

JANUARY-MARCH 1974

**UFO  
QUARTERLY  
REVIEW**

A NICAP PUBLICATION

# UFO QUARTERLY REVIEW

Vol. II, No. 1

January-March 1974

## IN THIS ISSUE:

- A PREHISTORIC LANDING SITE .  
*S. W. Greenwood* . . . . . 2
- BEYOND EARTH  
*Ralph and Judy Blum* . . . . . 6
- ANALYSIS OF UFO PHOTOGRAPHS  
*Stuart Nixon* . . . . . 13

---

### UFO QUARTERLY REVIEW

Copyright© 1974 by the National Investigations Committee on Aerial Phenomena, Inc. (NICAP). All rights reserved except 200 words or less, with credit. Published quarterly at Kensington, Md. Subscription rate \$5.00 per year. Address all correspondence to NICAP, Suite 23, 3535 University Blvd. West, Kensington, Maryland 20795.

Mr. Stuart Greenwood has served in senior engineering positions in the aerospace industry. Presently he is an instructor in the Department of Aerospace Engineering at The University of Maryland. He received his B.S. (Mechanical Engineering) from the University of Bristol in England, and his M. Eng. (Mechanical) from McGill University in Canada. At the present time he is a Doctoral candidate at the University of Maryland.

## A PREHISTORIC LANDING SITE

S. W. Greenwood  
Department of Aerospace Engineering  
University of Maryland  
College Park, Maryland 20742

The intricate pattern of lines and symbols on the Plain of Nazca in Peru, detectable in detail only from overflying aircraft, has led several proponents of the idea that Earth was visited in prehistoric times by astronauts from other worlds to conclude that Nazca was a landing field.

The proposal is insubstantial. As described in the books of Maria Reiche and Gerald Hawkins, the designs were produced by the removal of a thin layer of dark colored pebbles, exposing the sandy clay of the subsoil. The effect on the supportive properties of the surface of the Plain is quite negligible. To draw a parallel with prepared concrete surfaces of modern aircraft runways is therefore unrealistic. Moreover, the existence of large symbols other than straight lines, particularly birds with outstretched wings, at Nazca and elsewhere in the area, suggests a pattern intended to be viewed by overflying craft rather than to constitute a landing area.

Determination of the relation of these symbols to a landing operation may be facilitated by some reasoned speculation in regard to the dynamics of the operation. We first note that, if the visitors came from planets of other stars than the Sun or alternatively if they came from within our own Solar System in vehicles that were not energy-limited, there would be no dynamic restrictions on the selection of approach path to the landing site. In such cases, any attempt at interpretation from the point of view of dynamics would be unprofitable.

However, suppose we postulate that the vehicles did not possess unlimited energy sources. Their flight operations might bear some features in common with our own. For landing operations on the Earth it would be desirable to make use of the Earth's rotation about its axis in the West-East direction, and approach the landing site from the West.

An example of such an approach is given in Fig. 1. The vehicle enters the atmosphere from the Ecliptic Plane, the plane of the Earth's orbit around the Sun and approximately the plane of the orbits of the nearer planets. Vehicles from neighboring planets such as Mars or Venus would make the voyage close to this plane.

Landing in the region of Nazca would involve a flight path at an angle to the local parallels of latitude that would vary with the time of year and time of day. In the region of Nazca this gives a possible variation within  $\pm 20^\circ$  of the local parallel of latitude.

Suppose, further, that the Nazca Plain is an overflowed region rather than a landing site. We therefore look for a landing site to the East of Nazca. The evident solution to this search is to be found at Tiahuanaco, a conspicuous center of early civilization in Bolivia on a plateau just south of Lake Titicaca.

The relation of Tiahuanaco to Nazca and other large ground markings in the area is shown in Fig. 2. The boundaries of the approach paths from the West are also indicated. We suggest that our own developing expertise in regard to interplanetary flight may aid in unravelling some of the World's most puzzling archeological mysteries, and moreover tell us something about from whence our hypothetical visitors came and how they arrived here.

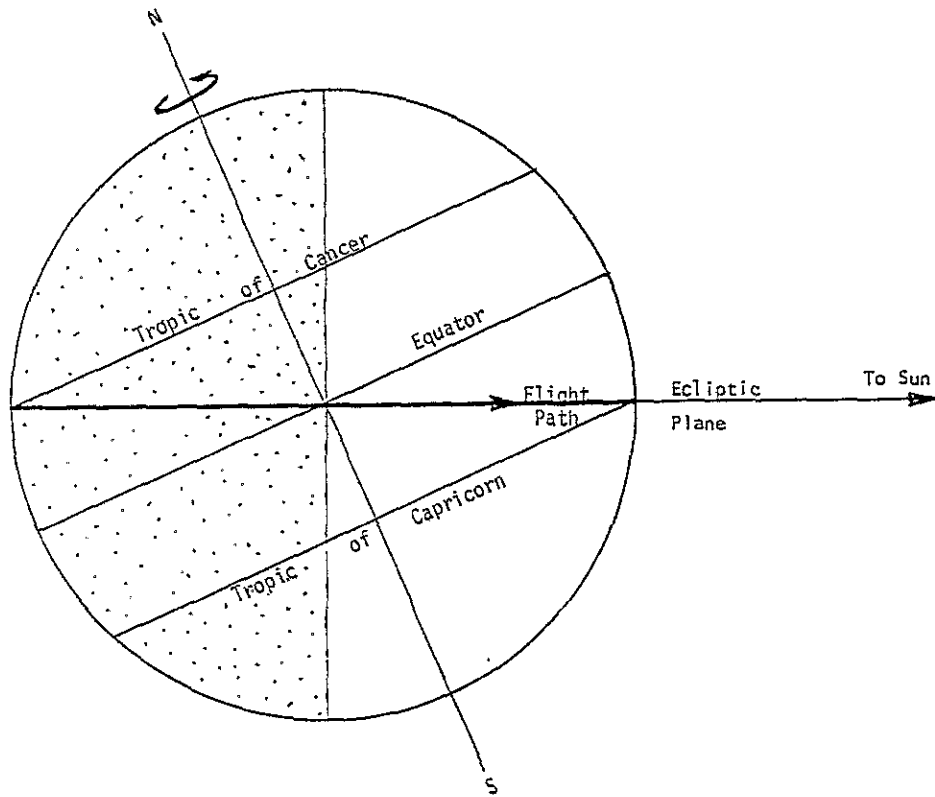


Fig. 1: Flight Path for Landing in Daylight Between Equator and Tropic of Capricorn at Summer Solstice in Southern Hemisphere from Orbit in Ecliptic Plane.

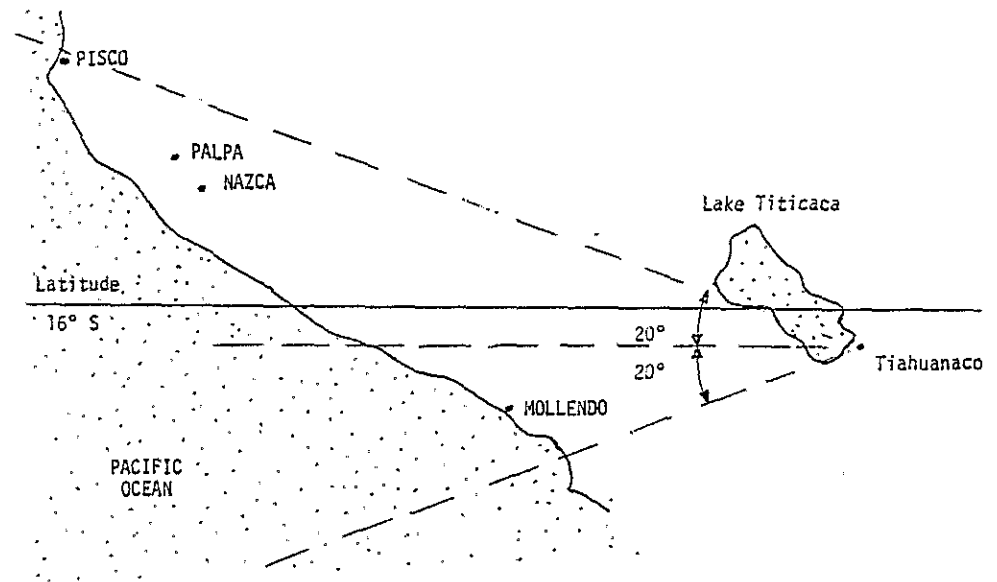


Fig. 2: Location of Large Ground Markings in relation to Tiahuanaco.

*Reprinted by permission of Ralph and Judy Blum*

## BEYOND EARTH

*Ralph and Judy Blum*

On October 6, after several months of negotiating, the University of Colorado agreed to accept the air force's proposition. A contract was signed, and physicist Dr. Edward U. Condon was made project director.

Dr. Condon, a former director of the National Bureau of Standards, had an impressive scientific reputation and a long association with military research projects. During World War II, Condon served on Dr. Lyman J. Briggs's top-secret S-1 Committee out of whose monthly meetings the Manhattan Project developed. In 1943, Condon joined Project Y, the Los Alamos phase of the Manhattan Project.

In his book *UFOs? Yes!* (New York: World Publishing Company, 1969) psychologist Dr. David Saunders says of Dr. Condon:

The public and the press knew him as one of the pioneers of experimental physics in the United States and as a key figure in the development of radar, the atomic bomb, and the nose cone and heat shield used on the Mercury and Gemini manned space capsules. But they knew him even better as an outspoken critic of the federal government. His almost legendary battle with the House Un-American Activities Committee during the McCarthy era and his accusations in 1958 that the government was suppressing the truth about radioactive poisons had labeled him as a scientist who spoke the public's language.

Dr. Edward Uhler Condon was the perfect man for the job.

When attacked by J. Parnell Thomas, chairman of the House Un-American Activities Committee, for being "one of the weakest links in our atomic security," Condon retorted that if Thomas was right, "that is very gratifying and the country can feel absolutely safe, for I am

completely reliable, loyal, conscientious and devoted to the interests of my country." Twice, without any justification, Condon's "top secret" security clearance was revoked. It was restored for the second time on October 29, 1954, but by then he had grown tired of playing "now you have it, now you don't." In 1955 he returned to teaching, and in 1964 joined the University of Colorado faculty. The year before the UFO study began, Condon's security clearance was again reinstated.

Funding for the Colorado Project came from the office of the Secretary of Defense. Condon, however, was directly accountable to Dr. J. Thomas Ratchford. An AFOSR civilian scientist with a background in nuclear physics, Ratchford had handled the negotiations between the air force and the University of Colorado. The man to whom Ratchford reported was Brigadier General Edward Giller, the "Project Monitor" at AFOSR. General Giller is what one of his colleagues calls "a career atom man." His name for some reason has never been mentioned in connection with the project.

In the contract between the University of Colorado and the Air Force, Condon pledged that "the work will be conducted under conditions of strictest objectivity."

Dr. Condon's ability to be objective did not, it appears, extend to unidentified flying objects. His attitude was obvious from the start. The project was barely underway when, on January 25, 1967, in Corning, New York, Condon spoke before a chapter of Sigma Xi, an honorary scientific fraternity. The following day, the *Elmira* (N.Y.) *Star-Gazette* reported on his speech:

Unidentified flying objects "are not the business of the Air Force," the man directing a government-sponsored study of the phenomena, Dr. Edward U. Condon said here Wednesday night . . . "It is my inclination right now to recommend that the government get out of this business. My attitude right now is that there's nothing in it." With a smile he added, "But I'm not supposed to reach a conclusion for another year . . ."

An ill-advised comment, it would seem, considering the promised objectivity of the study.

According to Dr. Saunders, the project statistician, Condon devoted only half of his university time to the project, and much of that time he spent pursuing "crackpot" cases. On one occasion he telephoned the governor of Utah to inform him that, according to a person in telepathic contact with the extraterrestrials, a landing was scheduled for the Salt Flats at Bonneville at 11:00 A.M. on April 15, and he should be certain to have the proper representatives on hand. On another occasion he solemnly passed information to Washington that "Sir Salvador," an agent of the Third Universe, had offered (for \$3 billion in gold) to construct a spaceport so that their ships could land in our world.

If you have not been charged with the scientific examination of a potential 25,000 UFO reports—over 12,000 of which came from air force files—these cases are certainly good for a laugh. But it is not easy to reconcile Condon's concentration on the lunatic fringe and the lack of restraint in his public remarks with his reputation for scientific integrity and a background in sensitive areas of research. His conduct was such that it seriously compromised the integrity of the project.

The published result of the two-year investigation by the Condon Committee was a voluminous (965 pages), badly organized book with an inadequate index. Considerably less than half of the book dealt with the investigation of UFO reports, and a singularly slanted summary by Dr. Condon avoided mentioning that out of the meager ninety cases he had selected for study, his team of scientists were unable to find adequate explanations for thirty!

But it was Dr. Condon's summary, not the report, that influenced the press and the public.

In the second paragraph on page 1 of section I, "Conclusions and Recommendations," Dr. Condon states:

Our general conclusion is that nothing has come from the study of UFOs in the past 21 years that has added to scientific knowledge. Careful consideration of the record as it is available to us leads us to conclude that further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby.

After reading that, who was going to plow through the next 964 pages? The air force bet was very few people indeed, and their gamble paid off. Which from the point of view of "strictest objectivity" was unfortunate; because buried throughout the unwieldy report is a mess of fascinating data. Data that constitutes as strong a case for the "further extensive study of UFOs" as anything in print.

Reading the report reveals that the findings of Condon's staff members are often in startling contrast to his own negative conclusion. For example:

Case 2, involving an RAF pilot sighting with radar confirmation, ends: "... although conventional or natural explanation certainly cannot be ruled out, the probability that at least one genuine UFO was involved appears to be fairly high." (p. 256)

Case 6 deals with three UFOs hovering over a high school building in Beverly, Massachusetts. When a witness waved her hands as if to beckon them, one of the UFOs left the group and swooped down to within twenty feet of her! This case concludes: "No explanation is attempted to account for the close UFO encounter reported by three women and a young girl." (p.266)

In section III, chapter 6, "Visual Observations Made by U. S. Astronauts," staff member Franklin Roach states: "The three unexplained sightings which have been gleaned from a great mass of reports are a challenge to the analyst." (p.208)

In his outstanding chapter "Optical and Radar Analysis of Field Cases," Gordon D. Thayer includes a case (1-D) which I myself had learned about in England. Captain James Howard, flying the BOAC Boeing Strato Cruiser *Centaurus* off Gander, Newfoundland, on June 30, 1954, saw a UFO "the size of the *Queen Mary*." Little disks flew in and out of the enormous mother craft like silver bees around a hive. "We've got company!" Howard reported over his radio. Fighters were launched, but before they arrived in the area, all the disks reentered the mother ship which vanished on the spot. When I discussed the case with Charles Bowen, editor of *Flying Saucer Review*, he shrugged and said, "The mother ship simply went off our spacetime continuum. There's no other explanation." But Gordon Thayer found one:

This unusual sighting should therefore be assigned to the category of some almost certainly natural phenomenon which is so rare that it apparently has never been reported before or since. (p. 140.)

Summing up the entire chapter Thayer states: "There is a small but significant residue of cases from the radar-visual files that have no plausible explanation as propagation phenomena (false radar images) and/or man-made objects." (p. 175).

Bearing in mind that the closest thing we have to scientific data are the radar reports, this statement alone appears to justify further research—unless of course, from the beginning, there was no question of this report leading to further overt research. Such a possibility is supported by the now famous memorandum written by project coordinator Robert J. Low on August 9, 1966—before the contract was signed. The memo, from Low to Colorado University officials, was headed "Some Thoughts on the UFO Project." At one point, referring to Dr. Walter Orr Roberts, director of the federal government's National Center for Atmospheric Research (NCAR) in Boulder, Low wrote:

He says that he has information that Colorado really is the first choice of the Air Force, that others have not been approached and turned it down. He thinks . . . that we will gain a great deal in favor among the right circles by performing a critically needed service . . .

Low continued:

Our study would be conducted almost exclusively by non-believers who, although they couldn't possibly prove a negative result, could and probably would add an impressive body of evidence that there is no really to the observations. The trick would be, I think, to

describe the project so that, to the public, it would appear a totally objective study but, to the scientific community, would present the image of a group of non-believers trying their best to be objective, but having an almost zero expectation of finding a saucer.

There had been discord within the project almost from the beginning. But shortly after news of the memo got around, the "group of nonbelievers," already disillusioned by the biased attitude of the project's two senior members, nearly mutinied. The two staff members who had discovered the memo and disclosed its contents were fired from the project.

Low's unfortunate memo also revealed that "it would look much better" if the National Academy of Sciences (NAS) took the original Air Force contract and then subcontracted the money to the University of Colorado. In other words the academy should act as a conduit for the funds, thereby obscuring any direct link between the Air Force and the university project. While unwilling to go this far, the academy did agree to review the final report prior to its public release. The NAS review, however, was to apply exclusively to the scientific methodology and not to the conclusions or recommendations.

It was for Dr. Condon's conclusions and recommendations that the Defense Department paid over half a million dollars in taxpayers' money.

Only two things about the Colorado study seem reasonably clear. First, that the project director displayed a bias that precluded objectivity. Second, that the project coordinator provided written evidence that the UFO study was intended as a hatchet job. What with Condon shooting off his mouth and Low leaving his memo around, there was a good chance that the findings of the Condon Committee would be suspect, particularly if anyone troubled to read the report carefully!

Also, the Air Force must have had some anxious moments when the finished report was submitted for review to a panel of eleven selected scientists, members of the National Academy of Sciences. The review, according to Academy President Dr. Frederick Seitz (a former pupil of Dr. Condon's) was "for the sole purpose of assisting the government in reaching a decision on its future course of action." To the relief of the Air Force, on November 15, 1968, the NAS panel announced its unanimous approval of the report as submitted.

Support from the NAS was exactly the public-relations hook the Air Force needed. What mattered next, as in any good publicity campaign, was timing. On January 8, 1969, shortly before Richard Nixon's inauguration, the Air Force distributed the academy's favorable verdict on the Condon Report to an already harassed Washington press corps, along with copies of the massive report, for release the following day.

Faced with the impossible task of reading the original 1,465-page

multilith version overnight, reporters asked the Air Force for a summary. They were referred to sections I and II-Condon's "Conclusions and Recommendations," and his "Summary of the Study."

On January 9, newspapers and networks announced to the nation that the Condon Committee had reached negative conclusions about unidentified flying objects, and that the National Academy of Sciences had praised their report. None of the inconsistencies in the report were mentioned, and as far as the general public was concerned, Dr. Condon had proved that UFOs didn't exist. But while the public didn't read the report, a number of concerned scientists did, and the Air Force had a new problem on its hands.

## The Supersecret Life of "Room 39"

The objectivity of the Colorado study was under attack even before the Condon Report was completed. On July 29, 1968, the House Committee on Science and Astronautics held a symposium on unidentified flying objects. The fair and open-minded tone for the heading was established in the opening remarks of the chairman, the Honorable J. Edward Roush:

Today the House Committee on Science and Astronautics conducts a very special session, a symposium on the subject of unidentified flying objects, the name of which is a reminder to us of our ignorance on this subject and a challenge to acquire more knowledge thereof.

We approach the question of unidentified flying objects as purely a scientific problem, one of answered questions. Certainly the rigid and exacting discipline of science should be marshaled to explore the nature of phenomena which reliable citizens continue to report . . . we have invited six outstanding scientists to address us today, men who deal with the physical, the psychological, the sociological, and the technological data relevant to the issues involved . . .

We take no stand on these matters. Indeed, we are here today to listen to their assessment of the nature of the problem; to any tentative conclusions or suggestions they might offer, so that our judgements and our actions might be based on reliable and expert information. We are here to listen and to learn.

Events of the last half century certainly verify the American philosopher, John Dewey's conclusion that "Every great advance in science has issued from a new audacity of imagination." With an open and inquiring attitude, then, we now turn to our speakers for the day.

Congressman William Ryan, who participated in the hearing, was one of the first to attack Dr. Condon's conclusions and call for an investigation of the entire Colorado Project.

Individual scientists like Dr. Hynek and Dr. McDonald (both of whom had served as consultants to the project and had given evidence at the House symposium) spoke out in dissent. More significant, the American Institute of Astronautics and Aeronautics (AIAA) publicly rejected the findings of the Condon Report and revealed plans for a two-year "objective" study of UFOs. And, needless to say, the Phenomenon had some comments of its own to make. The following months produced a series of sighting reports as good as any on record.

But it was the American Association for the Advancement of Science (AAAS) that finally forced the government's hand with an announcement that their December annual meeting in Boston would include a two-day symposium on UFOs.

Such an action taken by this prestigious group would be like an announcement to the scientific community that the AAAS considered UFOs a subject for legitimate concern. It would tacitly imply rejection of the Condon Report, and undoubtedly the meeting would receive widespread publicity.

As soon as he heard about it, Dr. Condon, a past president of the AAAS, appealed to the association to drop UFOs from their agenda. The AAAS refused. Condon then urged the Vice-President, Spiro Agnew, to use his influence to get the symposium canceled. Agnew also refused. But in the end, the Boston AAAS meetings made hardly a ripple. The press already had its big UFO study.

On December 17, 1959, nine days before the AAAS convened, then Secretary of the Air Force, Robert C. Seamans, Jr., announced that Project Blue Book was being terminated. It could no longer be justified, he said, "either on the ground of national security or in the interest of science." The timing and content of the announcement completely nullified any impact the AAAS meetings might have had.

The Air Force had finally achieved its objective. Never again would a harassed public information officer be obliged to tell some distraught citizen that the pulsating disk-shaped object that hovered twenty feet over his car, caused his engine to fail, his skin to prickle, and his vicious German Shepherd to cower in terror, was a "weather balloon," "Venus," or "swamp gas."

# ANALYSIS OF UFO PHOTOGRAPHS

*By Stuart Nixon*

## INTRODUCTION

Inordinate technical interest surrounds photographs that purport to show unidentified flying objects (UFOs). Were the UFO phenomenon amenable to laboratory methods of detection and observation, pictures of it might provoke only moderate scientific curiosity, but at present the bulk of evidence affirming its existence is the testimony of witnesses who have only their subjective reports to offer. If an alleged photograph of a UFO could be demonstrated to be authentic to the satisfaction of even a minority of scientists, the largely negative context in which UFOs have been held by the scientific community might be affected, and a significant proportion of erstwhile skeptics might move to embrace the phenomenon as a legitimate scientific problem. For this reason, an increasing number of technologists and researchers is giving serious consideration to the possibility that an unimpeachable photograph might exist, either now or in the future.

For the scientist interested in pursuing this question, it is difficult to know where to begin his inquiry, for only minimal scientific study has been conducted in this area, and no authoritative literature exists on the subject. Much to the loss of science, the mass media have been the primary repository for pictorial material on UFOs, with the consequence that little judgment has been exercised in putting photographs before the public and assigning them some kind of value as factual records. Of the thousands of pictures that have been circulated, only a very small fraction has been subjected to what can properly be called critical examination and evaluation, and even these, to a significant degree, have not received exhaustive study.



## PART I

During its years of operation, NICAP has made photographic study a fundamental part of its research program. As the Committee's reputation for scientific investigation has grown, and as its role as an informational clearing-house has developed, more and more people have approached it with pictures or with leads to photographic cases, and increasingly NICAP has been shown cooperation when making contact with individuals possessing or having knowledge of UFO exposures. In recent years especially, the organization has expended considerable effort on photographic material, as a result of having enlarged and upgraded its photo-analytic capability.

To date NICAP has given some degree of scientific disposition to hundreds of pictures. It has been a party to the investigation of many highly publicized photographs, and in a number of instances has been the primary research agency. On the basis of its evaluations, a number of confessions has been obtained from hoaxers, and many other photographic reports have been brought to successful conclusion. For the most part, only the U.S. Air Force has been active, at a scientific level, in this same area, for very few UFO groups besides NICAP have the resources or the motivation to attempt the difficult task of photographic analysis.

On the basis of this experience, NICAP is persuaded that none of the still pictures it has studied, or with which it is familiar, is authentic beyond question. A small group of exposures—plus several motion picture sequences—appears to have definite potential as evidence of the UFO phenomenon, but this is not to say that proof of their authenticity is presently possible.

Photographic analysis at NICAP is conducted by private consultants whose professional and avocational backgrounds are either in photography or in other disciplines that the Committee feels are relevant to the problems of photo interpretation. The consultants are not "commercial" or "professional" photographers, in the common conception of those terms, but are men of technical orientation with special knowledge and skills to offer. They are organized as a group, under the general direction of a chief consultant who answers directly to a member of NICAP's executive staff. Primary responsibility for the integrity of the consultants' work rests with the staff member. He originates assignments, coordinates research, prepares documentation, and briefs and advises his superiors. All labor, time, equipment, and facilities provided by the consultants are given without remuneration, during time that is separate from the consultants' regular job schedules.

## PART II

*Continuous funding problems, and concomitant dependency on volunteer consultants, inhibit the extent to which NICAP can treat photographic cases. Necessarily, preliminary judgments must be made to delimit the volume of data for which analysis is required. This function is performed at the staff level, with general support from the chief photographic consultant. In large measure, the rejection criteria are oriented toward common photographic phenomena that can give rise to spurious UFO images.*

The following is an outline of items that are considered during this initial review and screening. No attempt has been made in the outline to be comprehensive or definitive.

## Nonviable Imagery

- I. Artificial Images
  - A. Intentional
    1. Adjustments to negative
      - a) etching
      - b) drawing/painting
    2. Processing techniques
      - a) double printing
      - b) burning in
      - c) dodging
      - d) bleaching
  - B. Unintentional
    1. Optical anomalies
      - a) lens flare
      - b) internal reflection
      - c) light leak
    2. Processing anomalies
      - a) developing errors
      - b) fixing errors
      - c) washing errors
      - d) adjacency effects
      - e) foreign matter
    3. Manufacturing anomalies
      - a) physical defects
      - b) chemical defects
      - c) foreign matter

## II. Natural Images

## A. Intentional

1. Shooting stratagems
  - a) double exposure
  - b) exposure of composite subject
  - c) exposure of model
  - d) exposure of mundane object
2. Printing stratagem
  - a) double printing

## B. Unintentional

1. Anomalous subjects
  - a) environmental phenomena
  - b) artificial objects
2. Misinterpreted subjects
  - a) environmental phenomena
  - b) artificial objects

Photographs displaying images that clearly suggest the above phenomena are filtered out of the analytic system at an early stage and rarely given further study. Since most of the pictures submitted to NICAP fail to negotiate this filter, the exposures that are ultimately subjected to detailed examination are usually those that contain enigmatic characteristics for which simple solutions do not appear adequate. No precise statement is possible of how many pictures survive to be analyzed and how many are diverted at earlier levels of consideration, but it would not be unreasonable to estimate the mortality rate at approximately 90 per cent.

Sporadically, photographic cases that readily yield conventional explanations are nonetheless maintained in the system to be brought to what is tantamount to an overkill status. In general, these cases have identifications that are obvious to the trained eye but strange to the layman. Because great expectations are often placed on these pictures by the parties originating them, it behooves NICAP to offer detailed data in support of a negating (i.e. nonUFO) evaluation. An analysis may thus be conducted to obtain additional evidence of image identity, or at least to achieve a high index of confidence in the initial determination of the phenomenon recorded on the film.

## PART III

For NICAP, photographic analysis is fundamentally the process of seeking and substantiating discrepancies between what an exposure actually shows and what it is purported by the photographer to show. This orientation differentiates the process from other kinds of

photo-analysis, such as those for which image interpretation or identification is the objective. Although it is not always possible or desirable to limit analysis to the task of discrepancy disclosure, NICAP's basic concern in studying pictures is to determine whether they constitute *significant* evidence of the nature of UFOs. Hence any reliable indication that this does not apply for a given photograph renders that photograph invalid within the framework of the value system by which NICAP operates, regardless of what the exposure might in fact record.

This approach has to be tempered with an awareness that discrepancies are not necessarily sufficient grounds for assuming that the character or identity of the subject photographed is something other than that claimed by the photographer. Discrepancies can be nothing more than evidence that the photographer has misjudged some characteristic or set of characteristics of the subject. But if precautions are taken to avoid such misinterpretations, the technique is effective of employing photographic analysis to identify incongruities that reflect negatively on the report of which the picture being examined has been offered in support.

Anomalies and inconsistencies antagonistic to the validity of UFO photographs tend to repeat themselves from case to case. Thus it is possible to direct analysis toward these recurrent factors. Most of them are not, strictly speaking, photographic, in the sense that they are functions peculiar to photographs or to the properties of photographs. Rather they might better be described as compositional or situational. That is, they refer more to the content of the picture, to what was present in front of the camera, than to the picture itself.

The table below itemizes some of these common eccentricities. The presence of even one of these is generally enough cause to regard the picture in question with skepticism.

## Possible Contradictory Parameters

1. Time, Relative to Photographic Event
  - a) time of exposure
  - b) time sequence of exposures
  - c) time interval between exposures
2. Location of Subject
  - a) position relative to light source(s)
  - b) position relative to reference points

3. Motion of Subject
  - a) movement relative to reference points
  - b) position change between exposures
  - c) absolute movement
4. Configuration of Subject
  - a) shape
  - b) size (hypothetical)
  - c) structural characteristics
5. Environment of Photographic Event
  - a) lighting
  - b) weather

It should be noted that definition and measurement of the above parameters are not attempted without original negatives, transparencies, or Polaroid positives to work with, unless prints can supply all the information necessary to conduct the analysis. Since it is preferable in any event to use original materials, NICAP makes every effort to secure them, and in any photographic case of special significance, no conclusions are rendered without them. An effort is also made to acquire the original camera for examination and testing.

#### PART IV

To illustrate the photo-analytic process used by NICAP, the following two cases are offered. Each case involved field investigation and photographic study, and each was judged on the basis of data obtained from original negatives or positives.

##### *Case #1: 13 November 1966; Roseville, Ohio*

Photographer's Report: Walking down the driveway of his home, the photographer chanced to look back at the house. Hovering silently over the dwelling was a sizable hat-shaped object. With the Polaroid 110 camera he was carrying, he made three exposures—one while the UFO was in its original position, another as it began to move off, and another as it was farther away. The second exposure failed because of improper use of a filter.

Analysis: Two prints, certified in writing as the original Polaroid positives, were examined. It was immediately discovered that the exposure claimed to be taken first bore the number "8" and the one claimed to be taken third, number "6". On the possibility the prints were copies instead of originals, an attempt was made to trace the history of the pictures and to determine whether Polaroid copying devices were available in or near the photographer's community.

Failing to establish any reliable evidence that the original photographs could have been copied with Polaroid equipment, a study was made of the prints in hand, and they were concluded to be of sufficient resolution to be, beyond reasonable question, original records.

In addition, three separate analyses were conducted of the shadows in the two exposures. All analyses concurred in the opinion that a substantially longer time had elapsed between exposures than was reported by the photographer.

On the basis of these two discrepancies, NICAP deemed the case a hoax.

##### *Case #2: 18 December 1966; Lake Tiorati, New York*

Photographer's Report: Fishing with two other men, the photographer noticed a strange object moving at low altitude over a nearby mountain. Picking up his Kodak Fiesta camera, he took two exposures—both of the UFO over the mountain.

Analysis: Two negatives, stated to be the originals, were examined. A preliminary study revealed no discrepancies, so the original camera was tested for its resolving and focusing capabilities. These tests introduced the possibility that focus dropped off more severely than manufacturer's specifications indicated, so a special experiment was developed to determine with greater accuracy to what extent the camera could focus on a subject at the range attributed to the UFO. The experiment verified the earlier tests.

These results prompted a reexamination of the photographs, and additional discrepancies were uncovered. No firm evidence of the motion imputed to the UFO was found, and the apparent change in the UFO's position from one exposure to the other was shown to be the probable function of parallax.

On the basis of these inconsistencies, the case was judged a hoax.

#### CONCLUSION

Any description of the scientific problems involved in dealing with UFO photographs must include an important qualification. The failure of technical analysts to thus far find unassailable photographic evidence for the existence of UFOs should not be taken as proof that such positive data do not exist or cannot exist. The difficulty with which UFO pictures are obtained for analysis, and the limited scientific resources currently available for such analysis, make it impossible to determine what proportion of all extant photographic material pertinent to the UFO phenomenon has been examined. Thus,

if the scientific questions posed by UFO reports are to be properly answered, judgment must be suspended until there is every reasonable assurance that all evidence has been brought forward and assessed. It follows that an open mind and an active curiosity are called for toward the possibility of securing an authentic photograph of a UFO.

