Meetings and Societies

Archeologic Identification

A committee of the National Research Council has spent 2 years in intermittent discussion of identifications provided to archeologists by specialists in such fields as zoology, botany, geology, physical anthropology, and metallurgy, and especially of the interdisciplinary problems that such collaboration raises. The work of this Committee on Archaeological Identifications, under the chairmanship of J. Charles Kelley (Southern Illinois University), culminated in a general conference, held at the Oriental Institute, University of Chicago, 11–13 Mar. 1957, under the auspices of the National Research Council (Division of Anthropology and Psychology) and of the National Science Foundation.

More than 40 invited participants attended. All were North Americans, but research interests in South America, Europe, and the Middle East were represented by such men as Junius Bird, Irving Rouse, Hallam Movius, Herbert Wright, Sheldon Judson, Robert Braidwood, and Charles Reed. Informal papers were presented by Paul Martin, Bird, Stephen Williams, John Champe, Emil Haury, Rouse, Richard MacNeish, Braidwood, Movius, Rutherford Gettins, Walter Taylor, Clyde Kluckhohn, Erik Reed, Volney Jones, Hugh Cutler, Edward Deevey, Barbara Lawrence, Paul Parmalee, Reed, William Burt, Georg Neumann, Judson, Wright, H. R. Crane, W. C. Root, Frederick Johnson, Harry Shapiro, James Griffin, and Glen Finch. However, substantial unanimity on the central points emerged very quickly, so that later speakers heard their theses anticipated by others and discarded their prepared texts to discuss and largely to eliminate minor disagreements and misunderstandings.

The point on which universal agreement was reached was this: The "identification problem," as such, has no intellectual standing and is not the problem at issue. Instead, it is recognized that when a zoologist identifies a collection of animal bones or a botanist identifies plant remains from an archeologic site, such a specialist is (or should be) just as interested in the ancient environment as is the archeologist. The glacial geologist or geomorphologist is likewise concerned with understanding former environments, and whereas culture has not always and everywhere been a major force shaping environments, the interaction of cultural, geomorphic, and pedologic processes is a legitimate and necessary subject of study by a Pleistocene geologist *as* geologist. New techniques in geochemistry, both isotopic and analytic, are finding increased application in archeology, and geochemists in their turn depend on archeologists for more than purely historical knowledge if basic ideas are to be tested in the geochemistry of soils, lakes, the ocean, and the atmosphere. Hence, when the various specialists come together in the study of archeologic sites, there exist the necessary and sufficient conditions for intellectually satisfying collaboration: each specialist finds reasons within his own discipline for solving problems that arise within the other disciplines.

There was no agreement on the name by which this collaborative study should be called; *paleoecology, historical geography,* and the neologism *archeo-ecology* each had some supporters, and both *archeology* and *ecology* could, in principle, be extended to cover the whole subject. What was clear was that the barriers between parts of the subject are breaking down, that paleoecology has an ever-increasing number of practitioners, and that it not only requires but rewards the services of biological, physical, and social scientists of many kinds.

The excavation of the Mesolithic site of Star Carr in Yorkshire by Grahame Clark and others was instanced several times as a model of successful collaboration. The theme of the conference was epitomized in a remark of Volney Jones: an archeologic site is a unique historical document, not only for the development of culture, but for a segment of the history of the earth; archeologists have no need or desire to reserve these records for themselves, particularly when the culture that is recorded is less impressive or less significant than the noncultural remains. Since this is so, many sites should in principle be excavated by botanists or zoologists, who could send the artifacts to "cultural archeologists" for identification.

Appreciation of these ideas, however, is not yet widespread among all the various fields, and the conference devoted considerable attention to the cross-disciplinary educational problem. The problem varies greatly according to the degree of specialization needed, and according to the degree of historical mindedness that prevails among the specialists. Thus no archeologist should have serious trouble finding a petrographer to distinguish flint from chert; this is the "identification problem" in its crudest and most unidirectional form. Glacial geologists, particularly the generation trained by the late Kirk Bryan, are taking greatly increased interest in collaborative studies with archeologists, and qualified graduate students can be found in many geology departments for summer projects, usually for modest salaries and sometimes simply for expense money (Judson, Wright).

In botany and zoology the difficulty is much greater and reflects the generally low esteem in which taxonomic work has been held in the United States (Cutler, Lawrence). Mere naming is never considered to be rewarding in itself; the taxonomist who regards himself as primarily an evolutionist is not greatly interested in the short time-span that archeology provides, at least in the Americas. The taxonomist who is primarily an ecologist is potentially more useful to the archeologist, but there is a serious shortage of such workers. Most animal ecologists are concerned with pressing problems of applied ecology (fisheries, wildlife management) and have no strong interest in paleoecology, and, in addition, they are mammalogists, ornithologists, or ichthyologists, not general or even vertebrate zoologists. Systematic botanists are similarly overspecialized and occupied in problems of their own. It is understandable that identifications provided by such specialists are given grudgingly and after long delay (Taylor) and that their accuracy varies inversely with the distance (geographic and phylogenetic) between the specimen and the specialty. All the archeologists present emphasized that identifications of this sort, of uneven quality and not backed by ecologic interpretation, are of little if any use to them. Yet, if paleoecology is an exciting and challenging field, as the paleoecologists present agreed, it will attract able and interested workers in due course.

The shortage of paleoecologists can be alleviated to some extent by the training of archeologists themselves. It was pointed out (Deevey) that several European pollen stratigraphers are in fact archeologists, and that a Ph.D. thesis project involving pollen stratigraphy at one or more archeologic sites is neither improper nor inconceivable as professional training for an archeologist. Similarly, vertebrate osteology and ethno-

botany are not so recondite as to be beyond the capabilities of an archeologist. But whereas any one of these specialized forms of archeology could be undertaken as a career, and probably will be in the near future, no digging archeologist can be expected to command more than a fraction of the techniques and special knowledge that are needed for the whole enterprise (Kelley, Johnson).

Although there was some support for the idea of a national research center, staffed by specialists of many sorts and presumably attached to one of the great museums (Shapiro), or for a "clearing-house" that would organize identifications on a national or international scale (Taylor), the majority of the conferees believed such schemes to be unworkable and undesirable. Paleoecology, like other kinds of ecology, requires exact and comprehensive knowledge of the physiography, climate, and biota of a region. If raccoon bones turn up in a site, for example, it is essential to their interpretation to know whether the nearest raccoon habitat is 2 or 20 miles away (Taylor), and the statement "does not occur in the region today" is meaningful only when it is made by an ecologist who is able to define the region and to infer the reasons for the presence, absence, or relative abundance of particular species. No imaginable corps of specialists could provide such interpretations for all regions of the world, nor do the reference collections that are necessary for identification exist in any museum or group of museums (Lawrence). On a regional scale, however, it is possible for a small museum or a single investigator to acquire adequate reference collections and sufficient ecologic knowledge to deal with relatively large sections of the biota, such as all vertebrates or all angiosperms. Bones of most fishes, reptiles, birds, and mammals can all be identified at the Illinois State Museum (Parmalee), provided that they live or have lived in Illinois.

The encouragement of regional paleoecologic research was therefore regarded as the most important recommendation of the conference. The University of Arizona, with its program of geochronology and dendrochronology, is an example of the regional research institute that deserves assistance. Investigators in other regions also need and deserve support; for example, provision of a research assistant to the Ethnobotanical Laboratory of the University of Michigan not only would permit the staff to work through the backlog of unidentified specimens in less than the estimated 14.8 years but might even allow new projects to be undertaken.

A standing committee of the National Research Council was considered to be the most appropriate agency to further the aims of the conference. Such a committee should consist of not fewer than three, nor more than seven, members, drawn from biological and earth sciences as well as from anthropology. It should therefore be appointed by the president of the National Academy of Sciences, with advice from all the relevant divisions of the National Research Council. Its functions should be to encourage in all possible ways the interdisciplinary approach to the study of man's past environment—for example, by assembling a directory of qualified and interested specialists willing to collaborate with archeologists, by suggesting and advising on proposals for grants-in-aid by fund-granting agencies, and particularly by recommending new appointments and financial support to strengthen the staffs of various regional research centers concerned with archeology ("the study of the old") in all its aspects.

A resolution was drafted by Braidwood, C. Reed, Movius, Clark Howell, Lawrence, and Deevey and presented by Griffin; it called upon the president of the National Academy of Sciences to appoint a standing committee on [name of subject?], to encourage research in this relatively new and exceptionally broad field. On learning from Finch that such a resolution would be proper and reasonable, the conference passed it without dissent.

EDWARD S. DEEVEY
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Animal Disease and Human Health

"Animal disease and human health" will be the subject of a joint conference of the New York Academy of Sciences and the Communicable Disease Center in the Hotel Delmonico, New York, 11–13 Sept. The center is a division of the U.S. Public Health Service, with headquarters in Atlanta, Ga.

The conference will provide a 10-year progress report on the zoonoses, animal diseases which are transmissible to man, or diseases caused by animal parasites. Diseases such as psittacosis, brucellosis, cat-scratch fever, rabies, anthrax, and encephalitis will be reviewed.

Other diseases will be discussed from the standpoint of possible relationship to similar conditions in man. An example is pulmonary adenomatosis, which has been decimating sheep flocks in many parts of the world, and has several factors in common with lung cancer in human beings. For further information, communicate with the academy's public-relations counsel, Medical and Pharmaceutical Information Bureau, Inc., 115 E. 69 St., New York, N.Y.

American Chemical Society

The nature and hazards of radioactive fallout, chemical advances in the study of cancer and heart disease, and important new raw materials for industry will be discussed at the 132nd national meeting of the American Chemical Society in New York, 8–13 Sept. Some 15,000 chemists and chemical engineers from all parts of the United States and several foreign countries will participate in the meeting, at which some 1500 reports will be presented. Chemical contributions in many other fields, such as food, agriculture, fuel, textiles, rubber, plastics, and sanitation, will be described at more than 200 half-day sessions sponsored by the society's 22 scientific and technical divisions.

Roger J. Williams, president of the society and director of the Biochemical Institute of the University of Texas, will give his presidential address, entitled "Fiddlers' dreams," at a general assembly on the evening of 9 Sept. Winners of 16 awards administered by the society, including 13 prizes of $1000 each, will be announced at this time.

The president of the Chemical Society of Japan, Yuzaburo Nagai, is one of the many distinguished scientists who will speak during the week. His topic will be "Chemical marketing and production—a report from Japan."

Cornelius P. Rhoads, director of the Sloan-Kettering Institute for Cancer Research, New York, will discuss "The soluble puzzle of cancer," and Glenn T. Seaborg of the University of California, who won the Nobel prize for his achievements in nuclear chemistry, will describe "The original process for the extraction of plutonium."

Air pollution is among the themes that will receive intensive consideration. Thirty papers on various aspects of this problem will be presented at a 3-day symposium sponsored jointly by the society's Division of Industrial and Engineering Chemistry and the Division of Water, Sewage, and Sanitation Chemistry. A report on "Investigation inhalation hazard from radioactive fallout" will be given at this symposium by William B. Lane of the U.S. Naval Radiological Defense Laboratory, San Francisco.

Industry-Education Conference

The National Academy of Sciences and Hughes Aircraft Company sponsored a 6-day Southern California Industry-Education Conference at Lake Arrowhead, Calif., 7–13 July. The conference, attended by 100 national and state leaders in science, education, and industry, provided an opportunity to explore ways of developing cooperative

activities for the improvement of secondary-school science and mathematics programs. The conference was held with the cooperation of the University of California, Los Angeles, and the AAAS.

At the close of the meeting, Joseph B. Platt, president of Harvey Mudd College, was named chairman of a Southern California Industry-Education Council that will carry the responsibility of promoting cooperation between industry and education in Southern California during the coming year. The council membership also includes two school superintendents and two representatives of Southern California Industry. A report of the July conference may be obtained from Dr. Randall M. Whaley, National Academy of Sciences–National Research Council, Washington 25, D.C.

Society Elections

■ Gamma Sigma Delta: pres., Louis M. Thompson, Iowa State College; v. pres., Roy V. Lovvorn, North Carolina State College; sec., John A. Johnson, Kansas State College, Manhattan; treas., Homer J. L'Hote, University of Missouri.

■ American Nuclear Society: pres., L. J. Haworth, Brookhaven National Laboratory; vice pres., T. G. LeClair, Commonwealth Edison Company; treas., M. A. Schultz, Westinghouse Electric Corporation; exec. sec., W. W. Grigorieff, P.O. Box 963, Oak Ridge, Tenn.

■ Royal Society of Canada: pres., T. W. M. Cameron; v. pres., Pierre Daviault; hon. sec., C. P. Stacey; hon. associate sec., Guy Sylvestre; hon. treas., N. E. Gibbons.

Forthcoming Events

September

29–5. World Medical Assoc., Istanbul, Turkey. (L. H. Bauer, 10 Columbus Circle, New York 19.)

30–2. American Oil Chemists' Soc., fall, Cincinnati, Ohio. (Miss L. R. Hawkins, AOCS, 35 E. Wacker Dr., Chicago 1, Ill.)

30–8. International Council for the Exploration of the Sea, 45th annual, Bergen, Norway. (A. Fridriksson, ICES, Charlottenlund Slot, Charlottenlund, Denmark.)

October

1–4. American Roentgen Ray Soc., annual, Washington, D.C. (B. R. Young, Germantown Hospital, Philadelphia 44, Pa.)

2–4. American Soc. of Photogrammetry, semi-annual, St. Louis, Mo. (C. E. Palmer, ASP, 1515 Massachusetts Ave., NW, Washington 5.)

2–4. Antibiotics, 5th annual symp., Washington, D.C. (H. Welch, Div. of Antibiotics, Food and Drug Administration, U.S. Dept. of Health, Education, and Welfare, Washington 25.)

4. Role of Agriculture in Future Society, 75th anniversary symp., Geneva, N.Y. (New York State Agricultural Experiment Station, Cornell Univ., Geneva.)

4–6. Indiana Geologic Field Conf., 9th, Mitchell, Ind. (H. H. Gray, Indiana Field Conf., Dept. of Conservation, Geological Survey, Bloomington, Ind.)

6–10. Electrochemical Soc., fall, Buffalo, N.Y. (H. B. Linford, 1860 Broadway, New York 23.)

7–9. National Electronics Conf., Chicago, Ill. (J. S. Powers, NEC, 84 E. Randolph St., Chicago 1.)

7–11. American Inst. of Electrical Engineers, fall general, Chicago, Ill. (N. S. Hibshman, AIEE, 33 W. 39 St., New York 18.)

7–11. Research Contributions to Clinical Practice, New York Acad. of Medicine Postgraduate Week, New York. (Secretary, Postgraduate Week, New York Acad. of Medicine, 2 E. 103 St., New York 29.)

8–10. International Assoc. of Milk and Food Sanitarians, annual, Louisville, Ky. (H. H. Wilkowske, Dairy Science Dept., Univ. of Florida, Gainesville.)

8–10. Upper Air Conf., American Meteorological Soc., Omaha, Nebr. (K. C. Spengler, AMS, 3 Joy St., Boston 8, Mass.)

9–11. High Vacuum Technology, 4th annual symp., Boston, Mass. (Committee on Vacuum Techniques, P.O. Box 1282, Boston 9.)

9–11. Society for Experimental Stress Analysis, fall, San Diego, Calif. (W. M. Murray, SESA, P.O. Box 168, Cambridge 39, Mass.)

9–12. Tau Beta Pi Assoc., annual, Madison and Milwaukee, Wis. (R. H. Nagel, Univ. of Tennessee, Knoxville.)

10–11. Noise Abatement Symp., 8th annual, Chicago, Ill. (J. J. Kowal, Armour Research Foundation, 10 W. 35 St., Chicago 16.)

10–13. Angiology, 3rd internatl. cong., Atlantic City, N.J. (H. Haimovici, 105 E. 90 St., New York 28.)

11–13. Iroquois Research, 11th conf., Red House, N.Y. (W. N. Fenton, New York State Museum, Albany 1.)

12. Fat and Diabetes Symposium, New York, N.Y. (T. Kingsley, New York Diabetes Assoc., 104 E. 40 St., New York 16.)

13–18. American Acad. of Ophthalmology and Otolaryngology, annual, Chicago, Ill. (W. L. Benedict, 100 First Avenue Bldg., Rochester, Minn.)

14–16. Association of Official Agricultural Chemists, 71st annual, Washington, D.C. (W. Horwitz, Box 540, Benjamin Franklin Station, Washington 4.)

14–18. American College of Surgeons, 43rd annual clinical cong., Atlantic City, N.J. (ACS, 40 E. Erie St., Chicago 11, Ill.)

14–18. American Soc. of Civil Engineers, New York, N.Y. (W. H. Wisely, ASCE, 33 W. 39 St., New York 18.)

14–18. International Industrial Development Conf., San Francisco, Calif. (E. S. Prentice, Stanford Research Inst., Menlo Park, Calif.)

16–23. Enzyme Chemistry, internatl. symp., Tokyo and Kyoto, Japan. (Inter-

national Symp. on Enzyme Chemistry, Science Council of Japan, Ueno Park, Tokyo.)

17–18. American Ceramic Soc., 10th Pacific Coast mtg., San Francisco, Calif. (C. E. Pearce, ACS, 4055 N. High St., Columbus 14, Ohio.)

17–18. Industrial Hydraulics, natl. conf., Chicago, Ill. (Conference Secretary, Armour Research Foundation, 10 W. 35 St., Chicago 16.)

17–19. Indiana Acad. of Science, Greencastle. (H. Crull, Dept. of Mathematics, Butler Univ., Indianapolis 7, Ind.)

17–19. Optical Soc. of America, Columbus, Ohio. (S. S. Ballard, Visibility Lab., Scripps Institution of Oceanography, San Diego 52, Calif.)

18–19. National Soc. of Professional Engineers, Bismark, N.D. (P. H. Robbins, 2029 K St., NW, Washington 6.)

19–26. Social Work, 3rd Pan American cong., San Juan, Puerto Rico. (A. Porrata Dorla, Apartado 3271, San Juan.)

20–22. American College of Apothecaries, St. Louis, Mo. (R. E. Abrams, Hamilton Court, Chestnut and 39 St., Philadelphia, Pa.)

20–27. International Soc. of Surgery, 17th cong., Mexico, D.F., Mexico. (P. Martin, ISS, 141, rue Bellieard, Brussels, Belgium.)

21. Air Pollution Symp., 2nd annual, Philadelphia, Pa. (A. D. Hollingsworth, Franklin Inst., Benjamin Franklin Parkway at 20th, Philadelphia 3.)

21–25. Medical Aspects of Workmen's Compensation, New York. (Office of Associate Dean, New York Univ. Post-Graduate Medical School, 550 First Ave., New York 16.)

21–26. Ultra High Frequency Circuits and Antennas, internatl. conf., Paris, France. (Congrès Circuits et Antennes Hyperfréquences, Société des Radioélectriciens, 10, Avenue Pierre-Larousse, Malakoff (Seine), France.)

22. American Soc. of Safety Engineers, annual, Chicago, Ill. (J. B. Johnson, ASSE, 425 N. Michigan Ave., Chicago 11.)

22–25. American Dietetic Assoc., annual, Miami, Fla. (Miss R. M. Yakel, ADA, 620 N. Michigan Ave., Chicago 11, Ill.)

24–25. Computer Applications Symp., Chicago, Ill. (Conference Secretary, Armour Research Foundation, 10 W. 35 St., Chicago 16.)

24–25. Engineers General Assembly, New York, N.Y. (Engineers Joint Council, 29 W. 39 St., New York 18.)

24–25. New Mexico Acad. of Science, annual, Albuquerque. (W. J. Koster, Dept. of Biology, Univ. of New Mexico, Albuquerque.)

24–26. Acoustical Soc. of America, Ann Arbor, Mich. (W. Waterfall, ASA, 57 E. 55 St., New York 22.)

24–27. American Soc. for Aesthetics, annual, Washington, D.C. (T. Munro, Cleveland Museum of Art, Cleveland 6, Ohio.)

24–5. Pan Indian Ocean Science Assoc., 3rd cong., Tananarive, Madagascar. (R. Paulian, Institut de Recherche Scientifique, B.P. 434, Tananarive.)

25–26. Kentucky Acad. of Science, Berea. (G. Levey, Berea College, Berea.)

25–26. Midwest Conf. on Biology Teaching in Colleges and Smaller Universities, Des Moines, Iowa, (L. P. Johnson, Dept. of Biology, Drake Univ., Des Moines 11.)

25–28. American Heart Assoc. Scientific Sessions, Chicago, Ill. (Medical Director, AHA, 44 E. 23 St., New York 10.)

26. American Mathematical Soc., Washington, D.C. (J. H. Curtiss, AMS, 190 Hope St., Providence 6, R.I.)

27–1. Atom Fair, New York, N.Y. (Atomic Industrial Forum, 3. E. 54 St., New York 22.)

28–30. Association of Military Surgeons of the U.S., annual, Washington, D.C. (R. E. Bitner, AMSUS, Suite 718, 1726 Eye St., Washington 6.)

28–31. American Nuclear Soc., 2nd winter, New York, N.Y. (J. Burt, J. M. Mathes, Inc., 260 Madison Ave., New York 16.)

29–31. Entomological Soc. of Canada, annual, Lethbridge, Alta., Canada. (R. H. Wigmore, Science Service Bldg., Carling Ave., Ottawa 3, Ont.)

29–3. Photoperiodism in Plants and Animals, internatl. conf., Gatlinburg, Tenn. (R. Winthrow, Division of Radiation and Organisms, Smithsonian Inst., Washington 25, D.C.)

(See issue of 16 August for comprehensive list)

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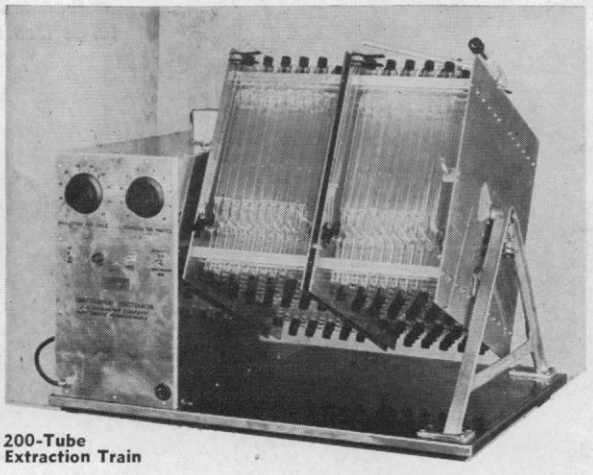

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