

# Scientific Meetings

## Physiologists Report Recent Work

The 76th meeting of the American Physiological Society took place in Atlantic City 16-20 Apr., in conjunction with the Federation of the American Societies for Experimental Biology. Nearly 500 papers were presented in 55 sessions. Papers on atherosclerosis, tumors, and blood clotting were presented at inter-society sessions in which other members of the federation participated. Of the many excellent papers presented, a few dealing with topics of special interest have been selected for brief notice.

The physiological role of exercise in heart disease was indicated by R. W. Eckstein (Western Reserve University), who demonstrated that forced exercise in dogs was associated with a substantial increase in the coronary vascular collateral supply, and by H. Y. C. Wong (Howard University) who found reduced atherosclerosis in exercised chicks, even though hypercholesteremia was unaffected. R. W. Wissler (University of Chicago) overcame the resistance of the rat to coronary atherogenesis by using the combined administration of antikidney serum, desoxycorticosterone and sodium chloride. A. Dury (Dorn Laboratory of Medical Research, Bradford, Pa.) reduced the plasma cholesterol/lipid phosphorus ratio and caused regression of atherosclerosis by administration of cortisone in rabbits. M. Friedman (Harold Brunn Institute, Mount Zion Hospital, San Francisco) showed that bile promotes the intestinal absorption of cholesterol by means other than its esterification.

The long-debated concept of the significance of reflected arterial waves on deformation of the pulse wave was critically challenged by L. H. Peterson (University of Pennsylvania). Mechanical impedance to pulsatile blood flow was determined by J. E. Randall (Ohio State University) to depend on three major components: elasticity and inertia of the vessel wall and flow resistance. A new instrument which may permit determination of pressures at the tip of a cardiac catheter was described by F. W. Noble (National Heart Institute): intensity of sound transmitted through the catheter lumen is attenuated in proportion to oc-

clusion of its path by a membrane on which the pressure acts.

In a paper delivered posthumously for C. R. Houck (University of Tennessee Medical Units), high blood pressure was reported to develop following total nephrectomy in sympathectomized animals, thus differentiating this hypertension from hypertensions mediated by the autonomic nervous system. H. E. Ederstrom (University of North Dakota Medical School) measured the regional blood flow of the foot and showed it to be correlated with the temperature of the part. Attention has been called recently to the fact that the kidney is "functionally" distended by blood and an intrarenal fluid. H. G. Swann (University of Texas Medical School, Galveston) demonstrated this fluid to be lymph.

L. Cander (University of Pennsylvania) used ether and acetone absorption techniques to estimate the pulmonary parenchymal mass and determined the pulmonary capillary blood flow by uptake of the less soluble gases acetylene and nitrous oxide. Photographs of the lung surface provided E. P. Radford, Jr. (E. I. du Pont de Nemours and Company) with data for determination of the number and dimensions of pulmonary surface units; utilizing detergents, he obtained results suggesting that surface tension forces are primary determinants of the structure of the terminal air spaces. Pulmonary airway resistance was shown by J. A. Clements (Army Chemical Center) to depend on *distributed* decreases in airway caliber rather than on segmental reductions in the amount of ventilated lung. H. L. Davis (Mayo Foundation), examining the mechanisms of lung inflation, demonstrated the presence of regulatory receptors in the peripheral bronchi or bronchioles.

F. Ratliff (Rockefeller Institute for Medical Research) illuminated specific sensory elements in the *Limulus* eye, quantitatively inhibiting the activity of adjacent elements. W. Dement (University of Chicago) showed that bouts of rapid eye movement during sleep were associated with sharp reductions in body motility and with specific types and estimated durations of dreams. Emotional displays in patients characterized as aggressive-hostile-active were reported by

F. Elmadjian (Worcester Foundation and Worcester State Hospital) to be related to norepinephrine excretion, while self-effacing-fearful-passive behavior was related to epinephrine excretion.

The growing appreciation of the key importance of the hypothalamus was signaled by a large variety of interesting papers on the physiology of this visceral regulating complex. F. W. Maire (University of Washington School of Medicine) produced immediate eating or drinking responses by stimulation of the diencephalic mammillary bodies. Polydipsia was produced by B. Andersson (Stockholm) on injection of hypertonic saline into the middle hypothalamus, indicating local osmoreceptor activity. N. P. Clarke (Aero Medical Laboratory, Wright-Patterson AFB) produced anti-diuretic effects by carotid injections of saline, but found that femoral injections produced diureses. In independent studies from Texas, R. Guillemain (Baylor University) isolated from hypothalamus tissue a complex polypeptide that stimulated the *in vitro* release of ACTH, while J. C. Porter (University of Texas Southwestern Medical School) extracted, from the blood draining into the sella turcica immediately following hypophysectomy, a globulin that stimulates the normal hypophysis to release ACTH.

M. E. Dumm (New York University-Bellevue Medical Center) demonstrated defects in the carbohydrate metabolism of leukocytes from diabetic patients. P. P. Foà (Chicago Medical School) stimulated the secretion of pancreatic insulin by administering galactose, a sugar that is structurally similar to glucose. H. Bernstein (University of Chicago) reported that adrenal medullary hormone is necessary for the peripheral response to exogenous thyroxine. J. F. Gennaro, Jr. (State University of New York College of Medicine) found that frog skin, like thyroid, concentrated iodine from the surrounding fluid and that this concentrating capacity was enhanced by thyroid-stimulating hormone.

C. M. Connelly (Rockefeller Institute) showed the positive after-potential in perineurectomized frog nerve to be an electric sign of ion-transport processes restoring the resting K ion balance. Differences between the myosins of striated and smooth muscle were found by D. R. Kominz (National Institute of Arthritis and Metabolic Diseases) to reside in sub-molecular structural differences in the amino acid composition of the tropomyosins. After isometric contraction with ATP, L. Lorand (Northwestern University) showed that glycerinated psoas muscle relaxed on addition of phosphoenolpyruvate. D. Gitlin (Harvard Medical School) demonstrated that the terminal amino acid for human alpha lipoproteins was aspartic acid and that for beta lipoproteins was glutamic acid. Ad-

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## Proceedings of the Third Berkeley Symposium on Mathematical Statistics and Probability

University of California Press,  
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*Contributors:* Joseph Berkson; Z. W. Birnbaum; Herman Chernoff and Herman Rubin; Aryeh Dvoretzky; Sylvain Ehrenfeld; G. Elfving; Ulf Grenander and Murray Rosenblatt; J. L. Hodges, Jr., and E. L. Lehmann; Wassily Hoeffding; Samuel Karlin; L. Le Cam; Herbert Robbins; Murray Rosenblatt; Charles Stein; B. L. Van der Waerden.

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Publication Date: 18 August 1956

### Vol. II. *Contributions to Probability Theory*

*Contributors:* David Blackwell; Salomon Bochner; K. L. Chung; A. H. Copeland, Sr.; J. L. Doob; Robert Fortet; J. M. Hammer-sley; T. E. Harris; Kiyosi Itô; Paul Lévy; Michel Loève; Eugene Lukacs; Karl Menger; Edith Mourier; R. Salem and A. Zygmund.

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### Vol. III. *Contributions to Astronomy and Physics*

*Contributors:* Olin J. Eggen; Jesse L. Greenstein; Harold L. Johnson; Gerald E. Kron; Bengt Ström-gren; G. C. McVittie; Jerzy Neyman; Elizabeth L. Scott and C. D. Shane; F. Zwicky; André Blanc-Lapierre and Albert Torrat; M. Kac; J. Kampé de Fériet; Elliott Montroll; Norbert Wiener.

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### Vol. IV. *Contributions to Biology and Problems of Health*

*Contributors:* James F. Crow and Motoo Kimura; Everett R. Dempster; Jerzy Neyman, Thomas Park and Elizabeth L. Scott; M. S. Bartlett; A. T. Bharucha-Reid; Chin L. Chiang; J. L. Hodges, Jr., and J. Yerushalmy; Jerome Cornfield; David Kendall; William F. Taylor.

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### Vol. V. *Contributions to Econometrics, Industrial Research, and Psychometry*

*Contributors:* Kenneth J. Arrow and Leonid Hurwicz; Edward W. Barankin; C. West Churchman; Patrick Suppes; Albert H. Bowker; Cuthbert Daniel; Milton Sobel; T. W. Anderson and Herman Rubin; Fred-erick Mosteller; Herbert Solomon.

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dition of carnitine to liver of choline-deficient rats partially corrected disturbances in fatty acid oxidation, according to I. B. Fritz (Michael Reese Hospital).

At the joint session of the federation, clinical aspects of nutrition and cardiovascular disease were presented by L. N. Katz (Michael Reese Hospital), associated biochemical problems by C. B. Anfinsen, Jr. (National Heart Institute) and dietary findings by F. J. Stare (Harvard School of Public Health). Motion pictures on various physiological topics and scientific and commercial exhibits also were presented to the physiologists in attendance.

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*University of Buffalo School  
of Medicine, Buffalo, New York*

## Meeting Notes

■ Scientists and engineers from all over the world will meet at the University of California, Berkeley, 12–16 June, for a world conference on Earthquake Engineering. The conference is presented by the university's Department of Engineering and University Extension in cooperation with the Earthquake Engineering Research Institute, the American Society of Civil Engineers, and the Structural Engineers Association of California. The conference was scheduled to coincide with the 50th anniversary of the San Francisco earthquake of 1906, which gave great impetus to the study of earthquake engineering.

Conference topics include a history of recorded earthquakes, observations of ground motion and damage; predicted response of structures to earthquake motions; and developments in earthquake resistant design and construction in the various seismic regions of the world.

■ The second Canadian Cancer Research Conference will be held at Honey Harbour, Ont., 17–21 June. Sponsored by the National Cancer Institute of Canada, this conference is primarily designed to encourage a review of present knowledge on various aspects of cancer for the benefit of grantees of the institute. The topics to be discussed include the cell, leukemia and chemotherapy, hormones and cancer, and immunity and basic mechanisms.

Since accommodation is limited, attendance must be by application only. Further information may be obtained from Dr. Robert L. Noble, Collip Medical Research Laboratory, University of Western Ontario, London, Ont., Canada.

■ A conference on the metabolism of mucopolysaccharides, which was organized by the Retina Foundation and sponsored by the National Science Foundation, took place in Boston, 1–2 June. Participants included Norman F. Boas, Nor-

walk Hospital; Harry Bostrom, Karolinska Institute (Sweden); David H. Brown, Washington University; Albert Dorfman, University of Chicago; Laurence L. Layton, U.S. Naval Powder Factory; Fritz Lipmann, Massachusetts General Hospital; Karl Meyer, Columbia University; Saul Roseman, University of Michigan; H. G. B. Slack, University of Manchester (England); Morris Soodak, Massachusetts General Hospital; Jack L. Strominger, Washington University.

■ The Association of Southeastern Biologists held its 17th annual meeting 19–21 Apr. at Duke University. Meeting with the association were the Southeastern Section of the Botanical Society of America, the Southern Appalachian Botanical Club, and the Southeastern Division of the American Society of Ichthyologists and Herpetologists.

The following awards were made: H. L. Blomquist, the meritorious award for outstanding contribution to the biological sciences through teaching, provided by the Will Corporation of Georgia; to E. Ruffin Jones, a research fellowship of \$150 at the Mountain Lake Biological Station, provided by Phipps and Bird of Richmond, Va.; and to A. A. Humphries, Jr., of Emory University, the \$100 award for the best paper, provided by the Carolina Biological Supply Company. Humphries' work was on "A study of meiosis in coelomic and oviductal oocytes of *Triturus viridescens*, with particular emphasis on the origin of spontaneous polyploidy and effects of heat shock on the first meiotic division."

■ A seminar on Ship Behavior at Sea will be held at Stevens Institute of Technology 25–26 June. Arranged by the Stevens Experimental Towing Tank Laboratory, the seminar is planned to acquaint naval architects and research engineers with new developments in studies being made of the intricate forces to which ships are subjected on the open sea. The meeting will be under the sponsorship of the Office of Naval Research and the Bureau of Ships.

Much of the material to be studied is taken from a Stevens graduate course on the dynamic aspects of naval architecture that was given last winter. The seminar is being held primarily for designers and scientists outside the metropolitan New York area who were unable to attend last winter's classes. Lectures at the seminar will be delivered by four members of the Stevens staff and by three guest lecturers who are specialists in new statistical techniques of analysis.

Those who attend the meeting will be accommodated in student dormitories during the session. A nominal registration fee is being charged for the conference, for which reservations are now being accepted.

## Society Elections

■ Association of Southeastern Biologists: pres.-elect, H. K. Wallace, University of Florida; v. pres., Paul M. Patterson, Hollins College; treas., A. W. Jones, University of Tennessee.

■ American Geophysical Union: pres., Maurice Ewing, Columbia University; v. pres., Lloyd V. Berkner, Associated Universities, Inc.; general sec., A. Nelson Sayre, U.S. Geological Survey, Washington 25, D.C.

■ American Institute of Chemists: pres., John H. Nair, Thomas J. Lipton, Inc., Hoboken, N.J.; pres. elect, Henry B. Hass, Sugar Research Foundation, Inc., New York; sec., Lloyd Van Doren, Watson, Leavenworth, Kelton and Taggart, New York; treas., Frederick A. Hessel, General Aniline and Film Corp., New York.

■ American College of Apothecaries: pres. and representative to the AAAS Council, Leroy Weidle, Jr.; sec., Robert E. Abrams.

■ Gamma Alpha Graduate Scientific Fraternity: pres., Richard A. Popham, Ohio State University; sec., Royse P. Murphy, Cornell University; treas., Robert F. Thorne, State University of Iowa.

■ Ohio Academy of Science: pres., Robert M. Geist, Capital University; sec. and representative to the AAAS Council, Ralph W. Dexter, Kent State University; treas., Elton F. Paddock, Ohio State University.

■ Alpha Epsilon Delta: pres., and representative to the AAAS Council, Lloyd R. Gribble, West Virginia University; v. pres., Joseph B. Price, Millsaps College; sec.-historian, and representative to the AAAS Council, Maurice L. Moor, 7 Brookside Circle, Bronxville, N.Y.; treas., Norman F. Witt, University of Colorado.

■ National Association for Research in Science Teaching: pres., Waldo W. E. Blanchet, Fort Valley State College; v. pres., Nathan S. Washton, Queens College; sec.-treas., Clarence M. Pruitt, University of Tampa. Representative to the AAAS Council is George G. Mallinson.

■ Association of American State Geologists: pres., J. T. Singewald, Jr., Maryland; pres.-elect, Olaf P. Jenkins, California; v. pres., John H. Melvin, Ohio; sec.-treas., Eugene Callaghan, New Mexico.

■ American Institute of Electrical Engineers: pres., Mervin S. Coover, Iowa State College; treas., Walter J. Barrett. The vice presidents are Donald E. Garr, Leland F. Stone, J. H. Foote, Norman F. Rode, Mansfield M. Ewell, and Henry H. Kerr.

## Forthcoming Events

### July

6-14. International Union of Forestry Research Organizations, 12th cong., Oxford, England. (Secretariat of Union, Viale delle Terme di Caracalla, Rome, Italy.)

9-11. Symposium on Chemical Additives in Foods, 2nd of 5 symposiums, Amsterdam, Netherlands. (H. F. DuPont, International Bureau of Analytical Chemistry, 18 Ave. de Villars, Paris 7.)

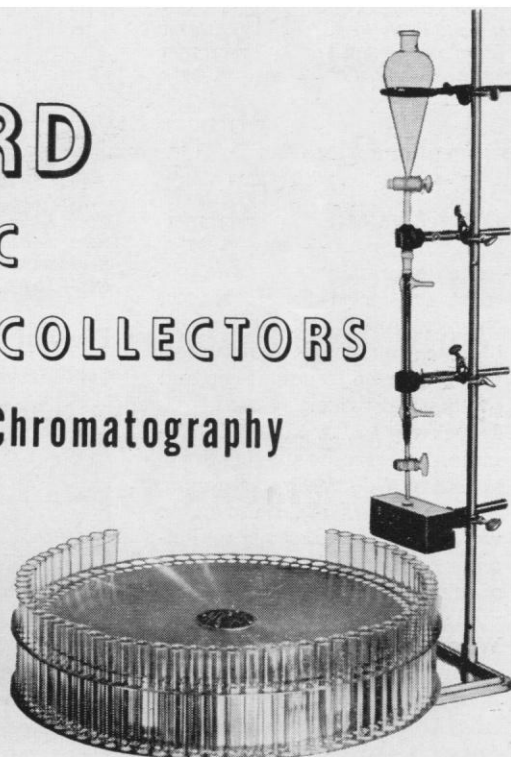
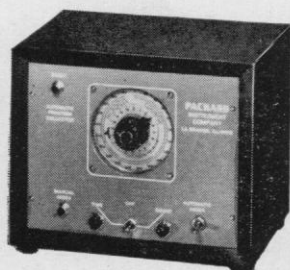
11-14. American Malacological Union, annual, San Diego, Calif. (Mrs. M. C. Teskey, P.O. Box 238, Marinette, Wis.)

12-14. International Astrophysical Symposium on Molecules in Cosmic Sources, 7th, Liege, Belgium. (H. C. Urey, Inst. for Nuclear Studies, Univ. of Chicago, Chicago 37, Ill.)

16-17. Symposium on Synthetic Polymer Chemistry, Notre Dame, Ind. (G. F. D'Alelio, Dept. of Chemistry, Univ. of Notre Dame, Notre Dame.)

16-21. French Assoc. for the Advancement of Science, Dijon, France. (Mille.

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17-26. International Soc. of Photogrammetry, 8th cong., Stockholm, Sweden. (P. O. Fagerholm, Bragevägen 8, Stockholm.)

18-20. Soc. for the Study of Development and Growth, annual, Providence, R.I. (M. V. Edds, Jr., Brown Univ., Providence 12.)

22-27. International Cong. of Pediatrics, 8th, Copenhagen, Denmark. (Prof. Franconi, Kinderspital, Steinwiesstrasse 75, Zürich 32, Switzerland.)

22-28. International Cong. on Housing and Town Planning, Vienna, Austria. (H. van der Weijde, International Federation for Housing and Town Planning, Paleisstraat 5, The Hague, Netherlands.)

22-28. International Cong. of Radiology, 8th, Mexico, D.F., Mexico. (J. Noriega, Tepic 126, 2° piso, Mexico, D.F.)

23-26. International Cong. of Developmental Biology, 1st, Providence, R.I. (J. W. Wilson, Dept. of Biology, Brown Univ., Providence.)

25-27. Conf. on Solar-Weather Relationships sponsored by American Meteorological Soc., Boulder, Colo. (K. C. Spengler, 3 Joy St., Boston 8, Mass.)

26-28. International Conf. on Biochemical Problems of Lipids, 3rd, Brussels, Belgium. (R. Ruysen, St. Jansvest 12, Univ. of Ghent, Ghent, Belgium.)

27-31. Symposium on Cytodifferentiation (invitational), Providence, R.I. (J. W. Wilson, Dept. of Biology, Brown Univ., Providence.)

27-7. International Limnology Cong., 13th, Helsinki, Finland. (H. Luther, Snellmangatan 16 C 36, Helsinki.)

30-31. Oak Ridge Regional Symposium, 9th, Blacksburg, Va. (Information Dept., Oak Ridge Inst. of Nuclear Studies, P.O. Box 117, Oak Ridge, Tenn.)

30-4. International Physiological Cong., 20th, Brussels, Belgium. (J. J. Reuse, Faculté de Medecine, 115 Boulevard de Waterloo, Brussels.)

#### August

1-6. International Cong. of Human Genetics, 1st, Copenhagen, Denmark. (Secretariate, 1st ICHG, 14, Tagensvej, Copenhagen, N.)

5-10. International Conf. of Social Work, 8th, Munich, Germany. (J. R. Hoffer, 345 E. 46 St., New York 17.)

6-10. Poultry Science Assoc., annual, Raleigh, N.C. (C. B. Ryan, Dept. of Poultry Husbandry, Texas A & M College, College Station.)

6-1. International Mathematical Symposium on Algebraic Topology and Its Applications, Mexico City, Mexico. (Miss J. Silva, Instituto de Matemáticas, Torre de Ciencias, Ciudad Universitaria, México 20, D.F.)

9-18. International Geographical Cong., 18th, Rio de Janeiro, Brazil. (H. O'R. Sternberg, Centro de Pesquisas de Geografia do Brasil, Faculdade Nacional de Filosofia, Av. Presidente Antonio Carlos 40, Rio de Janeiro.)

10-11. Minnesota Acad. of Science, New London, Minn. (B. O. Krogstad, Univ. of Minnesota, Duluth 5B.)

15-22. Canadian Teachers' Federation, Fredericton, N.B., Canada. (G. G. Cros-

kery, 444 MacLaren St., Ottawa, Ontario, Canada.)

16-21. Symposium on X-Ray Microscopy and Microradiography, Cambridge, England. (W. C. Nixon, Cavendish Lab., Cambridge.)

17-25. International Cong. of Entomology, 10th, Montreal, Canada. (J. A. Downes, Div. of Entomology, Science Service Bldg., Ottawa, Ont., Canada.)

19-23. International Cong. on Diseases of the Chest, 4th, Cologne, Germany. (Executive Offices, American College of Chest Physicians, 112 E. Chestnut St., Chicago 11, Ill.)

19-24. International Symposium on Combustion, 6th, New Haven, Conn. (Combustion Symposium Office, Mason Lab., Yale Univ., New Haven 11.)

20-21. Mathematical Assoc. of America, 37th summer, Seattle, Wash. (H. M. Gehman, Univ. of Buffalo, Buffalo 14, N.Y.)

20-21. National Telemetering Conf., Los Angeles, Calif. (R. E. Rawlins, Lockheed Aircraft Corp., Burbank, Calif.)

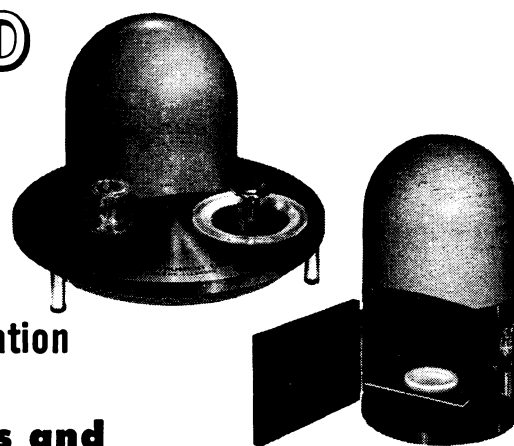
20-24. Conf. on Scientific and Technical Writing, Philadelphia, Pa. (H. F. Arader, Univ. of Pennsylvania, 3400 Walnut St., Philadelphia 4.)

(See issue of 18 May for comprehensive list)

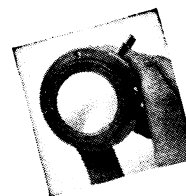
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