

as a layman. Gross, on the other hand, said that he does not recollect making any such agreement and that in any case he doesn't see how Erickson, as an attorney, could assist him in evaluating scientific papers.

Gross's explanation of the agreement to turn over draft reports is that he did not realize before the May meeting in Key Biscayne\* that the committee's proceedings were meant to be confidential. In fact he asked an academy staff member if Erickson, who just happened to be vacationing in Key Biscayne at the time, could attend the meeting of the subcommittee which was convened there in mid-May. When he was told no, he realized for the first time that the committee's deliberations were not open to the public. He thereupon told Erickson

that he could not supply any draft reports. (Gross had already supplied before the meeting copies of his own draft and of certain committee documents.)

The memos confirm that Gross telephoned Erickson after the May meeting to say that he could not, after all, supply the draft reports because he had discovered they were confidential. Nonetheless,

\*The choice of Key Biscayne as a meeting place seems somewhat eclectic, insofar as two of the subcommittee's members live in Denver, Colorado, and the others in Ontario, North Carolina, Michigan, Virginia, Ohio, and New York. Gross, the only Floridian, lives a hundred miles to the northwest, in Naples. Asked why Key Biscayne was chosen as the meeting place, a staff member of the subcommittee explained that Gross had offered to be the host: "It's nice to have a local representative to handle arrangements and Gross fulfilled that requirement by inviting us to come to Florida." Another academy official provided this explanation for the choice of the sun-drenched resort: "It was suggested that they find a quiet retreat, which they attempted to do at Denver but failed."

less, "Dr Gross felt that he could read to me the draft conclusions pertaining to the health aspects of the subcommittee's report," Erickson told his superior. From the synopsis given in the memo it appears that Gross read out the conclusions of his own report (which he says he had every right to do since it summarized his own published observations), together with the conclusions reached by another member, E. Cuyler Hammond, the American Cancer Society's statistician.

Gross, a pathologist by background, believes strongly that the presence of short asbestos fibers in drinking water does not present any hazard to human health. This is a point on which there appears to be a range of scientific opinion, with the centrist position being that one

## Air Force Bestows on National

The National Archives has recently come into possession of the Air Force's files for Project Blue Book, the two-decade-long investigation conducted to determine whether unidentified flying objects were for real. The project was closed in 1969 after the government decided that none of the 12,618 cases in the file indicated the existence of extra-terrestrial vehicles.

The collection has been available for perusal by scholars willing to make the trip to Maxwell Field in Alabama. Now, at the Archives, anyone will be able to walk in and see for himself the tangible residue of all the excitement that began with the "first" UFO sighting, over Mt. Rainier, in 1947—newspaper clippings, scrawled letters, technical papers, drawings, blurred photographs, and bits of junk collected from purported landing sites.

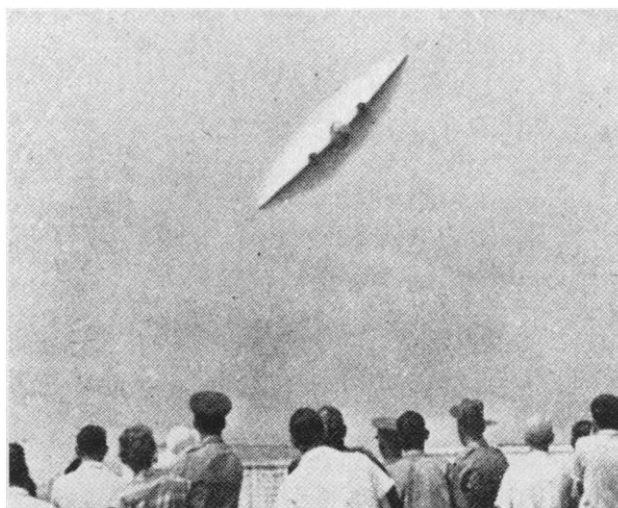
The material consists of about 42 cubic feet of written materials, photographs, a few dozen artifacts, a number of sound recordings, and 39 films. Everything but the tapes, films, and artifacts has been put on microfilm. The Air Force has blacked out all the names of the people who contributed materials; otherwise, the files have been transferred unabridged.

It is an assortment, judging from the brief sampling *Science* took, that only a hardened UFO buff could love.

The artifacts, only a few dozen in all, have all been identified by scientists as being quite earthly: some tiny filaments identified as radar chaff, a couple of small strange-shaped lumps of nylon residue, a strange large bullet-shaped mass that turned out to be a pipe cleaning anode, a piece of volcanic rock, a few grains of charred dirt, an arrowhead said by the sender to have been bent when he let fly an arrow at an extraterrestrial visitor, a mysterious cloudy little ball identified as a part from a roll-on deodorant.

Then there are hundreds of photographs, of lights in the sky, blurry objects, saucer-shaped objects, cigar-shaped objects (many of them obvious hoaxes, such as that with a black blob that had clearly been inked over the picture), the blurred outlines of what could have been a pith helmet.

There are photos showing how other photos could have been manufactured by the double exposure of a lighted shape over a dark sky, and a picture of an indentation on the ground where a purported saucer landed. Flying saucer photographs never seem to be clear. In the film collection are two network documentaries made in the mid-1960's and a slew of short 8-millimeter home movies—one, for example, shows two moving lights in a night sky, then a batch of moving lights (fireflies?), and a butterfly or bird flying by.



Courtesy of the National Archives

From the *Blue Book* file: this is an airplane at an air show flying through a fogbank.

The microfilmed material contains thousands of newspaper clippings, illegibly scrawled letters, drawings, and diagrams, and many filled-in copies of the "Official U.S. Air Force UFO Form," a seven-page form wherein the writer is invited to describe all the physical circumstances of the sighting. One question says, "Compare brightness with some common object," and one respondent wrote, "Darker than Mars and brighter dark orange color." Another

cannot yet tell one way or the other. Gross's view, at any rate, seems to be scientifically tenable, and he is not in a minority of one in holding it. It is also the position of the Reserve Mining Company, but Gross strongly denies that he advocated the company's or any views but his own in the subcommittee's deliberations. Other members confirm this to be true. One of them, James R. Kramer of McMaster University, Ontario, testified on the opposite side to Gross during the Reserve Mining trial in 1974. According to Kramer, Gross spoke very objectively on the subcommittee, and the arguments between him and Hammond "were probably the most objective and straightforward types of discussion that I have ever witnessed."

However objective Gross's conduct

may have been, the academy has devised an elaborate series of bias screening procedures to bring to light, and if necessary to counter, the kind of relationship that the discovered memos reveal. How well did the academy's procedures work in this case?

"This is probably a textbook example of a case in which, long before the die was cast [in the form of a final report], the trouble was detected and put right," says an academy staff member. Yet in fact the "trouble" might never have been detected through the academy's procedures which, even if adequate in theory, seem to have malfunctioned or been ignored in practice.

The academy's first safeguard against bias, say its officials, comes in the screening process by which scientists are se-

lected for service on a committee. An academy staffer told *Science* that Gross's connections with Reserve Mining "didn't come out in the screening process." Yet it is common knowledge among people in the field that Gross had testified on behalf of Reserve Mining. Although not on a regular retainer, Gross is considered by the company's attorneys as one of their consultants, and his name was included on a list of consultants which the company recently filed in court.

The apparent failure of the academy's screening process to detect such a relationship is significant because the screening is the only step that precedes the invitation to a scientist to become a member of an academy committee. A "bias statement" is sent out at the same time

## Archives a Trove for Ufologists

contributor wrote that his UFO was "cigar shape with lights turning on its axle." To another question about whether the object moved behind something, a writer replied that it moved behind "where it was." Had it been seen before? "The same spot lower about a year ago."

It is easy to imagine the Air Force tearing its collective hair out trying to make some order from this sort of testimony, but no doubt there are enough nuggets to keep UFO fans pawing through the assemblage for years to come. Those who seek to uncover a new angle to the phenomenon will find the research a challenge because the material is only filed chronologically, with no cross-indexing according to the type of sighting, experiences, identity of the witnesses, timing, location, and so forth.

The records include material from 12,618 cases, 701 of which remain unexplained. The biggest year for sightings was 1952, with 1501 reports. There were more than 1000 sightings in 1957 and 1966. Only 146 were reported for 1969, the last year of the project, and only one of the objects sighted that year remains unidentified.

According to officials at the Archives the collection has drawn quite a few visitors since the files were opened on 14 July. At any given time there may be a dozen people eagerly grinding UFO data through the microfilm readers. Their number includes quite a few high school kids defying their usual reputation for intellectual torpor, and one very serious science teacher from South Carolina who is planning a book on "the morphology of UFO's."

The national preoccupation with UFO's is cyclical and currently seems to be at a low ebb. There are perhaps a half-dozen organizations around the country dedicated to investigating the phenomenon and none has a membership of more than around 5000. The number of people believing in "flying saucers" remains at about 6 percent of the adult population, according to Gallup polls.

Although the Air Force concentrated almost exclusively on whether UFO's were an external reality, it is likely that the most promising investigations would be in the behavioral, or subjective, aspects of the UFO-sighting phenomenon.

Donald I. Warren, for example, a sociologist at the University of Michigan, has a theory that the people who report seeing flying saucers suffer from "status inconsistency"—they are marginal types socially whose lives are not set in a consistent framework and who like the idea of other and better worlds somewhere.

Lester Grinspoon, a psychiatrist at Massachusetts Mental Health Center, has tried his hand at psychoanalytic interpretations. The famous case of Barney and Betty Hill (subject of the book *Unfinished Journey*), in which a couple claimed to have been taken aboard a spaceship, Grinspoon calls a *folie à deux* between a domineering saucer-fanatic wife and her Milquetoast husband. Grinspoon also wrote a paper advancing saucer sightings as manifestations of the "Isakower phenomenon" in which the viewer undergoes a complex regression toward seeing the object as a maternal breast. Most objects, notes Grinspoon, are either cigar (penis) or round (breast) shaped.

In fairness to UFO buffs, it is probably safe to say that most do not cling to the flying saucer theory—they just think there's "something out there" that science has failed to explain. In an effort to bring more rationality to the topic a number of interested people—ranging from UFO skeptic Philip J. Klass, an editor for *Aviation Week and Space Technology*, to astronomer J. Allen Hynek, who believes there's something out there—have formed the Committee to Scientifically Investigate Claims of the Paranormal and Other Phenomena. They plan a "Kiplinger-type" newsletter, says Hynek, called the International UFO Reporter, which is to be a nonbiased source of information to balance off the hot-headed reports from UFO organizations and publications such as the *National Enquirer*. Hynek is also preparing a book on the Blue Book files, mainly on those 701 cases that remain unexplained.

Even if science gets around to clearing up all the mysteries, it looks as though UFO's will always be with us—however well scientists can tack down the corners of reality, they cannot tack down the roving of the human mind.—C.H.