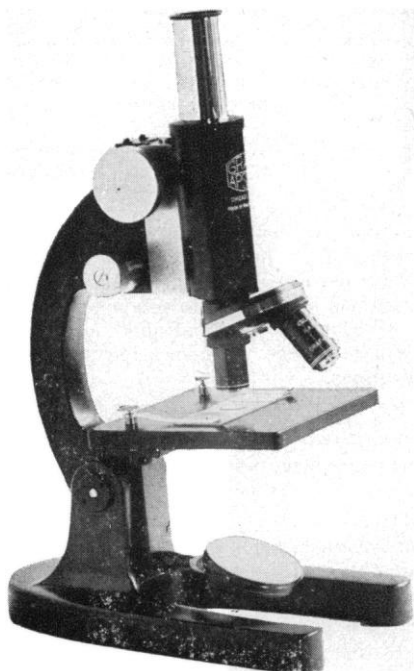


NEW! GRAF-APSCO MICROSCOPES

SCOOPING THE MARKET WITH LOWEST PRICES



MODEL GB₂ for General Biology

\$118.00 Immediate Delivery

Less 10% on five or more. Cases if desired \$8.00 additional.

Old microscopes accepted in trade at highest allowances.

Has full range fine adjustment and all metal coarse adjustment, two sided (plano/concave) mirror and standard optics.

SOLD ON TEN DAYS APPROVAL

Guaranteed to please YOU or returnable at our expense.

Equipped with:
10 x Huyghenian Ocular
Achromatic Objectives
16 mm (10 x) m.a. 0.30
4 mm (44 x) m.a. 0.66
Double dustproof Nosepiece
Disc Diaphragm
Plano-concave mirror
(guaranteed not to fall out)

This is also the ONLY microscope where the base (feet) extends beyond the objectives, thereby protecting the lenses from bumping rear of cabinets.

Write for our new catalogue for description of other models.

THE GRAF-APSCO CO.

5868 Broadway

Chicago 40, Ill.

THE RICKETTSIAL DISEASES OF MAN

This symposium volume is a comprehensive survey of the general field of Rickettsial diseases in man. Among the contributors appear the names of many of the foremost American authorities on this important and relatively new field of medicine.

The first group of papers includes discussions of the taxonomy, biology, isolation, and identification of vectors, and reservoirs of infection of the Rickettsial diseases of man. The second group of papers is devoted to discussions of serological reactions, the Weil-Felix reaction, the complement-fixation and agglutination reactions, and the preparation and standardization of Rickettsial vaccines. The final group of papers treats of insecticides, methods of their application, and mite controls.

Many of the 27 contributors to this volume during World War II were on the battle fronts in Africa, Italy, France and Germany, protecting our troops and the local populations wherever Rickettsial diseases prevailed. Rarely, if ever, have the authors of a medical book had so wide and so successful practical experience in the very subjects on which they have written.

**ORDER
YOUR
COPY
NOW**

To: A.A.A.S. Publications

1515 Massachusetts Avenue, N.W., Washington 5, D. C.

Please accept my order for one copy of *The Rickettsial Diseases of Man* (7½ x 10½, cloth bound). My check in correct payment is enclosed (\$5.25 to A.A.A.S. members, \$6.25 to those who are not members; including postage.)

Name

Address

City Zone State

These proceedings do not serve, and are not intended to serve, as reference works. The volume excellently, however, records the current pattern of thinking of the 25 discussants involved, a pattern which will determine the nature of much of the formal bibliography on the adrenal cortex for succeeding years.

The first topic discussed was the Permissive Action of Adrenal Cortical Hormones. This term, generally associated with the name of Dwight Ingle, refers to those situations in which the presence of some minimal amount of cortical hormone is required before some other substance or influence can induce a characteristic response. The concept has served the admirable purpose of reducing the formidable number of things caused by the adrenal cortex, in the sense that *permission* can be substituted for *cause*; the distinction has eased conceptual effort whether or not it has added greatly to basic understanding. By implication, however, *permissive action* refers to all-or-none phenomena—that the so-called permissive actions of the cortical hormones are indeed all-or-none actions was called into serious question by the discussants, including Ingle himself.

The second topic was entitled Mechanisms Through Which the Adrenal Cortex Produces Qualitatively Different Effects and its discussion led by Hans Selye. The explorations of this provocative topic, much of which concerned Selye's work on the interaction of adrenal and pituitary hormones in both general and localized adaptation syndromes, filled one-third of the volume. Although the discussion was of great interest, the novice should not expect that perusal of the chapter would provide any final answer to the problems raised by the title.

The third subject, Existence, Nature, and Site of Production of a Salt Hormone (Mineralo-Corticoid) Secreted by the Adrenal Gland, was introduced by Martha Vogt of Edinburgh. This is the most exciting subject in the adrenal field at present because of evidence that the most potent adrenal hormone is yet to be identified and its full biological properties described. The hormone concerned, however, was reminiscent of the elusive rabbit in *Harvey*; its portentous reality was accepted but it never emerged into a state of visibility. Subsequent chemical work has assured that it will do so soon, since the probable chemical entity involved has been crystallized (*see* S. A. Simpson, *et al.*, *Experientia* 9, 333 [1953]).

In the last chapter, Effects of Adrenalectomy in Man, F. D. W. Lukens presented a summary of experience of the Philadelphia group with 69 cases of total or partial adrenalectomies performed as an experimental therapy for hypertension. Little attention was given to the other possible indications for adrenalectomy. In general, it seemed that adrenalectomy can serve as a rehabilitating and life-saving procedure in certain types of cardiovascular disease, and particularly in those cases without pre-established renal pathology. This was an encouraging estimate of the situation in view of the fact that the only cases so

treated were those refractory to the usual medical therapies.

ROBERT GAUNT

Research Laboratories
Ciba Pharmaceutical Products, Inc.
Summit, New Jersey

New Books

- The Collected Papers of Otto Fenichel.* First series. Hanna Fenichel and David Rapaport, Eds. New York: Norton, 1953. 408 pp. \$6.50.
- Wildlife in Alaska: An Ecological Reconnaissance.* A. Starker Leopold and F. Fraser Darling. (Sponsored by the New York Zoological Society and the Conservation Foundation.) New York: Ronald Press, 1953. 129 pp. Illus. + plates. \$2.75.
- Readings in the Philosophy of Science.* Herbert Feigl and May Brodbeck, Eds. New York: Appleton-Century-Crofts, 1953. 811 pp. \$6.00.
- A Speculation in Reality.* Irving F. Laucks. New York: Philosophical Library, 1953. 154 pp. \$3.75.
- Temperature Measurement in Engineering.* Vol. I. H. Dean Baker, E. A. Ryder, and N. H. Baker. New York: Wiley; London: Chapman & Hall, 1953. 179 pp. Illus. \$3.75.
- The Physiopathology of Cancer.* Freddy Homburger and William H. Fishman, Eds. New York: Hoeber-Harper, 1953. 1031 pp. Illus. \$18.00.
- Fields and Waves in Modern Radio.* 2nd ed. Simon Ramo and John R. Whinnery. New York: Wiley; London: Chapman & Hall, 1953. 576 pp. \$8.75.
- Problems in Organic Chemistry.* Edward G. Rietz and C. B. Pollard. New York: Prentice-Hall, 1953. 332 pp. Illus. \$3.95.
- Reason and Nature.* An essay on the meaning of scientific method. Morris R. Cohen. Glencoe, Ill.: Free Press, 1953. 470 pp. \$6.00.
- The Psychology of Personality.* Bernard Noteutt. New York: Philosophical Library, 1953. 259 pp. \$4.75.
- High Altitude Rocket Research.* Homer E. Newell, Jr. New York: Academic Press, 1953. 298 pp. Illus. \$7.50.
- The Screen Projection of Chemical Experiments.* E. J. Hartung. Melbourne, Australia: Melbourne Univ. Press; New York: Cambridge Univ. Press, 1953. 291 pp. Illus. + plates. \$4.75.
- Nuclear Physics.* W. Heisenberg. New York: Philosophical Library, 1953. 225 pp. Illus. \$4.75.
- Advances in Virus Research.* Vol. I. Kenneth M. Smith and Max A. Lauffer, Eds. New York: Academic Press, 1953. 362 pp. Illus. \$8.00.
- The Ustilaginales of the World.* Contrib. No. 176, Dept. of Botany. George Lorenzo Zundel. State College, Pa.: Pennsylvania State College, 1953. 410 pp. \$3.50.
- The Design of Social Research.* Russell L. Ackoff. Chicago, Ill.: Univ. Chicago Press, 1953. 420 pp. Illus. \$7.50.
- Semimicro Qualitative Analysis.* Rev. ed. Hervey Hubbard Barber and T. Ivan Taylor. New York: Harper, 1953. 404 pp. \$4.50.
- Plane Trigonometry.* Repr. in part from *First-Year Mathematics for Colleges*. Paul R. Rider. New York: Macmillan, 1953. 180 pp. Illus. \$3.00.
- Roger Bacon in Life and Legend.* E. Westacott. New York: Philosophical Library, 1953. 140 pp. \$3.75.
- Metallurgical Dictionary.* J. G. Henderson and J. M. Bates. Reinhold, New York, 1953. 396 pp. \$8.50.

Longmans Books

THEORETICAL NAVAL ARCHITECTURE

By E. L. Attwood and H. S. Pengelly. Tenth Edition, revised by Alfred J. Sims, formerly of the Royal Naval College, Greenwich. 1953. 418 pp. 259 figs. Tables. \$8.00.

Covers volumes and displacement, buoyancy, equilibrium, stability, trochoidal wave theory, calculations, strains, launching, turning and torque, horse-power, screw and wind propulsion, oscillation and vibration, and the merchant ship. Problems and answers.

TEXTBOOK OF THEORETICAL BOTANY

By R. C. McLean, University of Wales, and W. R. I. Cook, late of the University of Wales. 6½ by 10 in. In four volumes.

Vol. I. Cytology, classification, algae, fungi, bacteria, viruses, lichens, charophyta, bryophyta, histology, pteridophyta, spermatophyta, gymnospermae, and angiospermae. 1951. 1069 pp. 314 figs. 727 plates. \$13.50.

Vol. II. Angiospermae, dicotyledones, monocotyledones, classification. Ready, Summer 1954. About 1032 pp. Figures and half-tones. About \$13.50.

MAPS AND THEIR MAKERS

By G. R. Crone, Librarian and Map Curator, Royal Geographical Society. 1953. 181 pp. 7 maps. \$1.80.

A brief introduction to the history of cartography, including classical and medieval maps, the marine chart, Catalan world maps, 15th century world maps, the revival of Ptolemy, cartography of the great discoveries, topographical surveys, Mercator and his successors, French cartography, British maps, national surveys and modern atlases.

THE TROPICAL WORLD

By Pierre Gourou, College of France. Translated by E. D. Laborde, Harrow School. 1953. 156 pp. 16 maps. 39 plates. \$3.50.

Social and economic conditions and future status of the tropical world, covering population, health, soils, agriculture, live-stock, food supply, industrial possibilities, possible developments, and problems due to European intervention.

MALAYA, INDONESIA, BORNEO, AND THE PHILIPPINES

By Chares Robequain, The Sorbonne. *Le Monde Malais* (Payot, Paris, 1945), revised, translated by E. D. Laborde. Ready, April 1954. About 460 pp. Figures and maps. 16 plates. About \$6.00.

The geography of Southeast Asia, including geology and physical details, historical factors, resources, customs and village life, migrations, foreign capital, agriculture, hygiene, politics and education.

LONGMANS, GREEN & CO., Inc.
55 Fifth Avenue, New York 3, N. Y.



HORMONE ASSAYS

ACTH • Growth • Gonadotropes
Estrogens • Androgens
Corticoids • Progesterone
Others

HYPOPHYSECTOMIZED RATS • ENDOCRINE TOXICITY TESTS



Write for details

**ENDOCRINE LABORATORIES
OF MADISON, INC.**

5001 W. BELTLINE HIGHWAY • MADISON, WISCONSIN

SCHOTT Narrow Band Interference Filters

Transmission up to 45% . . . Half-band width down to 5 mμ . . . Peak wave-length region: from 400 to 1,000 mμ . . . Size of filters: 2" x 2" . . . Regular quality IL: Tolerance at peak wave length $\pm 1\%$. . . Precision quality PIL: Tolerance at peak wave length $+0.5\%$.

Ask for Bulletin NBF-339

FS Multi-Layer Interference Films

Part of the spectrum is strongly reflected and the balance strongly transmitted, according to requirements. Absorption is negligible. Transmission or reflection peaks as high as 85 to 90% but the spectral bands are relatively broad.

Ask for Bulletin MI-318

SCHOTT-JENA Raw Optical Glass
produced in West Germany, Now Available

FISH-SCHURMAN CORPORATION
74 Portman Road, New Rochelle, N. Y.

Fish-Schurman

Meetings & Conferences

May

- 2-6. Electrochemical Soc., spring, Chicago, Ill. (H. B. Linford, Columbia Univ., New York 27.)
- 2-7. Soc. of American Bacteriologists, annual, Pittsburgh, Pa. (F. S. Cheever, P.O. Box 1912, Pittsburgh 30.)
- 3-5. American Geophysical Union, 35th annual, Washington, D.C. (J. Adkins, Office of Naval Research, Washington 25.)
- 3-6. Air Pollution Control Assoc., Chattanooga, Tenn. (H. C. Ballman, 4400 5 Ave., Pittsburgh 13, Pa.)
- 3-7. American Psychiatric Assoc., annual, St. Louis, Mo. (R. F. Gayle, Jr., Professional Bldg., Richmond 19, Va.)
- 3-7. Soc. of Motion Picture and Television Engineers, semiannual, Washington, D.C. (Sec., 342 Madison Ave., New York 17.)
- 3-8. International Conf. on Complete Gasification of Coal, Liège, Belgium. (J. Venter, 7 Blvd., Frère-Orban, Liège.)
- 4. World Health Assembly, 7th, Geneva, Switzerland. (WHO, Palais des Nations, Geneva.)
- 4-6. Electronic Components Symposium, Washington, D.C. (F. B. Haynes, Glenn L. Martin Co., Baltimore 3, Md.)
- 5-7. Forest Products Research Soc., annual, Grand Rapids, Mich. (F. J. Rovsek, Box 2010, University Station, Madison 5, Wis.)
- 5-8. National Conf. on Health in Colleges, 4th, New York, N.Y. (Sec., American College Health Assoc., 1790 Broadway, New York 19.)
- 6-8. American Philosophical Assoc., Urbana, Ill. (M. C. Nahm, Bryn Mawr College, Bryn Mawr, Pa.)
- 8-9. Population Assoc. of America, annual, Charlottesville, Va. (H. Carter, National Office of Vital Statistics, Dept. of Health, Education, and Welfare, Washington 25, D.C.)
- 8-16. International Cong. of Thalassotherapy, Dubrovnik, Yugoslavia. (C. Plavsic, Zeleni Venac 1, Belgrade, Yugoslavia.)
- 9-14. National Conf. of Social Work, 81st annual, Atlantic City, N.J. (Office, 22 W. Gay St., Columbus 15, Ohio.)
- 10-12. IRE National Conf. on Airborne Electronics, Dayton, Ohio. (H. Pratt, 800 Quaint Acres Dr., Silver Spring, Md.)
- 10-12. Symposium on Fluorides, Cincinnati, Ohio. (Sec., Inst. of Industrial Health, Eden and Bethesda Aves., Cincinnati 19.)
- 12-22. International Conf. on Large Electric Systems, CIGRE, Paris, France. (F. Attwood, 50 Church St., New York 7.)
- 13-15. National Science Fair, 5th, Lafayette, Ind. (Science Clubs of America, 1719 N St., NW, Washington 6, D.C.)
- 14-16. American Acad. of Dental Medicine, 8th annual, Philadelphia, Pa. (W. M. Greenhut, 124 E. 84 St., New York 28.)
- 14-22. Chemical Engineering and Equipment Exhibition, Frankfurt, Germany. (Dr. Bretschneider, Rheingau-Allee 25, Frankfurt.)
- 14-7. Cong. on Scientific and Technical Progress, 1st, Strasbourg, France. (L. Chereau, 28 Rue Serpente, Paris 6, France.)
- 16-19. American Inst. of Chemical Engineers, Springfield, Mass. (F. J. Antwerpen, 120 E. 41 St., New York 17.)

Meetings & Conferences

May, *contd.*

- 16-23. International Inst. of Welding, annual, closed, Florence, Italy. (J. S. Magrath, 33 W. 39 St., New York 18.)
- 17-20. Electronic Parts Show, Chicago, Ill. (K. C. Prince, 1 N. La Salle St., Chicago 2.)
- 17-22. International Dairy Federation, annual, Paris, France. (General Sec., 154 Rue Belliard, Brussels, Belgium.)
- 17-24. International Office of Epizootics, 22nd, Paris, France. (Sec., 12 Rue de Prony, Paris 17.)
- 18-21. American Planning and Civic Assoc., annual, Columbus, Ohio. (Miss Harlean James, 901 Union Trust Bldg., Washington 5, D.C.)
- 19-22. International Cong. of Athletic Medicine, Belgrade, Yugoslavia. (Dr. Smolaka, Deligradska 27, Belgrade.)
- 21-22. International Soc. of Surgery, Paris, France. (L. Dejardin, 141 Rue Belliard, Brussels, Belgium.)
- 21-22. Operations Research Soc., 2nd annual, Chicago, Ill. (T. E. Caywood, 203 N. Wabash Ave., Chicago 1.)
- 24-26. National Telemetering Conf., Chicago, Ill. (W. J. Mayo-Wells, Applied Physics Laboratory, Silver Spring, Md.)
- 24-27. Symposium on Instrumentation for Industrial Hygiene, Ann Arbor, Mich. (Director, Continued Education, School of Public Health, Univ. of Michigan, Ann Arbor.)
- 24-28. American Assoc. of Cereal Chemists, annual, Denver, Colo. (C. L. Brooke, Merck & Co., Rahway, N.J.)
- 29-5. International Ornithological Cong., 11th, Basel, Switzerland. (Jardin Zoologique, Basel.)
- 29-6. International Medico-Surgical Reunion, 2nd, Turin, Italy. (A. M. Dogliotti, Palazzo delle Esposizioni al Valentino, Turin.)
- 30-2. International Anatomical Nomenclature Committee, London, Eng. (T. B. Johnston, Guy's Hospital, London, SE 1.)
- 30-6. International Cong. of Agricultural and Food Industries, 10th, Madrid, Spain. (Sec., 3, Zurbane, Madrid.)

June

- 7-12. International Cong. of Psychology, 14th, Montreal, Can. (H. S. Langfeld, Eno Hall, Princeton Univ., Princeton, N.J.)
- 9-12. American Soc. for Quality Control, 8th, St. Louis, Mo. (D. Shainin, 70 E. 45 St., New York.)
- 11-17. Pan American Assoc. of Ophthalmology, 3rd, São Paulo, Brazil. (M. E. Alvaro, Consolacao 1151, São Paulo.)
- 14-16. American Soc. of Agronomy, Corn Belt Branch, annual, Lincoln, Neb. (E. J. Frolik, Dept. of Agronomy, Univ. of Nebraska, Lincoln 3.)
- 14-18. American Soc. for Engineering Education, annual, Urbana, Ill. (A. B. Bronwell, Northwestern Univ., Evanston, Ill.)
- 14-18. American Soc. for Testing Materials, annual, Chicago, Ill. (R. J. Painter, 1916 Race St., Philadelphia 3, Pa.)
- 14-18. Symposium on Molecular Structure and Spectroscopy, annual, Columbus, Ohio. (H. H. Nielsen, Dept. of Physics, Ohio State Univ., Columbus 10.)

March 19, 1954

NOW OVER 5100 BIOS CHEMICALS

- | | |
|-----------------------------|---------------------------|
| • Cobalt Molybdate | • Copper Thiocoline |
| • Cobalt Thiocyanate | • Copper Undecylenate |
| • Cobalt Tungstate | • Coproporphyrin |
| • Coniferin | • Coriamyrtin |
| • Coniine | • Coronene |
| • Copper Acetylacetonate | • Corydaline |
| • Copper Aminoacetate | • o-Cresol Indophenol |
| • Copper Borate | • m-Cresol Indophenol |
| • Copper Hydrazine Sulfate | • Cresyl o-Silicate |
| • Copper Iodate | • Cuproin |
| • Copper Lactate | • Cyanoacetylguanidine |
| • Copper Mercuric Iodide | • Cyclooctatetraene |
| • Copper 3-Phenylsalicylate | • Cystinyldiglycine |
| • Copper 8-Quinolinate | • Cytase |
| • Copper Selenite | • Decalol |
| • Copper Silicofluoride | • Dehydracetic Acid |
| | • Dehydroisoascorbic Acid |
| | • Deuteroporphyrin |

Ask for our new
complete catalogue

BIOS

Laboratories, Inc.

17 West 60th St. New York 23, N. Y.
PLaza 7-8171

PRICELESS EUROPEAN TECHNICAL AND SCIENTIFIC BOOK REPRINTS 700 TITLES

and

Reprints of 129 Foreign Medical, Scientific,
and Technical Periodicals.

AVAILABLE TO YOU

Immediate delivery, at prices lower than the
originals, through use of Edwards Brothers LITH-
OPRINT process of book REPRINT.

One of these books may be the answer to your
search!

Send free catalog at once to:

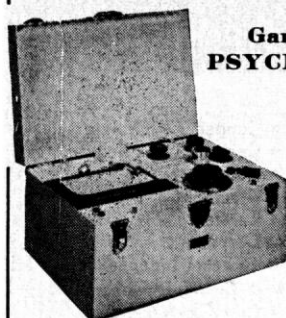
NAME

STREET

CITY ZONE ... STATE

J. W. EDWARDS, PUBLISHER, INC.
Ann Arbor, Michigan

For MEASUREMENT of SKIN RESISTANCE



Garceau RECORDING PSYCHOGALVANOMETER

For the study of the psychogalvanic reflex and skin resistance. The instrument is direct-reading and gives a written record of the reaction of the patient. Price \$775.00

Garceau CLINICAL DERMOHMMETER

For clinical and experimental investigation of disorders involving sympathetic reaction, such as pain reflexes. In the psychological laboratory, the instrument has a well-known application as a so-called "lie detector". Resistance is read directly from a calibrated dial. Small variations, greatly magnified, are shown on the meter. Battery operated. Price \$115.00



ELECTRO-MEDICAL LABORATORY, INC.
New Address—SOUTH WOODSTOCK 2, VERMONT, U.S.A.
Pioneer manufacturers of the electroencephalograph

INOSITOL

B-Vitamin with Lipotropic Activity

Inositol is a naturally-occurring B-vitamin component and a constituent of physiologically important phospholipids. As a nutritional factor, it is of interest because of its relationships to cholesterol and fat metabolism.

Inositol is one of a group of substances known as lipotropic agents, which help to regulate the metabolism of fat and cholesterol in the animal body. Its synergistic effect on other lipotropics has been demonstrated by several different groups of investigators.

ARGO BRAND INOSITOL is available commercially in both 5- and 50-pound containers. Requests for literature and samples will receive prompt attention.

"Fine Chemicals from Corn"



CORN PRODUCTS REFINING COMPANY

17 BATTERY PLACE • NEW YORK 4, N. Y.

Meetings & Conferences

June, *contd.*

- 14-19. Cong. and Exhibition of l'Aluminium Français and La Société Chimique de France, Paris, France. (R. Gadeau, 23 Rue Balzac, Paris 8.)
- 15-18. Medical Library Assoc., Washington, D.C. (Col. F. B. Rogers, Armed Forces Medical Library, Washington 25.)
- 16-19. Colloquium of College Physicists, annual, Iowa City, Iowa. (G. W. Stewart, Dept. of Physics, State Univ. of Iowa, Iowa City.)
- 18-19. American Rheumatism Assoc., annual, San Francisco, Calif. (W. H. Kammerer, 33 E. 61 St., New York 21.)
- 18-22. Canadian Medical Assoc., Vancouver, Can. (General Sec., 135 St. Clair Ave., West, Toronto 5.)
- 19-20. Soc. for Investigative Dermatology, San Francisco, Calif. (H. Beerman, 255 S. 17 St., Philadelphia 3, Pa.)
- 20-23. American Astronomical Soc., Ann Arbor, Mich. (C. M. Huffer, Washburn Observatory, Madison 6, Wis.)
- 20-23. American Soc. of Agricultural Engineers, annual, Minneapolis, Minn. (F. B. Lanham, ASAE, St. Joseph, Mich.)
- 20-24. American Soc. of Medical Technologists, Miami Beach, Fla. (R. Matthaeh, Suite 25, Hermann Professional Bldg., Houston 25, Tex.)
- 20-25. American Inst. of Chemical Engineers, Ann Arbor, Mich. (D. L. Katz, Dept. of Chemical Engineering, Univ. of Michigan, Ann Arbor.)
- 20-25. American Soc. of Mechanical Engineers, semiannual, Pittsburgh, Pa. (C. E. Davies, 29 W. 39 St., New York.)
- 20-25. International Meeting on Chemical Engineering Aspects of Nuclear Processes, Ann Arbor, Mich. (D. L. Katz, Dept. of Chemical Engineering, Univ. of Michigan, Ann Arbor.)
- 20-26. American Library Assoc., annual, Minneapolis, Minn. (D. H. Clift, 50 E. Huron St., Chicago 11, Ill.)
- 20-10. National Training Laboratory in Group Development, Bethel, Me. (L. P. Bradford, 1201 16 St. NW, Washington 6, D.C.)
- 21-23. Chemical Inst. of Canada, 37th annual, Toronto, Can. (D. W. Emmerson, 18 Rideau St., Ottawa 2.)
- 21-24. Western Soc. of Naturalists, Pullman, Wash. (J. L. Mohr, Dept. of Zoology, Univ. of Southern California, Los Angeles.)
- 21-25. Alpha Chi Sigma Fraternity, annual, East Lansing, Mich. (J. R. Kuebler, 5503 E. Washington St., Indianapolis 19, Ind.)
- 21-25. American Inst. of Electrical Engineers, summer general and Pacific general, Los Angeles, Calif. (H. H. Henline, 33 W. 39 St., New York 18.)
- 21-25. Technical Writers' Inst., 2nd annual, Troy, N.Y. (J. R. Gould, Rensselaer Polytechnic Inst., Troy.)
- 21-25. American Medical Assoc., annual, San Francisco, Calif. (AMA Office, 535 N. Dearborn St., Chicago 10, Ill.)
- 22-24. American Dairy Science Assoc., 49th annual, State College, Pa. (J. O. Almquist, College of Agriculture, Pennsylvania State College, State College.)
- 22-25. Rubber Technology Conf., 3rd, London, Eng. (Sec., Institution of Rubber Industry, 12, Whitehall, London, SW 1.)
- 23-25. Cong. for the Advancement of Spectrographic Methods, 17th, Paris, France. (Sec., G.A.M.S., 1, Place St. Thomas d'Aquin, Paris 7.)

Meetings & Conferences

June, *contd.*

- 23-26. Acoustical Soc. of America, 25th, New York, N.Y. (W. Waterfall, 57 E. 55 St., New York 22.)
 25-29. Inst. of Aeronautical Sciences, New York, N.Y. (S. P. Johnston, 2 E. 64 St., New York.)
 27-1. Inst. of Food Technologists, annual, Los Angeles, Calif. (C. S. Lawrence, 176 W. Adams St., Chicago 3, Ill.)
 28-29. National Science Teachers Assoc., New York N.Y. (R. H. Carleton, 1201 16 St. NW, Washington 6, D.C.)
 28-30. American Assoc. of Physics Teachers, Minneapolis, Minn. (R. F. Paton, Univ. of Illinois, Urbana.)
 28-30. American Physical Soc., Minneapolis, Minn. (K. K. Darrow, Columbia Univ., New York 27.)
 28-2. European Cong. of Gastroenterology, 4th, Paris, France. (A. Busson, 63 bis Rue de Varenne, Paris 7.)
 28-3. National Education Assoc., annual, New York, N.Y. (L. W. Ashby, 1201 16 St. NW, Washington, D.C.)
 30-2. Heat Transfer and Fluid Mechanics Inst., Berkeley, Calif. (H. A. Johnson, Dept. of Mechanical Engineering, Univ. of California, Berkeley.)

July

- 1-9. British Medical Assoc., Glasgow, Scotland. (BMA, Tavistock Square, London, WC 1.)
 2-8. International Cong. of Oto-Neuro-Ophthalmology, 19th, São Paulo, Brazil. (C. de Rezende, Hospital das Clinicas, Avenida Ademar de Barros, São Paulo.)
 2-14. International Cong. of Botany, 8th, Paris, France. (P. Chouard, 11, Rue de Val-de-Grace, Paris 5.)
 6-9. American Home Economics Assoc., San Francisco, Calif. (Miss M. Horton, 1600 20 St. NW, Washington, D.C.)
 6-9. International Conf. on Electron Microscopy, London, Eng. (F. W. Cuckow, Royal Cancer Hospital, London, SW 3.)
 7-10. American Physical Soc., Seattle, Wash. (J. Kaplan, Univ. of California, Los Angeles.)
 8-9. International Union of Pure and Applied Physics, 8th, London, Eng. (H. A. Barton, 57 E. 55 St., New York 22.)
 10-15. Latin American Cong. on Gynecology and Obstetrics, 2nd, São Paulo, Brazil. (J. Ramos, Av. Brigadeiro Luiz Antonio, 278-80, São Paulo.)
 13-17. Conf. on Defects in Crystalline Solids, Bristol, Eng. (H. A. Barton, 57 E. 55 St., New York 22.)
 13-17. Cong. on Experimental and Theoretical Nuclear Physics, Glasgow, Scotland. (H. A. Barton, 57 E. 55 St., New York 22.)
 15-17. International Symposium on Solid Particles in Astronomical Objects, Liège, Belgium. (P. Th. Oosterhoff, Leiden Observatory, Leiden, Netherlands.)
 15-21. Pan American Cong. of Child Welfare and Pediatrics, 4th, São Paulo, Brazil. (J. Ramos, Av. Brigadeiro Luiz Antonio 278-80, São Paulo.)
 17-22. Latin American Cong. on Mental Health, 1st, São Paulo, Brazil. (A. C. Pacheco e Silva, Av. Brigadeiro Luiz Antonio 278-80, São Paulo.)
 19-23. International Cong. of Gerontology, 3rd, London and Oxford, Eng. (Mrs. A. Humpage, Tavistock Square, London, WC 1.)
 19-24. Pan American Cong. on Gastroenterology, 5th, São Paulo, Brazil. (J. Ramos, Av. Brigadeiro Luiz Antonio 278-80, São Paulo.)

March 19, 1954

Direct Coupled Wide Band Amplifier



AEL Model 251 DC Amplifier

A unique instrument used to amplify small DC potentials, with high frequency components up to 100 KC, found in research in the fields of Medical Physics, Neurophysiology, Biology, and Electromyography.

Gain Stabilized differential gain of 100,000; in-phase rejection ratio of 50,000 : 1.

Frequency Frequency response is uniform $\pm 2\%$ to 50,000 cps, and usable to at least 100 KC.

Noise Maximum 10 μ v RMS at widest bandwidth with input short-circuited.

Drift Drift is less than 5 μ v per minute with AEL Power Supply and Battery Floater.

Input Impedance is 100 megohms at 400 cps with less than 10^{-8} amperes of grid current.

Output Low output impedance directly drives recording instruments, oscilloscopes.

Write for detailed specifications and Catalog B.

American Electronic Laboratories, Incorporated
641 ARCH STREET, PHILADELPHIA 6, PENNSYLVANIA

Frontiers in EMBRYOLOGY

EXPERIMENTAL EMBRYOLOGY

by ROBERTS RUGH, Columbia University

This distinguished work is one of the most up-to-date reference sources and guides to techniques in the field. Used by leading scientists, it offers an exhaustive, well-balanced text for both undergraduate and graduate students. This work is particularly well-suited for stimulating analytical observations by students. 1952 Printing; \$7.00.

A LABORATORY MANUAL OF VERTEBRATE EMBRYOLOGY

by ROBERTS RUGH, Columbia University

Already adopted by over 100 schools in the country, this popular manual can be used with any textbook in vertebrate embryology. Its well organized text and illustrated material covers maturation, fertilization and cleavage . . . with emphasis on studies of frog and chick embryology. Incorporated in this recent revision are critical suggestions from many of the world's leading embryologists. 1953 Printing; \$2.50.

Order now . . . on approval if you wish . . . from

BURGESS PUBLISHING COMPANY
428 South Sixth Street
Minneapolis 15, Minnesota

Outstanding

McGRAW-HILL BOOKS

ELEMENTS OF CHORDATE ANATOMY

By CHARLES K. WEICHERT, The University of Cincinnati. *McGraw-Hill Publications in the Zoological Sciences*. 451 pages, \$5.50

This excellent new text is a well-organized condensation of the author's successful *Anatomy of Chordates*, designed to be used in a one semester course. In briefer form, it includes a survey of the phylum Chordata with classification of animals within the phylum, principles of embryonic development introducing the germ layer concept, and a comparative study of the organ systems of the body.

REPRESENTATIVE CHORDATES: A Manual of Comparative Anatomy

By CHARLES K. WEICHERT, The University of Cincinnati. *McGraw-Hill Publications in the Zoological Sciences*. In press

Here is a laboratory manual derived from Part III of Weichert's *Anatomy of the Chordates* with minor modifications. The anatomy of four representative chordates is described in detail: the marine lamprey, *Petromyzon sarinus*; the spiny dogfish, *Squalus acanthias*; the mud puppy, *Necturus maculosus*; and the cat, *Felis domestica*. Copious illustrations of the animals and structures to be studied are included.

ANATOMY OF THE CHORDATES

By CHARLES K. WEICHERT, The University of Cincinnati. *McGraw-Hill Publications in the Zoological Sciences*. 861 pages, \$8.00

Carefully prepared in a readable, interesting manner, making liberal use of illuminating illustrations, this text, following a brief introduction, discusses the classification and natural history of the main groups of living animals making up the phylum Chordata. A chapter on development follows: then, each organ system is taken up separately and from a comparative point of view. 500 illustrations are included.

Send for copies on approval

McGRAW-HILL BOOK COMPANY, Inc.

330 West 42nd Street • New York 36, N. Y.

Meetings & Conferences

July, contd.

- 20-24. International Conf. on Thrombosis and Embolism, Basel, Switzerland. (W. Merz, Gynecological Clinic, Univ. of Basel.)
- 21-24. International Cong. of Medical Psychotherapy, Zurich, Switzerland. (H. K. Fiers-Monnier, Hauptstrasse 8, Kreuzlingen, Switzerland.)
- 21-28. International Cong. of Crystallography, 3rd, Paris, France. (J. D. H. Donnay, Johns Hopkins Univ., Baltimore, Md.)
- 23-29. International Cancer Cong., 6th, São Paulo, Brazil. (H. L. Stewart, National Cancer Inst., Bethesda, Md.)
- 25-31. Inter-American Cong. of Sanitary Engineering, 4th, São Paulo, Brazil. (L. Nogueira, Caixa Postal 8099, São Paulo.)
- 26-31. International Cong. of Gynecology and Obstetrics, Geneva, Switzerland. (W. Geisendorf, Maternité, Hôpital Cantonal, Geneva.)
- 27-28. International Union of Theoretical and Applied Mechanics, 4th, Brussels, Belgium. (H. L. Dryden, 1724 F St. NW, Washington 25, D.C.)
- 28-2. International Union for the Protection of Nature, 4th, Copenhagen, Denmark. (H. J. Coolidge, National Research Council, Washington 25, D.C.)
- 28-2. Symposium on Photoelasticity and Photoplasticity, Brussels, Belgium. (H. L. Dryden, 1724 F St. NW, Washington 25, D.C.)

August

- 3-13. Pan American Federation of Engineering Societies, 3rd, São Paulo, Brazil. (H. Pegado, Edifício Maua, Viaduto Dona Paulina, São Paulo.)
- 9-27. Summer Seminar in Statistics, 5th, Storrs, Conn. (G. Beall, Dept. of Statistics, Univ. of Connecticut, Storrs.)
- 10-14. Canadian Teachers' Federation, annual, Vancouver, Canada. (G. G. Croskery, 444 Mac Laren St., Ottawa.)
- 12-14. International Cong. on Group Psychotherapy, 1st, Toronto, Can. (J. L. Moreno, 101 Park Ave., New York 17.)
- 13-14. International Cong. on Child Psychiatry, Toronto, Can. (A. Z. Barhash, 186 Clinton Ave., Newark 5, N.J.)
- 13-21. World Poultry Cong., 10th, Edinburgh, Scotland. (Cong. Sec., Dept. of Agriculture for Scotland, St. Andrew's House, Edinburgh 1.)
- 14-21. International Cong. on Mental Health, 5th, Toronto, Can. (J. D. Griffin, 111 St. George St., Toronto 6.)
- 15-28. Pan Indian Ocean Science Cong., Perth, Western Australia. (A. D. Ross, 31 Ventnor Ave., West Perth.)
- 19-20. National Council of Geography Teachers, San Francisco, Calif. (Mrs. I. C. Robertson, State Teachers College, Valley City, N.D.)
- 19-31. International Conf. of Ship Hydrodynamics, 7th, Göteborg, Sweden. (H. F. Nordstrom, Statens Skeppsprovvningsanstalt, Göteborg.)
- 23-26. American Veterinary Medical Assoc., annual, Seattle, Wash. (J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Ill.)
- 23-28. International Cong. for the Philosophy of Science, 2nd, Zurich, Switzerland. (Sec., Internationales Forum Zurich, Room 20d, Eidengenssische Hochschule, Zurich 6.)