT (Search for Extraterrestrial Coherent Transmissions). Optimum frequencies will be between 1,000 and 10,000 megacycles, with initial attempts to be near the 21-cm. hydrogen band in our galaxy. Dr. Drake believes there may be 10 to 20 stars within range of the Green Bank radio telescope capable of supporting intelligent life. He notes that antennas currently under construction will extend the range of detection out to 100 light years. Next step, of course, will be a radio telescope on the moon, to eliminate atmospheric and ionospheric interference. For those interested in the program, we enthusiastically recommend Frank Drake's comprehensive article in the January 1960 Sky and Telescope. (Time, 11/23/59; UPI, 12/19/59; Sky and Telescope, 1/60)

TIME MAGAZINE FOR NOV. 23, 1959 quoted a fascinating report by Physicists Philip Morrison and Giuseppe Cocconi of Cornell University. They believe that alien intelligences may be anticipating a "development of science near the sun." Wrote Morrison and Cocconi: "We shall assume that long ago they established a channel of communication that would one day become known to us, and that they look forward patiently to the answering signals from the sun which would make known to them that a new society has entered the community of intelligence... The wide radio band from, say 1 mc. to 10,000 mc., remains as a rational choice. For indisputable identification as artificial, one signal might contain, for example, a sequence of small prime numbers of pulses, or simple arithmetical sums." Physicists Morrison and Cocconi conclude: "We submit... that the presence of interstellar signals is entirely consistent with all we now know, and that if signals are present, the means of detecting them is now at hand... We therefore feel that a discriminating search for signals deserves a considerable effort. The probability of success is hard to estimate; but if we never search, the chance for success is zero."

SHORT SHOTS

OTIS T. CARR, ALLEGED INVENTOR of a magnetically propelled "flying saucer" called the OTC X-1, was convicted Nov. 19, 1959 for selling securities that had not been registered with the state of Oklahoma. The jury, which deliberated 35 minutes, set his punishment at a \$5,000 fine. Carr could have received up to three years in prison. The former Baltimore hotel clerk was specifically charged with selling 100 shares of stock in OTC Enterprises to Gurney G. Warnberg. Carr and his attorney countered that Warnberg merely gave the corporation \$410 for an option to purchase stock. Although Otis Carr said there was only \$1.71 in his company's bank account, the Federal Securities and Exchange Commission (SEC) estimated last May that OTC Enterprises had taken in about \$184,000 in the sale of stock. During a questioning session before SEC investigators, Otis T. Carr took the fifth amendment 84 times, and Wayne S. Aho, Carr's "Educational Director," took it eleven times. C. E. Booth, chief securities investigator for the SEC regional office in Fort Worth, claimed that Margaret Storm, an employee of OTC in Baltimore, had used the U. S. Mails to promote the sale of OTC stock. (The Daily Oklahoman, Oklahoma City, Okla., 11/20/59 and 5/29/59.)

WE STILL HAVE THREE TITLES left from our book clearance sale, as follows: The Secret of the Saucers by O. Angelucci (reg. \$3, sale \$1.80); Flying Saucers and Common Sense by Waveney Girvan (reg. \$3, sale \$2), and The White Sands Incident by D. W. Fry (reg. \$1.50, sale \$1.20). If you wish, you may apply the remainder of your subscription (see Editorial) to the purchase of The Secret of the Saucers. Each issue due you (the number is written at the bottom of this page) is worth 33¢. . . We also have a few of the beautiful flying saucer ash trays left, exclusively imported from England. They are unusually ornamental. Reg. price has been \$3.50, but we are now discounting them at half price: \$1.75 (plus 15¢ each post). And while they last, some of you may still be interested in our automobile rear window stickers imprinted: MADE ON MARS BY LITTLE GREEN MEN. Only 10 for 50¢, 25/\$1.

We are here listing a very few of the organizations and periodicals to which our subscribers may like to subscribe: NICAP (\$5), 1536 Conn. Ave., N.W., Wash. 6, D. C.; SPACE (\$3), 267 Alhambra Circle, Coral Gables, Fla.; APRO, 1712 Van Court, Alamogordo, N.M.; SAUCER NEWS (\$2), P.O. Box 163, Fort Lee, N.J.; FATE (\$3.50), 845 Chicago Ave., Evanston, Ill.; FLYING SAUCER REVIEW (\$3.75), 1 Doughty St., London, W.C.1; CSI NEWS LETTER, c/o Apt. 3B, 299 West 12th St., New York 14, N. Y.

THE NUMBER WRITTEN in the box at lower right is the number of issues we still owe you on your subscription (See "Editorial," p. 3). As this is the last issue of SAUCERS, you may have any two back issues of your choice—excluding nos. 1 and 4, which are out-of-print, and nos. 2, 7 and 8, because of a shortage in our stock. (A full list of contents of back issues was reproduced on pp. 16-18 of the Spring & Summer 1959 issue of SAUCERS.) For nos. 2, 7 and 8, you may have an even exchange for any issue(s) (1:1) now due your subscription. Please let us hear from you at your earliest convenience. (As a subscriber, we are entitling you to purchase any back issues at the same discount: 2 for 35¢; 7 for \$1 or 15 for \$2.) Thank you.

