

Photo Interpretation Report*

INTRODUCTION

THE ANNUAL REPORT of the Photo Interpretation Committee of the American Society of Photogrammetry is hereby submitted to the President of the Society. Included is a summary of activities in the area of Photo Interpretation insofar as is known to the Chairman of the Committee. The material for this report has been extracted from reports prepared by sub-committee chairmen whose names appear below. The activities report is subdivided as follows:

1. Committee Organization and Membership.
2. Activities of ASP Photo Interpretation Committee.
3. Photo Interpretation papers published in January 1965 and those scheduled for publication March 1965.
4. Photo Interpretation papers scheduled for presentation at the ASP Convention 1965.

COMMITTEE ORGANIZATION AND MEMBERSHIP

Basic Research, Matter/Energy: *Joe Morgan*, University of Michigan, Ann Arbor, Michigan, Chairman, Subcommittee I.

Dr. Robert N. Colwell, Professor of Forestry, School of Forestry, University of California, Berkeley.

Dr. Jack N. Rinker, Research Physicist, U.S.A. Cold Regions Research and Engineering Laboratory.

Virginia L. Prentice, Research Associate, Institute of Science and Technology, University of Michigan.

Sensor Package: *Allan Sorem*, Eastman Kodak, Rochester, New York, Chairman, Subcommittee II.

Robert A. Kelley, Perkin Elmer Corporation, Norwalk, Connecticut.

Milton Rosenau, Perkin Elmer Corporation, Norwalk, Connecticut.

Methods and Equipment: *William Heck*, Goodyear Aero Space Corp., Akron, Ohio, Chairman, Subcommittee III.

Engineering Uses: *Robert Leighty*, CRREL, Corps of Engineers, Hanover, New Hampshire, Chairman, Subcommittee IV.

Jack D. Mallard, Jack Mallard and Assoc., Regina, Saskatchewan, Canada.

Robert A. Dunbar, Consulting Engineer, Columbus, Ohio.

Harold Rib, Bureau of Public Roads, Physical Research Div., Washington, D. C.

Uses for Scientific Purposes: *James Latham*, Florida Atlantic University, Boca Raton, Florida, Chairman, Subcommittee V.

Mr. Victor I. Myers, Agric. Research Div., U.S. Dept. of Agriculture.

Dr. Ralph Solecki, Assoc. Prof. of Anthropology, Columbia University.

Dr. Rudolf W. Becking, Div. of Natural Resources, Humbolt State College. Project Research Team at Forest Insect Lab., U. S. Forest Service, Agricultural Research Center, Beltsville, Maryland: *R. C. Aldrich*, *R. J. Croxton*, *R. C. Heller*, *H. J. Myhre*, and *F. P. Weber*.

Mr. Philip Gimbarzewsky, Photogrammetric Section, Northwestern Pulp and Power Ltd.

Dr. Merle P. Meyer, School of Forestry, University of Minnesota.

Mr. Karl E. Moessner, U. S. Forest Service.

Mr. Charles E. Olson, Jr., Institute of Science and Technology, Univ. of Michigan.

Mr. Walter H. Bailey, Earth Science Div., National Science Foundation.

Prof. Alfred W. Booth, Dept. of Geography, Univ. of Illinois.

Prof. Robert W. Finley, Geography Div., Extension Div., Univ. of Wisconsin.

Lt. Thomas K. Hinckley, Box 70, 6th TCS, APO 953, San Francisco.

Prof. Kirk H. Stone, Dept. of Geography, Univ. of Wisconsin.

Dr. Charles Kolb, Chief, Geology Branch, USA Waterways Experiment Station, Corps of Engineers.

Mr. David Landen, Special Projects Unit, Branch of Photogrammetry, U. S. Geological Survey.

Mr. Eugene Borax, Union Oil Company of California.

Dr. Azriel Rosenfeld, Computer Science Center, University of Maryland.

Dr. James R. Meiman, Assistant Professor of Watershed Management, Colorado State University.

Dr. Harold Steinhoff, Associate Professor of Wildlife Conservation, Colorado State University.

Military Uses: *Page Truesdell*, USNPIC, Washington, D.C., Chairman, Subcommittee VI.

Extra-terrestrial Uses: *Paul Merifield*, Earth Science Research Corp., Malibu, California, Chairman, Subcommittee VII.

Mr. William D. Cannell, Chief, Lunar Observation Section, Lowell Observatory, Flagstaff, Arizona.

Mr. John Cronin, Terrestrial Sciences Division, Air Force Cambridge Research Laboratory, Bedford, Mass.

Mr. N. W. Cunningham, Off. of Lunar and Planetary Science, NASA Headquarters, Washington, D. C.

* This report was not included in the previous issue of PHOTOGRAMMETRIC ENGINEERING.—Editor.

- Prof. Gerald P. Kuiper*, Univ. of Arizona, Tucson, Arizona.
Dr. Jack Van Lopik, Texas Instruments, Inc., Dallas, Texas.
Mr. A. Morrison, Dept. of Geography, McGill Univ., Montreal, Canada.
Lt. James Neal, Terrestrial Sciences Division, Air Force Cambridge Research Laboratory, Bedford, Mass.
Mr. James Rammelkamp, Soil Mechanics and Foundations Engineers, Inc., Sunnyvale, California.

Selection and Training of Photo Interpreters :

Gene Avery, University of Georgia, Athens, Georgia, Chairman, Subcommittee VIII.

- Mr. Allen L. Riggs*, Training Branch, USN Hydrographic Office.
Prof. R. D. Rudd, Dept. of Geography, Oregon State University.
Prof. Simon Baker, Dept. of Geography, University of Arizona.
Mr. V. Zsilinsky, Silviculture Section, Ontario Dept. of Lands and Forests.
Mr. A. I. Schwartz, Image Interpretation Task, U. S. Army Personnel Office.
Mr. J. F. Arntz, headquarters, Dept of the Army, Office Chief of Engineers.

Awards: *Charles Olson*, University of Michigan, Ann Arbor, Michigan, Chairman, Subcommittee IX.

ACTIVITIES OF THE PHOTO INTERPRETATION COMMITTEE

Since March 1962 the Committee has been organized in nine subcommittees; each subcommittee is a working group to develop information of value to the ASP. The objectives of the Committee are met by each group. These objectives are to (1) disseminate new information of value to subcommittee members and the society, (2) to prepare bibliographies, (3) to encourage papers for presentation at annual convention and/or publication by the Society, (4) to review and approve or offer assistance with any papers that are submitted for publication, (5) to bring to attention of members of committee matters of common interest for discussion, (6) at annual meetings to offer topics on which it would be desirable to invite papers for the future annual meetings, (7) to organize paper-presentation sessions for future conventions.

Some of the above committees were active in the past year. A summary statement of the active groups follows.

BASIC RESEARCH, MATTER/ENERGY (*Joe Morgan*, Subcommittee I)

The important feature concerning this committee's activity centered around the

Third Symposium of Remote Sensing of Environment. A report on the papers given at this symposium will be presented by the chairman of that sub-committee at the ASP Meeting, March 31, 1965. Some appropriate papers are listed below:

- Fischer, W. A., Moxham, R. M., Polcyn, F., and Landis, G. H.* (1964) "Infrared Surveys of Hawaiian Volcanoes," *Science*, Vol. 146, No. 3645, pp. 733-742.
Gates, David M., and Calfee, Robert F. (1964) "Computed Slant-Path Atmospheric Transmission Spectra for the 2.7- and 1.9-H²O Bands," paper presented at the Spring Meeting of the Optical Society of America, Washington, D. C. Abstract printed in *Journal of the Optical Society of America*, Vol. 54, No. 4, p. 578.
Gates, David M. (1965) "Characteristics of Soil and Vegetated Surfaces to Reflected and Emitted Radiation," Proceedings of the 3rd Symposium of Remote Sensing of Environment, University of Michigan, IST Rpt. No. 4364-9-X.
Hirsch, Stanley N. (1965) "Preliminary Experimental Results with Infrared Line Scanners for Forest Fire Surveillance," Proceedings of 3rd Symposium on Remote Sensing of Environment, University of Michigan, IST Rpt. No. 4864-9-X.
Kinsman, Frank E. (1965) "Some Fundamentals in Non-Contact Electromagnetic Sensing for Geoscience Purposes," Proceedings of 3rd Symposium on Remote Sensing of Environment, University of Michigan, IST Report No. 4864-9-X.
McLerran, James H. (1965) "Infrared Sea Ice Reconnaissance," Proceedings of 3rd Symposium on Remote Sensing of Environment, University of Michigan, IST Rpt. No. 4864-9-X.
McLerran, James H., and Morgan, Joseph O. (1965) "Thermal Mapping of Yellowstone National Park by Infrared Photography," Proceedings of 3rd Symposium on Remote Sensing of Environment, University of Michigan, IST Rpt. No. 4864-9-X.
Molineux, Carlton E. (1965) "Aerial Reconnaissance of Surface Features with the Multiband Spectral System," Proceedings of 3rd Symposium on Remote Sensing of Environment, University of Michigan, IST Rpt. No. 4864-9-X.
Morrison, Alastair. (1964) "Relation Between Albedo and Air Photographic Tone in Canadian Sub Arctic Regions," *Canadian Geographer*, Vol. 8, No. 2.
Olson, Charles E., Jr. (1964) "Spectral Reflectance Measurements Compared with Panchromatic and Infrared Aerial Photographs," University of Michigan, IST Rpt. No. 4864-8-T, 20 pp.
Ory, Thomas R. (1965) "Line-Scanning Reconnaissance Systems in Land Utilization and Terrain Studies," Proceedings of 3rd Symposium on Remote Sensing of Environment, University of Michigan, IST Rpt. No. 4864-9-X.
Slavecki, Ronald H. (1965) "Detection and Location of Subsurface Coal Fires," Proceedings of 3rd symposium on Remote Sensing of Envi-

- ronment, University of Michigan, IST Rpt. No. 4864-0-X.
- Strangway, D. W. and Holmer, R. C.* (1964) "Infrared Geology," Proceedings of 3rd Symposium on Remote Sensing of Environment, University of Michigan, IST Rpt. No. 4864-9-X.
- University of Michigan (1965) *Proceedings of the Third Symposium on Remote Sensing of Environment*, 14, 15, 16 (October 1964, Infrared Laboratory, Institute of Science and Technology, University of Michigan Report No. 4864-9-X, 821 pp. (includes 52 papers).

THE SENSOR PACKAGE (*Allan Sorem*)

- I. Mechanisms for sensing electromagnetic radiation
- II. Information transfer via radiation
- III. Elements of sensing devices
- IV. Photographic sensors
- V. Characteristics of lenses
- VI. Shutters
- VII. Camera design
- VIII. Sensor systems
- IX. Improvements needed or expected

Some recent papers of interest are listed below.

- Iordanskii, A. N.*, "New Color Spectrozonol Negative Films," *Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii*, 9 (3), 210-211, 1964.
- Iordanskii, A. N.*, "Spectrozonol Photography and Spectrozonol Films," *Trudy Lab. Aerometod.* 7, 25-31, 1959.
- Antonov, S. M., Bogomolov, K. S., Kirillov, N. I., Ovechkis, N. S. and Uspenskii, V. I.*, "Photographic Processes Used for Taking the first Pictures of the Reverse Side of Moon," *Iskusstvennye sputniki zemli*, No. 9, p. 20-29, 1961.
- Translation of Section 20 of a book called *Spectral Investigations of the Photographic Process* written by Yu. N. Corokhovskii and published by the Russian Government Printing Office of Physical-Mathematical Literature in Moscow in 1960, pp. 306-217. Chapter VII. "Photographic Properties of Multilayer Color Photographic Material as a Unit."
- Mikhailov, V. Y.*, "The Use of Colour Sensitive Films in Aerial Photography in U.S.S.R."

ENGINEERING USES (*Robert Leighty*, Subcommittee IV)

For the past three years a study involving terrain investigation techniques has been under way at Ohio State University. This study, sponsored by the Bureau of Public Roads and The Ohio Dept. of Highways, involves the determination of the best combinations of the investigation tools: (1) airphoto interpretation survey, (2) geophysical survey, and (3) soils exploration survey. The investigation techniques are used to procure data concerning the soils composition, depths to and thickness of layering systems. In addition, knowledge of and extent of critical terrain to be encountered in construction is developed by these techniques. The critical

terrain includes soft subsoil areas and landslide-susceptible terrain. Representative design data are obtained by means of the terrain investigation techniques developed in this study. Given a specific investigation to be executed, the engineer will be able to select the most suitable and economical combinations of techniques to procure the desired design data. One of the techniques—airphoto interpretation survey—requires a particular film type, scale and filter application for given conditions. The study has spelled out the film-filter-scale combinations for given terrain conditions. This report will be published in 1965.

USES FOR SCIENTIFIC PURPOSES (*James-Latham*, Subcommittee V)

Under this topic 11 earth sciences are grouped as a matter of convenience, such as geology, forestry, geography, agriculture, archeology, to name a few.

This sub-committee has encouraged written reports on, and investigative interests in applications of interpretation of spacecraft aerial photos, color photography, multi-sensory imagery evaluation, instrumentation for automatic pattern recognition and interpretations and further refinements of interpretative techniques.

The most important feature of this committee is its wide-ranging interest and influence. In effect, it is an agency in contact with a wide variety of users of the techniques of Photo Interpretation. In this way the committee has its hand on the pulse of many areas. Papers published in other journals coming to the attention of members of this committee are reviewed by the committee for possible use and interest of ASP. Some recent papers of interest are listed next:

- Aldrich, R. C.*, Two plot transfer devised for aerial photographic forest insect trend surveys. U. S. Forest Service Research Note WO-3 U. S. Dept. of Agric., Washington, D. C., 1964.
- Alexander, R. H.*, "Geographic Data from Space." Professional Geographer, Vol. 16, Nov., 1964, pp. 1-5.
- Bristor, C. L. and Callicott, W. M.*, "Meteorological Products from Digitized Satellite Vidicon Cloud Pictures," Meteorological Satellite Laboratory Report No. 26, U. S. Dept. of Commerce, Weather Bureau, March 1964.
- Bird, J. B., and Morrison, A.*, "Space Photography and Its Geographic Applications," Geographical Review, Vol. 54, No. 4, October 1964, pp. 463-486.
- Bird, J. B., Chown, M. C., and Morrison, A.*, World Atlas of Photography from Tiroso Satellites I and IV, National Aeronautics and

- Space Administration Contractor Report 98, Washington, D. C., September 1964, 152 pp.
- Cantrell, J. L., "Infrared Geology," PHOTOGRAMMETRIC ENGINEERING, Vol. 30, No. 6, November 1964, pp. 916-922.
- Colwell, R. N., "Aerial Photography—A Valuable Sensor for the Scientist," *American Scientist*, Vol. 52, March 1964, pp. 17-49.
- Cronin, J. F., "Terrestrial Features of the United States As Viewed by Tiros," Report AFCRL-63-664, United States Air Force Cambridge Research Laboratories; Report ARO-T-9219-4, Aracon Geophysics Company, 1963.
- Cronin, J. F. and Abreu, L. W., "A Modification of the Fujita Method for Tiros Photograph Rectification," Scientific Report No. 1, Project 6698, Task No. 669802, Air Force Cambridge Research Laboratories, 15 June 1963.
- Detailed Land Classification: Island of Oahu, Land Study Bulletin, No. 3, Univ. of Hawaii, 1963.
- Esten, R. D., "Automatic Photogrammetric Instruments," PHOTOGRAMMETRIC ENGINEERING, July 1964.
- Fritz, S., Rao, P. K., and Weinstein, M., "Satellite Measurements of Reflected Solar Energy and Energy Received at the Ground," *Journal of the Atmospheric Sciences*, Vol. 21, No. 2, March 1964, pp. 141-151.
- Gimbarzewsky, Philip, "Making Full Use of Photography in Pulp and Paper Industry," *Pulp and Paper Magazine of Canada*, May, 1964.
- , "The Significance of Landforms in the Evaluation of Forest Land," presented at the 10th Congress of I. S. P. Lisbon, Portugal; published in *Pulp and Paper Magazine of Canada*, July 1964.
- Hannah, L. D., et al, "The Experimental Evaluation of Multisensor Intelligence Systems," Technical Documentary Report No. RADC-TDR-64-160, Contract AF 30 (602)-3223, 1964.
- Harris, D. E. and Woodbridge, C. L., "Terrain Mapping by Use of Infrared Radiation" PHOTOGRAMMETRIC ENGINEERING, Vol. XXX, No. 1, January 1964, p. 134.
- Heller, R. C., G. E. Doverspike, R. C. Aldrich, Identification of tree species on large scale panchromatic and color aerial photographs. Agric. Handbook 261, Forest Service, U.S.D.A., Washington, D. C., 1964.
- Jastrow, R. and Cameron, A. G. W., "Space Highlights of Recent Research," *Science*, Vol. 145, No. 3637, September 1964.
- Latham, James P., Electronic Measurement and Analysis of Geographic Phenomena, final Report NR Contract Nonr 3004 (01), Project NR 387-023, Office of Naval Research, Washington, D. C., 1964.
- Leonardo, E. S., "Capabilities and Limitations of Remote Sensors," PHOTOGRAMMETRIC ENGINEERING, Vol. 30, No. 6, November 1964, pp. 1005-1010.
- Martin, G. E., and Rubin, L., "Automatic Processing of Nimbus Infrared Radiometer Data," Meteorological Satellite Laboratory Report No. 28, U. W. Dept. of Commerce, Weather Bureau, July 1964.
- Merifield, P. M., "Geologic Information from Space Photography," paper presents at Annual Meeting of the American Society of Photogrammetry at Washington on March 18, 1964.
- Moore, R. T., Stark, M. C., and Cahn, L., "Digitizing Pictorial Information with a Precision Optical Scanner," PHOTOGRAMMETRIC ENGINEERING, Vol. 30, No. 6, November 1964, pp. 923-931.
- Morrison, A., and Chown, M. C., "Photography of the Western Sahara Desert from the Mercury MA-4 Spacecraft," PHOTOGRAMMETRIC ENGINEERING, Vol. 31, No. 2, March 1965, p. 350.
- Myers, Victor I., Carter, D. L., and Rippert, W. J., "Photogrammetry and Temperature Sensing for Estimating Soil Salinity," Unpublished manuscript of Soil and Water Conservation Research Division, Agricultural Research Service, USDA, and the Texas Agricultural Experiment Station, January 1965.
- National Aeronautics and Space Administration, Proceedings of the Fourth National Conference on the Peaceful Uses of Space, Boston, Mass., April 29-May 1, 1964.
- Pitts, F. R., "Committee on the Utilization of Stored Data Systems," and Berry, B. J. L., Morrill, R. L., and Tobler, W. R., "Geographic Ordering of Information: New Opportunities," *The Professional Geographer*, Vol. 16, No. 4, July 1964.
- Proceedings of the Third Symposium on the Remote Sensing of Environment, Institute of Science and Technology, University of Michigan, Ann Arbor, 1965.
- Rosenfeld, Azriel, Interpretation of Tiros Pictures—An Annotated Bibliography (January 1963-June 1964) Appendix to Final Report on Cloud Pattern Studies by Budd Electronics, Inc., December, 1964.
- Stone, K. H., A Guide to the Interpretation and Analysis of Aerial Photos, Annals, Assoc. of Amer. Geographers, V. 54, pp. 318-328.
- , Preliminary Report on Nornam-Norden Fringe Settlement Comparison, Abstracts of Can. Assoc. of Geographers Meeting, London, Ontario, May, 1964. Nornamic (Northern North American part) based in part on interpretation of many hundreds of air photos in 36 sample strips in Canada.
- , Fringe of Settlement Zones in Norden, Abstracts of 20th Intern. Geog. Congr., London, England, 1964, p. 315. (Based in part on the interpretation of thousands of air photos of Alaska, Canada, Iceland, Norway, Sweden, and Finland.)
- Swanson, L. W., "Aerial Photography and Photogrammetry in the Coast and Geodetic Survey," PHOTOGRAMMETRIC ENGINEERING, Vol. 30, No. 5, Sept. 1964, page 699.
- Weber, F. P., An aerial survey of spruce and fir volume killed by the spruce budworm in northern Minnesota. U. S. Forest Service Research Note WO-2, U. S. Dept. of Agric., Washington, D. C., 1964.
- , Aerial volume table for estimating cubic foot losses of white spruce and balsam fir in Minnesota. *Journal of Forestry*, Vol. 63: 1, p. 25-29.

EXTRA TERRESTRIAL USES OF PHOTOGRAPHY (Paul Merifield, Subcommittee VII)

This committee has been active in compilation of the current work being done in use of

photo interpretation in the space sciences. Such activities as the interpretation of close-up TV photos of the moon by Ranger VII are included within the purview of this committee. The subcommittee report is under preparation for presentation as a paper in PHOTOGRAMMETRIC ENGINEERING. One very interesting aspect of photo interpretation of the moon is the correlation of aerial photography of earth with extra terrestrial objects. It is not known what correlation there will be, but investigations are underway by the Astrogeology Branch of U. S. Geological Survey. Papers of interest in this area are listed below:

- Bird, J. B., Morrison, A., and Chown, M. C.*, "World Atlas of Photography from Tiros Satellites I to IV," NASA Contract Report 98, Washington, D. C., 1964.
- Bird, J. B., Morrison, A.*, "Space Photography and Its Geographical Applications," *Geographical Review*, Vol. 14, No. 4, pp. 463-486, 1964.
- Lowman, P. D.*, "A Review of Photography of the Earth from Sounding Rockets and Satellites," PHOTOGRAMMETRIC ENGINEERING, Vol. 31, No. 1, January 1965, page 76.
- Merifield, P. M.*, "Geologic Information from Space Photography," presented at the 30th Annual Meeting of the American Society of Photogrammetry, March 1964, Washington, D. C.
- Merifield, P. M. and Rammelkamp, J.*, "Photo Interpretation of White Sands Rocket Photography," NASA Contract NAS5-3390, Lockheed-California Co., LR 17666, 1964.
- Merifield, P. M. and Rammelkamp, J.*, "Terrain in Tiros Pictures," NASA Contract NAS5-3390, Lockheed-California Co. LR 17848, 1964.
- Merifield, P. M.*, et al., "Some Aspects of Hyperalitude Photogrammetry," NASA Contract NAS5-3390, Lockheed-California Co., LR 17491, 1964.
- Morrison, A. and Bird, J. B.*, "Photography of the Earth from Space and Its Non-Meteorological Applications," in Proceedings of the 3rd Symposium on Remote Sensing of Environment, Infrared Laboratory, Institute of Science and Technology, University of Michigan.
- Morrison, A. and Chown, M. C.*, "Photography of the Western Sahara from the Mercury MA-4 Satellite," PHOTOGRAMMETRIC ENGINEERING, Vol. 31, No. 2, March 1965, page 350.

SELECTION AND TRAINING OF PHOTO INTERPRETERS (*Gene Avery*, Subcommittee VIII)

This committee has been in the process of developing devices for the selection and training of photo interpreters. This development is largely the work of Gene Avery and will be presented as a paper at the 1965 ASP Meeting. The title of the paper is "Evaluating the Potential of Aerial Photo Interpreters." Other items of interest concerning training interpreters are found in the papers entitled: "Measuring Land Use Changes in USDA

Photographs," and "An Airphoto Index to Physical and Cultural Features in Eastern United States." These papers are authored by Gene Avery and are to be published sometime this year.

AWARDS: (*Charles Olson*, Subcommittee IX)

The activities of this committee appear on page 638.

PHOTOINTERPRETATION PAPERS PRESENTED AND PUBLISHED MARCH 64-FEBRUARY 65

PUBLISHED IN PHOTOGRAMMETRIC ENGINEERING, JANUARY, 1965

- Bowman, Paul D., Jr.*, "Space Photography—A Review."
- Smith, J. Harry G.*, "Biological Principles to Guide Estimation of Stand Volumes."
- Molineux, C. E.*, "Multiband Spectral System for Reconnaissance."
- Rosenfeld, Azriel*, "Automatic Imagery Interpretation."
- Steiner, Dieter and Haefner, Harold*, "Tone Distortion for Automated Interpretation."
- Morrison, A. and Chown, M. C.*, "Satellite Photographs of the Western Sahara."
- Colwell, Robert N.*, "Aids for the Selection and Training of Photo Interpreters."

SCHEDULED FOR PRESENTATION AT THE ASP CONVENTION, MARCH 1965

- Spooner, M. G.*, "A Review of Some Recent Research of Techniques for Automatic Photo Analysis."
- Strandberg, Carl H.*, "Photo Interpretation Techniques for Water Quality Analysis."
- Thornborn, T. H. and Liu, T. K.*, "A Comparison of Soil Strip Maps."
- Liang, Ta*, "Engineering Interpretation of Airphotos in Tropical Countries."
- Lancaster, C. W.*, "The Multisensor Mission—Planning and Data Acquisition."
- Feder, A. M.*, "The Multisensor Mission—Processing and Interpretation."
- Morgan, J. O.*, "Report on Third Symposium on Remote Sensing of Environment."
- Resta, P. E.*, "Image Interpretation Performance in a Space Environment: Problems and Considerations."
- Pohn, H. A.*, "Photometric Lunar Terrain Analysis."
- Landis, G. H.*, "The Human Element in Image Interpretation—Panel with Discussions."
- Avery, Gene*, "Evaluating the Potential of Aerial Photo Interpreters."
- Colwell, R. N.*, "Some Uses of Deductive Reasoning in the Interpretation of Aerial Photographs."
- "The Role of Photo Interpretation in Land Acquisition Surveys."

UNRESOLVED PROBLEMS CONCERNING PHOTO INTERPRETATION

The unsolved problems would quite likely fill up one issue of PHOTOGRAMMETRIC ENGINEERING, but it is intended here to outline a

few that troubled this chairman somewhat during the past few years.

The most important problem that remains is that no established policy requires all papers that would come under the purview of photointerpretation to be submitted for review of the Photo Interpretation Committee. The Publication Committee of the Society may receive and authorize publication of a paper on PI without any reference to the PI Committee. The Publication Committee reserves the right to preclude the publication of any paper whatsoever. Therefore it is the prerogative of that committee to establish publications of PI papers without consulting the PI Committee. Secondly, under the present policy the Technical Program Committee of ASP may select papers for presentation at the Annual Meeting should it so elect without consulting the PI Committee. Although in the past two years the chairmen of the Technical Program Committee has been very cooperative and has consulted the PI Committee on the selection of papers. With these thoughts as introduction, it is this chairman's humble opinion that a definite policy is required, a policy that would provide the PI Committee the prerogative of review and responsibility in the case of papers that are to be presented for publication and/or presentation. This prerogative need not include authority over all papers that would go into PE, but when space is available for a PI paper, at least the final selection authority should be granted the Committee.

FUTURE ACTIVITIES OF THE COMMITTEE

Many areas are of interest to Photo Interpreters. One might say that anyone who is using photo interpretation to procure information from photography would be interested in exchanging ideas and information with anyone else in the "club," so to speak. Therefore it is observed that the areas identified below would be subject to activities of interest to all photo interpreters. The Committee in its future deliberations should give attention to developments in the areas listed below.

Information retrieval from a clearing house—to put all in touch with all interested in a particular area of PI or its applications.

An organization which is beginning to look into applying photo interpretation may need information or equipment, methods, techniques or do-it-yourself photo interpretation.

Those who are looking for help and advice would be greatly assisted if they knew what had been learned by those who previously tread that way. The American Society of Photogrammetry through its Photo Interpretation Committee could be of assistance by establishing a clearing house for PI information—classifying and cataloguing all studies, reports, papers and ideas that have been developed or published in other technical journals other than the *PHOTOGRAMMETRIC ENGINEERING*. This service would be of great benefit to all Photo Interpreters. The Committee should form a subcommittee and charge it with the responsibility to assist in the fashion described above. Committee V comes the closest to performing this task in the past year, but only the earth sciences were represented. There are other areas like the Optical Society that would be a contributing field to PI alone. All such should be solicited for assistance to the objective of keeping the Photo Interpreters informed.

In the future the PI Committee should accept the responsibility of reviewing all papers submitted for publication in PE and one member of PI Committee should be a member of the Publications Committee.

Another important area for future activities is in the study of the moon from close range sequence photos by television. These photos offer the current media for identifying and interpreting areas for landing sites. Current methods of analogous areas seem to be popular. However, it occurs to this writer that a new set of techniques is needed for reading lunar photography. The Photo Interpretation Committee should take the initiative and attempt to develop, new techniques for new planet photo missions. This effort is perhaps the most challenging to the PI today.

—Olin W. Mintzer