

Scientific Meetings

Role of Physical Anthropology in the Field of Human Identification

On 6-9 Sept. 1955, in Washington, a group of physical anthropologists assembled, probably for the first time in the history of their science, to discuss with others the subject used as the title of this brief report. The "others" included representatives of the Federal Bureau of Investigation, the Armed Forces, the U.S. Public Health Service, and the Offices of the Maryland and Virginia Medical Examiners. In addition, T. C. Brown of Toronto, Canada, brought experience obtained through service on the Medical Identification Commission for the *Noronic* disaster, and Walter C. J. Putschar of Charleston, W. Va., brought experience in bone anatomy and histology developed in Europe.

At a get-acquainted dinner for the participants held on the evening of 6 Sept. at the Cosmos Club, T. D. Stewart (U.S. National Museum) gave a keynote account of anthropological participation in medicolegal matters. He emphasized that the problems of reconstructing the characteristics of the individual from bony and other remains have always been at the core of traditional anthropological activity, standing apart from the early side interests of the science, such as criminal anthropology—how criminals differ from normal persons—and anthropometric systems of criminal identification—how criminals are recognized by combinations of measurements, photographs, fingerprints, and so forth. He pointed out also that, although anthropologists have long been interested in fingerprints and blood groups, and these are largely responsible for direct individual identifications, the procedures involved are now standardized. He felt that greatest profit would result from consideration of class identifications, which relate a human being, or parts of the body, to classes such as race, sex, and age.

The main program consisted of five half-day panel discussions. The chairman of each panel had been charged to direct the discussion toward an evaluation of presently available knowledge and thus to clarify specific needs in the field. Although the panelists had been chosen

with care to give a broad coverage of the particular topics, the entire group of 60 participants was so well informed that inevitably discussion became general, with the panel serving mainly as a "front." Only a few highlights of the discussion can be mentioned here.

The first panel, led by W. M. Krogman (University of Pennsylvania), consisted of Harold L. Beddoe (Office of the Medical Examiner, Richmond, Va.), T. C. Brown, P. G. Duncan (FBI), and Joseph Nahan (Quartermaster School, Fort Lee, Va.). Their topic was "Physical anthropologists as specialists in human identification." In this connection a point of considerable concern to the anthropologists and those they serve is the fact that several identification standards are in existence. For example, age standards vary for single events in skeletal ossification, and the range of variation for the time that these events occur is not well established. This means that two anthropologists may differ in their opinions on the age of a skeleton. Differences of this sort sometimes prove embarrassing. It was suggested that work be directed toward a better way of expressing the probability of correctness in all such determinations and that cooperating agencies be made aware of the bounds of "precision" in identification.

The discussion of the second subject, "Identification of small remnants of the human body," was led by William S. Laughlin (University of Wisconsin) and his panelists, David Johnson (U.S. National Museum), Walter C. J. Putschar, David B. Scott (National Institute of Dental Research), and Briggs J. White (FBI). Of major concern was the development of methods of identifying bone, tooth enamel, and other tissues lacking in recognizable gross morphology. For example, even after the detailed configurations of the ridges and sulci of the skin have been destroyed, fingerprints may be developed from microscopic sections showing the arrangement of the ducts of the sweat glands. Suggested, among other things, as promising for further study in differentiating human and animal bones was a comparison of bone fats and of bone collagens. Evidence was presented that burned bones bear

witness to whether or not the heat had been applied when they were flesh covered.

The third panel began to consider specific determinations that can be made on the skeleton as a whole or its larger parts. A discussion of "Sex and age" was led by T. D. Stewart with the support of J. Lawrence Angel (Jefferson Medical College), W. Montague Cobb (Howard University), Frederic N. Silverman (Children's Hospital, Cincinnati), and Fred P. Thieme (University of Michigan). In determining sex from the skeleton, the role of function was discussed at length. Next, Thieme demonstrated the application of the principle of discriminant function in sex identification. By utilizing seven skeletal characters, he showed that sex may be determined in 98 percent of cases. The errors resulting from this sorting method were found usually to be females with male characters. Among the points developed regarding age estimation from the skeleton was the greater reliability of tooth calcification as compared with ossification of the wrist bones.

The fourth panel continued with "Reconstruction of stature, body build, and facial features." On this panel were William S. Cornwell (Eastman Kodak Company), C. Wesley Dupertuis (Western Reserve University), Russell W. Newman (Quartermaster Research and Development Command), and C. T. Noll (Memorial Division, Office of the Quartermaster General), with Mildred Trotter (Washington University School of Medicine, St. Louis) as chairman. Further improvement in the estimation of stature from lengths of long bones was shown to depend on analyses of body types. On the other hand, estimation of body weight from bones was shown to be useful primarily for lean body mass. As for facial reconstructions, Krogman presented a new technique based on the concept of the "ideal face" as developed from orthodontic stereographs. Also, the panel discussed the question of using existing x-rays of such parts as the frontal air sinuses or the jaws for individual identification (like fingerprints, high in reliability), together with the need for caution against exposure to unnecessary irradiation and for uniformity of technical factors.

The fifth and last panel, led by T. D. McCown (University of California), returned to a general subject, "Educational and administrative aspects." This panel consisted of Edward E. Hunt, Jr. (Forsyth Dental Infirmary, Boston), Charles E. Snow (University of Kentucky), William L. Straus, Jr. (Johns Hopkins University), and Thomas Toy (Memorial Affairs Branch, Wright-Patterson Air Force Base, Ohio). Since identification

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per se is not a part of the anthropological curriculum, attention was given to the best way of teaching the subject so that graduates may qualify as experts. The general feeling was that special training should be superimposed on a foundation of general physical anthropology and human anatomy. This led naturally to a discussion of the role of physical anthropologists in the military reburial program and to the continuing need for these specialists. The small size of the profession and the lack of specific training offered in identification were believed to account for existent inadequacies.

Although these few highlights give only a sketchy picture of the many ideas presented during the meeting, in general the discussion served to reorient the thinking of the physical anthropologists on the subject of identification. Like most scientists, they have been accustomed to working from the known toward general principles. If they have assumed too often that these general principles can be applied readily to the identification of an unknown individual, whatever disillusionment the discussion produced should be salutary. Also, it is likely that from now on certain researches in physical anthropology will be carried out with a view to direct application in identification work.

This meeting was the Eighth Summer Seminar in Physical Anthropology. All eight seminars have been held since 1946 and have been financed by grants from the Wenner-Gren Foundation for Anthropological Research, Inc. This year the Smithsonian Institution served as sponsor, with the undersigned acting as organizers.

T. D. STEWART
MILDRED TROTTER

Meeting Notes

■ Representatives of U.S. industrial firms interested in manufacturing boral sheets, an unclassified shielding material used in atomic energy operations, were invited by the Atomic Energy Commission to attend a meeting in Oak Ridge, Tenn., on 28 Oct. The purpose of the meeting was to encourage establishment of an industrial source of supply of these sheets, which are now being made only at the AEC facility in Oak Ridge. The AEC wishes to stop manufacture at Oak Ridge if industrial sources can be developed to supply the material on suitable terms.

Boral is a material for the absorption of thermal neutrons. It is a mixture of boron carbide and aluminum that is light in weight and has good heat conductivity and thermal stability up to the melting point of aluminum. It may be

used when a large thermal neutron flux must be absorbed without production of high-energy gamma rays, as in the inner sections of reactor shields, shutters of thermal columns, and in instruments.

■ The International Atomic Exposition, which will be held 10–16 Dec. in the Cleveland Public Auditorium in conjunction with the Nuclear Science and Engineering Congress, has opened offices in Cleveland at 507 Newman-Stern Building. F. Pat O'Toole is in charge of the Cleveland office, where he will facilitate coordination of activities.

■ The third Interamerican Congress of Psychology, which will take place at the University of Texas, Austin, 16–21 Dec., has as a central theme, "The psychology of social tension from an interdisciplinary point of view." The third congress will emphasize unification, integration, and action. Four symposia are planned that will consider the psychology of social tension from the psychological, social-anthropological, psychiatric, and educational points of view. For information write to the secretary, Werner Wolff, Bard College, Annandale-on-Hudson, N.Y.

■ Some 30 eye physicians of the United States are preparing to take part in the program of the fifth Pan American Congress of Ophthalmology, and several hundred others are expected to attend the meeting, which is to take place in Santiago, Chile, 9–14 Jan. 1956. Moacyr E. Alvaro of São Paulo, Brazil, is the present president of the association; C. Espildora Luque of Santiago will preside at the congress.

Twelve symposia on major causes of blindness and impaired vision will make up the program. Half the presiding chairmen will be from the United States; the remainder from Mexico, Central America, and South America. Canada will also be represented. In most of the groups the speakers are similarly divided.

Glaucoma will be the subject of three symposia. Peter Kronfeld of Chicago, Ill., will be the moderator of a comprehensive discussion of the disease; A. Edward Maumenee of Baltimore, Md., will lead a discussion of infantile glaucoma; and Jorge Valdeavellano of Lima, Peru, will preside over a group that will consider glaucoma in relation to systemic diseases such as diabetes. Other subjects include: methods of repairing a torn retina; tumors within the eye; mental and emotional difficulties that influence eye diseases; and plastic surgery to restore damaged eyes.

Besides the technical medical program, the congress will give attention to long-range methods of preventing blindness. The standing committee, of which Magin

A. Diez of Buenos Aires is chairman, is planning a program to consider three topics: (i) definitions of blindness and deficient vision for medicolegal purposes; (ii) bases for statistical classification of the causes of blindness; and (iii) preparation for the campaign against blindness in Latin American countries.

■ Plans are being made for the first European symposium on Vitamin B₁₂, to be held the last week of May 1956 in Hamburg, Germany. The meeting will be under the auspices of the physiological chemist Kühnau and the internist Jores. The physiology and the clinical application of vitamin B₁₂ in human and veterinary medicine will be discussed. For information write to Dr. H. Bauer, Nervenlinik, Hamburg-Eppendorf, Germany.

Society Elections

■ Instrument Society of America: pres., Robert T. Sheen, Milton Roy Company, Philadelphia, Pa.; past pres., Warren H. Brand, Conoflow Corporation; sec., William G. Brombacher, National Bureau of Standards; treas., J. T. Vollbrecht, Energy Control Company. The vice presidents are A. A. Anderson, Swisso-

matic Products Company; William H. Fortney, Humble Oil Company; J. Ward Percy, U.S. Steel Corporation; and Richard N. Pond, Taylor Instrument Company.

■ American Society for Metals: pres., A. O. Schaefer, Midvale Company, Philadelphia, Pa.; past pres., George A. Roberts, Vanadium Alloys Steel Company, Latrobe, Pa.; v. pres., D. S. Clark, California Institute of Technology; sec., W. H. Eisenman, ASM, 7301 Euclid Ave., Cleveland 3, Ohio; treas., C. H. Lorig, Battelle Memorial Institute, Columbus, Ohio.

■ Joint Commission on Mental Illness and Health, Inc.: pres., Kenneth E. Appel, University of Pennsylvania; v. pres., M. Brewster Smith, Social Science Research Council, New York; sec.-treas., Charles Schlaifer, National Association for Mental Health, New York; chairman of board of trustees, Leo H. Bartemeier, Baltimore, Md.; v. chairman of board of trustees, Nicholas Hobbs, Nashville, Tenn.

■ American Psychological Association, Inc.: pres., Theodore M. Newcomb, University of Michigan; pres.-elect, Lee J. Cronbach, University of Illinois; past

pres., E. Lowell Kelly, University of Michigan; recording sec., Launor F. Carter, Rand Corporation, Santa Monica, Calif.; treas., Carroll L. Shartle, Ohio State University; exec. sec., Fillmore H. Sanford, 1333 16 St. N.W., Washington 6, D.C. Representatives to the AAAS Council are Lyle H. Lanier, University of Illinois, and S. S. Stevens, Harvard University.

■ American Society for Horticultural Science: pres., M. B. Davis, Carp, Ontario, Canada; v. pres., L. D. Davis, University of California, Davis; sec.-treas., Freeman S. Howlett, Wooster, Ohio. Representatives to the AAAS Council are Irvin C. Haut, University of Maryland, and J. R. Magness, U.S. Horticulture Station, Beltsville, Md.

Forthcoming Events

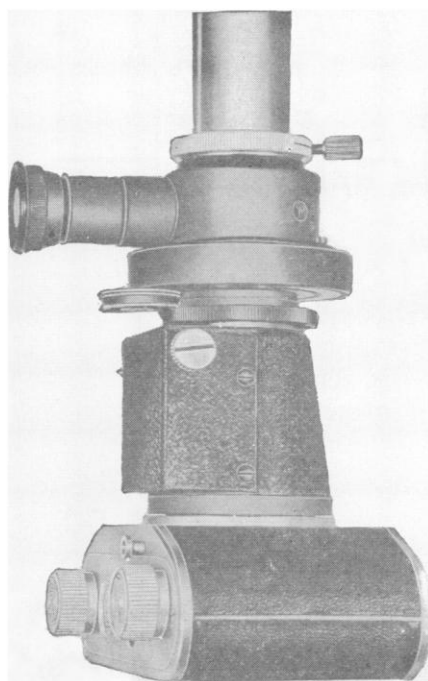
December

4. American Acad. of Dental Medicine, 10th mid-annual, New York, N.Y. (G. J. Witkin, 45 South Broadway, Yonkers 2, N.Y.)

5-9. Combustion Colloquium, 2nd, Liege, Belgium. (2nd Combustion Colloquium, Univ. of Liege, Liege.)

8-10. Concept of Development, Minneapolis, Minn. (D. B. Harris, Inst. of

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Child Welfare, Univ. of Minnesota, Minneapolis 14.)

8-10. Florida Acad. of Sciences, Miami. (R. A. Edwards, Geology Dept., Univ. of Florida, Gainesville.)

9-10. Assoc. for Research in Nervous and Mental Disease, 35th annual, New York, N.Y. (C. C. Hare, 710 W. 168 St., New York 32.)

9-10. Texas Acad. of Science, annual, Waco. (G. P. Parker, P.O. Box 7488, College Station, Texas.)

9-13. American Acad. of Optometry, Chicago, Ill. (C. C. Koch, 1502 Foshay Tower, Minneapolis 2, Minn.)

10-16. Nuclear Cong. and Atomic Exposition, Cleveland, Ohio. (A. F. Denham, 931 Book Bldg., Detroit 26, Mich.)

10-16. Radiological Soc. of North America, Inc., Chicago, Ill. (D. S. Childs, Sr., 713 East Genesee St., Syracuse 2, N.Y.)

11-14. American Soc. of Agricultural Engineers, Chicago, Ill. (F. B. Lanham, ASAE, St. Joseph, Mich.)

11-14. American Soc. of Refrigerating Engineers, New York, N.Y. (R. C. Cross, ASRE, 234 Fifth Ave., New York 1.)

14. Operations Research Symposium, Philadelphia, Pa. (R. V. D. Campbell, Operations Research Symposium Registration, Burroughs Research Center, Paoli, Pa.)

15-17. Acoustical Soc. of America, Providence, R.I. (W. Waterfall, ASA, 57 E. 55 St., New York 22.)

15-17. International Union of Scientific Radio, U.S. national, Gainesville, Fla. (J. P. Hagen, Code 7100, URSI, Naval Research Lab., Washington 25.)

16-21. Interamerican Cong. of Psychology, 3rd, Austin, Tex. (W. Holtzman, Univ. of Texas, Austin.)

26-29. Biometric Soc., Eastern N. American Region, New York, N.Y. (A. M. Dutton, Box 287, Station 3, Rochester 20, N.Y.)

26-31. American Assoc. for the Advancement of Science, Atlanta, Ga. (R. L. Taylor, AAAS, 1025 Connecticut Ave., NW, Washington 6.)

27-29. American Mathematical Soc., 62nd annual, Houston, Tex. (J. H. Curtiss, AMS, 80 Waterman St., Providence 6, R.I.)

27-29. Archaeological Inst. of America, Chicago, Ill. (C. Boulter, 608, Univ. of Cincinnati Library, Cincinnati 21, Ohio.)

27-29. Assoc. for Symbolic Logic, Rochester, N.Y. (J. Barlaz, Rutgers Univ., New Brunswick, N.J.)

27-29. Linguistic Soc. of America, Chicago, Ill. (A. A. Hill, 1719 Massachusetts Ave., NW, Washington 6.)

27-29. Western Soc. of Naturalists, Davis, Calif. (D. Davenport, Univ. of California, Santa Barbara.)

27-30. American Statistical Assoc., New York, N.Y. (E. M. Bisgyer, 1757 K St., NW, Washington 6.)

27-30. Inst. of Mathematical Statistics, New York, N.Y. (K. J. Arnold, Dept. of

Mathematics, Michigan State Univ., East Lansing.)

27-1. Phi Delta Kappa, 50th anniversary, Bloomington, Ind. (J. C. Whinnery, 324 N. Greenwood Ave., Montebello, Calif.)

28-29. Northwest Scientific Assoc., Spokane, Wash. (F. J. Schadeegg, Eastern Washington College of Education, Cheney.)

28-30. American Economic Assoc., New York, N.Y. (J. W. Bell, Northwestern Univ., Evanston, Ill.)

28-30. American Historical Assoc., Washington, D.C. (B. C. Shafer, Study Room 274, Library of Congress Annex, Washington 25.)

28-30. American Philological Assoc., Chicago, Ill. (J. P. MacKendrick, Bascom Hall, Univ. of Wisconsin, Madison 6.)

28-30. Low Temperature Physics and Chemistry, Baton Rouge, La. (J. G. Daunt, Dept. of Physics, Ohio State Univ., Columbus 10.)

28-30. American Philosophical Assoc., Eastern Div., Boston, Mass. (W. H. Hay, Dept. of Philosophy, Univ. of Wisconsin, Madison.)

28-30. American Physical Soc., winter meeting, Los Angeles, Calif. (K. K. Darrow, Columbia University, New York 27.)

28-30. Econometric Soc., New York, N.Y. (R. Ruggles, Box 1264, Yale Station, Yale Univ., New Haven, Conn.)

(See 21 Oct. issue for comprehensive list)