Meetings and Societies

Biomedical Instrumentation

Almost 125 scientists and engineers from 60 different universities and industrial institutions gathered at the New England Institute for Medical Research in Ridgefield, Conn., for a 2-day symposium on 10–11 June. The symposium was entitled "A Conceptual Clinic for New Instrumentation for Biology and Medicine" and was designed to present to physical scientists and engineers some basic biomedical problems for which there is no instrumentation or for which the existing instrumentation is inadequate. The relative difficulty of communication between the biomedical and the physicoengineering fields has resulted in a considerable number of gaps, which can be filled. This symposium was an attempt to help remedy the deficiency in communication. Virtually all the biomedical problems which were discussed were presented in physical and engineering terms.

Among the speakers were Daniel Boroff, Christopher Coates, Richard Day, John Fitzgerald, Lewis Fox, Irving Friedman, Harold Genvert, John Heller, J. Miles O'Brien, Norbert Wiener, and Richard Zucker. The problems presented were far-ranging. An attempt was made to present three aspects of problems in instrumentation: those concerned with (i) instruments to be used by the practitioner, (ii) instruments to be used in the analytical laboratory, and (iii) instruments for use in the research laboratory.

Wiener discussed the instrumentation that he is currently using, as well as that proposed for further use, for analyzing fine structure in alpha rhythm from electroencephalograms. He indicated that the astonishing regularity of the periodicity of peaks in the fine structure could be a useful tool for further physiologic investigation of brain mechanisms and drugs.

Day explored the physical parameters in a developing and mature subdural hematoma and discussed instrumentation for precise localization. He also discussed the probable correlation between illness in premature infants and the rate of fingernail growth. He suggested the need for instrumentation which would make it possible to measure the rate of fingernail growth within a relatively few minutes. Fitzgerald suggested the greater need for knowledge about molecules in health and disease. He suggested that a variety of physical principles might be used in order to substitute physical methods for chemical methods of analysis in a variety of body fluids. Such techniques could result in a quantum jump in the speed, delicacy, accuracy, and range of possible chemical determinations.

Fox requested instrumentation which might accurately measure the degree and direction of the impact of one tooth on another, because of the probable interrelationship between malocclusion and periodontal disease. Friedman requested a method which would obviate the use of x-ray in the determination of pelvimetry in order that both the fetus and the ovaries of the pregnant woman might be spared from radiation in so far as is possible.

Genvert explored some of the areas in surgery where instrumentation that is more than a half-century old might be replaced with more modern and effective instrumentation. Heller explored a variety of physical parameters which might be used in developing instruments to measure various determinants in physical diagnoses, such as differential density, swelling, tumors, cavitation, and cyst formation.

O'Brien suggested the design of a device which would effectively induce transient force fields in nonmagnetic foreign bodies in the eye so that these could be removed in a manner similar to the magnetic removal of ferrous foreign bodies. He also explored the use of a moderate-voltage, high-amperage, linear accelerator for ophthalmic tumors. Coates demonstrated some of the bioelectric parameters manifested by electric eels, including their ability to locate foreign bodies under water by what appear to be electrical means.

The session culminated with a variety of suggestions about ways to increase the interchange of physical and engineering knowledge with individuals in the biomedical field in order to capitalize further on this knowledge in designing new instrumentation.

This symposium was cosponsored by the New England Institute for Medical Research and the Foundation for Instrumentation Education and Research.

JOHN H. HELLER
New England Institute for Medical Research, Ridgefield, Connecticut

Society Elections

■ Genetics Society of Canada: pres., T. J. Arnason, University of Saskatchewan, Saskatoon, Sask.; v. pres., C. J. Bishop, Experimental Farm, Kentville, N.S.; sec.-treas., A. Wilkes, Science Service Building, Carling Ave., Ottawa, Ont., Canada.

■ Society of Nuclear Medicine: pres., Marshall Brucer, Oak Ridge, Tenn.; pres. elect, Henry L. Jaffee, Los Angeles, Calif.; v. pres., Franz Bauer, Los Angeles, Calif.; v. pres. elect, Dwight E. Clark, Chicago, Ill.; sec., Robert W. Lackey, 452 Metropolitan Building, Denver 2, Colo.; treas., Lindon Seed, Chicago, Ill.

■ American Society of Ichthyologists: pres., Edward H. Taylor, University of Kansas; v. pres. for finance, John C. Marr, California State Fisheries Laboratory; v. pres. for conservation, Boyd Walker, University of California at Los Angeles; v. pres. for membership, James Kezer, Oregon State College; sec., Roger Conant, Philadelphia Zoological Society; treas., James Bohlke, Philadelphia Academy of Science; publications sec., N. Bayard Green, Marshall College.

■ Cook Inlet Branch, AAAS Alaska Division: Roger R. Robinson, Bureau of Land Management; v. pres., H. P. Gazaway, Alaska Agricultural Experiment Station; sec.-treas., Clarissa Allen, Arctic Health Research Center.

Forthcoming Events

August

25–27. Pacific Division-AAAS, annual, in conjunction with American Inst. of Biological Sciences, Stanford, Calif. (R. C. Miller, California Academy of Sciences, Golden Gate Park, San Francisco, Calif.)

25–28. American Farm Economic Assoc., natl., Asheville, N.C. (L. S. Hardin, Dept. of Agricultural Economics, Purdue Univ., Lafayette, Ind.)

25–29. American Institute of Biological Sciences, annual, Stanford, Calif. (H. T. Cox, AIBS, 2000 P St., NW, Washington 6.)

26–28. Gas Dynamics Symp., 2nd, Evanston, Ill. (A. B. Cambel, Technological Inst., Northwestern Univ., Evanston.)

26–29. Boundary Layer Research, internatl. symp., Freiburg, Breisgau, Germany. (H. Görtler, Mathematisches In-

stitut der Universität, Hebelstrasse 40 Freiburg, Breisgau.)

26–29. Mathematical Assoc. of America, 38th summer, University Park, Pa. (H. M. Gehman, Univ. of Buffalo, Buffalo 14, N.Y.)

26–30. American Mathematical Soc. 62nd summer, University Park, Pa. (J. H. Curtiss, AMS, 190 Hope St., Providence 6, R.I.)

26–30. Infrared Spectroscopy Inst., 8th annual, Nashville, Tenn. (N. Fuson, Infrared Spectroscopy Inst., Fisk Univ., Nashville 8.)

26–31. Low Temperature Physics and Chemistry, 5th internatl. conf., Madison, Wis. (J. R. Dillinger, Dept. of Physics, Univ. of Wisconsin, Madison 6.)

27. Society for Industrial and Applied Mathematics, summer, University Park, Pa. (D. L. Thomsen, Jr., 807 Enquirer Bldg., Cincinnati 2, Ohio.)

27–29. American Sociological Soc., annual, Washington, D.C. (Mrs. M. W. Riley, ASS, New York Univ., Washington Sq., New York 3.)

27–30. Biological Photographic Assoc., 27th annual, Rochester, Minn. (S. J. McComb, Section of Photography, Mayo Clinic, Rochester.)

28–30. American Inst. of Electrical Engineers, Pacific general, Pasco, Wash. (N. S. Hibshman, AIEE, 33 W. 39 St., New York 18.)

28–30. American Inst. of Electrical En- symp., East Lansing, Mich. (H. J. Noebels, IGC Symp., Instrument Soc. of America, 313 Sixth Ave., Pittsburgh, Pa.)

28–31. Soil Conservation Soc. of America, annual, Asilomar, Calif. (H. W. Pritchard, 838 Fifth Ave., Des Moines 14, Iowa.)

28–3. Cell Biology, 9th internatl. cong., St. Andrews, Scotland. (H. G. Callan, Dept. of National History, Bell Pettigrew Museum, The University, St. Andrews.)

29–30. Computers and Data Processing, 4th annual symp., Denver, Colo. (J. M. Cavenah, Denver Research Inst., Univ. of Denver, Denver 10.)

29–30. Econometric Soc., European meeting, Luxemburg, Duchy of Luxemburg. (Econometric Soc., Box 1264, Yale Station, New Haven, Conn.)

29–31. Group Psychotherapy, 2nd internatl. cong., Zurich, Switzerland. (S. Lebovici, 3, Avenue President Wilson, Paris 16e, France.)

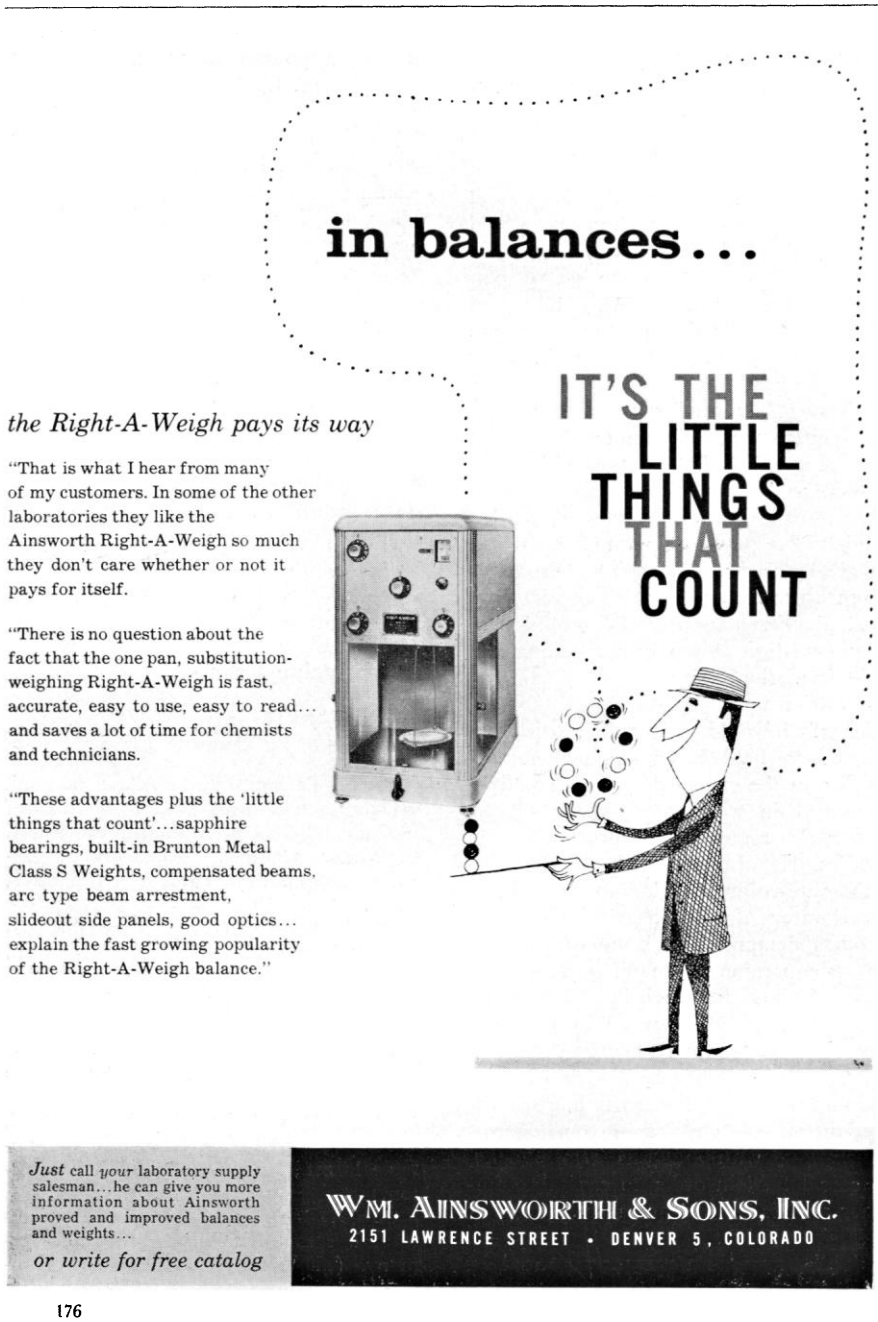
29–2. European Orthodontic Soc., annual, Geneva, Switzerland. (E. Fernex, 1, Place du Port, Geneva.)

29–3. International Geographical Cong., Tokyo, Japan. (W. W. Atwood, Jr., National Acad. of Sciences, 2101 Constitution Ave., Washington 25.)

30–5. American Psychological Assoc., annual, New York, N.Y. (R. W. Russell, APA, 1333 16 St., NW, Washington 6.)

31–2. Astronomical League, annual, Kansas City, Mo. (Mrs. W. A. Cherup, 4 Klopfer, Pittsburgh 9, Pa.)

31–3, Psychometric Soc., annual, New York, N.Y. (P. DuBois, Dept. of Psychology, Washington Univ., St. Louis, Mo.)



September

1–6. Laurentian Hormone Conf., AAAS, Mont Tremblant, Quebec, Canada. (G. Pincus, LHC, 222 Maple Ave., Shrewsbury, Mass.)

1–7. Psychiatry, 2nd world cong., Zurich, Switzerland. (J. Wyrsch, Tottikon, Stans, Nidwald, Switzerland.)

1–16. Aeronautical Conf., 6th internatl., London and Folkestone, Kent, England. (S. P. Johnston, Inst. of Aeronautical Sciences, 2 E. 64 St., New York 21.)

2–5. American Physiological Soc., Iowa City, Iowa. (M. O. Lee, 9650 Wisconsin Ave., Washington 14.)

2–5. Passivity, internatl. symp., Darmstadt, Germany. (German Bunsen Gesellschaft, Postfach 11, Duisburg, Germany.)

2–6. Operational Research, internatl. conf., Oxford, England. (T. Page, 7100 Connecticut Ave., Chevy Chase, Md.)

2–16. Carbon-14 Dating, 3rd internatl. conf., in conjunction with INQUA, Madrid-Barcelona, Spain. (M. Rubin, U.S. Geological Survey, Washington 25.)

2–16. International Assoc. on Quarternary Research, 5th internatl. cong., Madrid-Barcelona, Spain. (M. L. Solé Sabarís, Instituto Geológico, Universidad, Barcelona.)

3–4. Meteoritical Soc., 20th annual, Los Angeles, Calif. (J. A. Russell, 3518 University Ave., Los Angeles 7.)

3–6. Calorimetry Conf., 12th, Wentworth-by-the-Sea, N.H. (H. A. Boorse, Pupin Physics Lab., Columbia Univ., New York, N.Y.)

3–6. Matrix Computations Conf., Detroit, Mich. (W. Givens, Dept. of Mathematics, Wayne State Univ., Detroit 2, Mich.)

3–14. International Union of Geodesy and Geophysics, 11th general assembly, Toronto, Ont., Canada. (J. A. Jacobs, 49 St. George St., Toronto.)

4–5. Society of General Physiologists, annual, Woods Hole, Mass. (A. M. Shanes, National Institutes of Health, Bethesda 14, Md.)

(See issue of 19 July for comprehensive list)