

Introduction of Hydrology

Modern Hydrology (Harper and Row, New York, 1965. 317 pp., \$10.50), by Raphael G. Kazmann, is a highly readable reference source on the general subject of hydrology. The author's deliberate subordination of mathematical treatment contributes considerably to the readability of the volume. Engineers, planners, lawyers, legislators, and citizens concerned with or interested in water resource development should find the volume of interest. The hydrologist should also find it useful, particularly the specialist who is working in another area of hydrology but is interested in relating his work to the general field of hydrology.

In the introduction the author traces the historical development of the field. In subsequent chapters he considers precipitation, evaporation, surface water, ground water, and water resource development. The last chapter is entitled "Summation and outlook." The chapters on surface water and ground water comprise slightly more than one-half of the book. Of particular interest in the chapter on ground water is the section in which the author describes several case histories of ground water development and assigns to the aquifer the role of a filter plant, a reservoir, or a water mine. Kazmann undoubtedly drew from his wide background in ground water hydrology in writing this chapter.

The terms *side effects* and *feedback effects* are introduced in the chapter on surface water. Feedback effects, as defined by the author, are effects that modify the source of a process. Side effects do not interfere with the process but give rise to unforeseen problems. In the chapter on surface water and subsequent chapters these effects are considered in the development of water resources. According to the author, the book is entitled *Modern Hydrology* because these effects in the development of water resources are considered.

My criticisms are minor. A volume as wide in scope as *Modern Hydrology* tends to gloss over certain phases of hydrology. The volume is, however, sufficiently well referenced so that the reader is provided with additional sources of information. *Modern Hydrology* should be considered as an introductory textbook or as a supplementary reference source.

RICHARD J. SCHICHT
Illinois State Water Survey,
Urbana, Illinois

7 JANUARY 1966

Genetics

The now classical experiments of Beadle and Tatum on *Neurospora* catalyzed research in fungal genetics and at the same time represented a major step in the union of genetics, microbiology, and biochemistry. This union has contributed substantially to its parent disciplines and to fundamental biology. Some species of fungi have outstanding merit for use as tools in genetics. This fact stems, collectively, from their ability to grow on chemically defined media, their various genetic systems, their abundance of vegetative and sexual spores, their production of asci, and from systems such as heterokaryosis and dikaryosis. These features have permitted, among other advances, the first nonstatistical proof of Mendelian laws; they have provided studies, often pioneer, in recombination, gene action, interallelic complementation, genetic fine structure, mutagenesis, and extrachromosomal heredity. On the other hand, the application of a genetic approach to fungi has revealed the parasexual cycle which is the most thoroughly elucidated of the novel microbial recombination processes. Discovery of this cycle, which is based entirely on vegetative events, has opened the way to genetic analysis of many species of imperfect fungi.

The first edition of **Fungal Genetics** (Davis, Philadelphia, ed. 2, 1965. 336 pp., \$9.95), by J. R. S. Fincham and P. R. Day, was published in 1963 and filled a great need; it was the only recent attempt to gather together the diverse developments in this field. The subject is important for geneticists, mycologists, and others interested in the landmarks of biology. The authors achieved a style and content that satisfied most interests. The same is true of the second edition, which includes major advances since 1963; several chapters have now been rewritten, and errors of the first edition have been corrected.

The book consists of nearly self-contained chapters, but the volume as a whole still has a considerable degree of unity. The first chapter presents the elements of genetics through *Neurospora*, and the second provides a particularly valuable outline of the life cycles of those fungi most used by geneticists. The development then proceeds through discussion of fungal mutants, chromosome mapping, changes in ploidy, gene structure and function,

genetic systems of fungi, and extrachromosomal heredity to the genetics of pathogenicity. DNA is discussed briefly in an appendix, and there is a glossary of terms commonly used in fungal genetics, which should help the nonspecialist. The text is free from jargon, and the account is stimulating without being dogmatic. An excellent sense of historical perspective has been maintained, and this is reflected in the bibliography which includes more than 600 references with titles.

This book can be recommended without reservation to lecturer, research worker, and student.

J. A. ROPER

Department of Molecular and Genetic
Biology, University of Utah

New Books

Biological and Medical Sciences

Acting Out: Theoretical and Clinical Aspects. Lawrence Edwin Abt and Stuart L. Weissman, Eds. Grune and Stratton, New York, 1965. 350 pp. \$11.50. Twenty-eight papers: Theoretical and dynamic considerations of acting out (4 papers); Clinical manifestations of acting out (5 papers); Special forms of acting out (6 papers); Treatment and management of acting out (7 papers); Predicting acting out by means of psychological tests (6 papers).

Advances in Blood Grouping. vol. 2. Alexander S. Wiener, with a section by Maurice Shapiro. Grune and Stratton, New York, 1965. 480 pp. Illus. \$12.50.

Annual Review of Phytopathology. vol. 3. James G. Horsfall and Kenneth F. Baker, Eds. Annual Reviews, Palo Alto, Calif., 1965. 439 pp. Illus. \$8.50. Seventeen papers: "Toxins and cell-wall dissolving enzymes in relation to plant disease" by William Brown; "Serology in virus-disease diagnosis" by C. Wetter; "Factors in survival of nematodes" by S. D. Van Gundy; "Deterioration of stored grains by fungi" by C. M. Christensen and H. H. Kaufmann; "Problems in speciation of phytopathogenic pseudomonads and xanthomonads" by Heinz Stolp, Mortimer P. Starr, and Nancy L. Baigent; "Histochimistry of foliage diseases" by Naoji Suzuki; "Plant virus inclusions" by Frank P. McWhorter; "Inhibition of cellulases" by Mary Mandels and Elwyn T. Reese; "Metabolic aspects of spore germination in fungi" by Paul J. Allen; "Microclimate and plant disease" by Paul E. Waggoner; "Environmental relationships in the powdery mildews" by W. C. Schnathorst; "Fate of fungicides in plants" by A. Kaars Sijpesteijn and G. J. M. van der Kerk; "Adaptation of fungi to metal toxicants" by Joji Ashida; "Low-volume spraying" by Robert H. Fulton; "Disease control through virus-free stock" by M. Hollings; "Use of environmental factors in screening for disease resistance" by J. C. Walker;

(Continued on page 122)

Two for the price of none

Two laboratory planning manuals
... at no cost to you. All you
do is ask for them.

Laboratory Hoods—A comprehensive reference on hoods for use in biological, radiological, chemical and other laboratories. Discusses hood design, air or fume exhaust systems, safety, construction and accessories. Also gives specifications and dimensions. 64 pages.

Laboratory Casework & Furniture—Discusses cabinets, sinks, counters and other units for efficient laboratories. Shows equipment which permits change of drawer or door arrangement without tools. Outlines design, construction, materials and dimensions of equipment. 44 pages.

Use this coupon to get one or both of these free Blickman design catalogs. They can help you plan for tomorrow's laboratory today.

S. BLICKMAN, INC.

6901 Gregory Ave.,
Weehawken, N. J.

Please send information on
() Laboratory Hoods
() Laboratory Casework

Name _____
Title _____
Institution _____
Address _____
City _____
Country _____

NEW BOOKS

(Continued from page 67)

"Epiphytic microorganisms in relation to plant disease" by Curt Leben.

The Anatomy of the Laboratory Mouse. Margaret J. Cook. Academic Press, New York, 1965. 149 pp. Illus. \$6.

Bacterial Genetics. Werner Braun. Saunders, Philadelphia, ed. 2, 1965. 394 pp. Illus. \$10.

Biochemical Engineering. Shuichi Aiba, Arthur E. Humphrey, and Nancy F. Millis. Univ. of Tokyo Press, Tokyo, Japan; Academic Press, New York, 1965. 339 pp. Illus.

The Biosocial Basis of Mental Retardation. Sonia F. Osler and Robert E. Cooke, Eds. Johns Hopkins Press, Baltimore, 1965. 167 pp. Illus. \$5.50. Seven papers: "The mentally handicapped in a technological society" by Eli Ginzberg; "The nature of intelligence" by G. Wilson Shaffer; "Perinatal factors and intelligence" by Janet B. Hardy; "Effects of early deprivation of photic stimulation" by Austin Riesen; "Induced mental and social deficits in rhesus monkeys" by Harry F. Harlow and Gary Griffin; "Learning processes of the mentally retarded" by David Zeaman; and "Diagnostic, cultural, and remedial factors in mental retardation" by Samuel A. Kirk.

Chemical Microbiology. Anthony H. Rose. Butterworth, Washington, D.C., 1965. 255 pp. Illus. \$7.50.

Cybernetic Medicine. Aldo Masturzo. Thomas, Springfield, Ill., 1965. 158 pp. Illus. \$6.50.

Diagnosis and Therapy of the Glaucomas. Bernard Becker and Robert N. Shaffer. Mosby, St. Louis, Mo., ed. 2, 1965. 455 pp. Illus. \$18.50.

Dictionary of Nutrition and Food Technology. Arnold E. Bender. Butterworth, Washington, D.C., ed. 2, 1965. 229 pp. \$9.50.

Diseases of Tobacco. George Blanchard Lucas. Scarecrow Press, New York, ed. 2, 1965. 778 pp. Illus. \$18.

Electrolytes and Cardiovascular Diseases: Physiology, Pathology, Therapy. vol. 1, *Fundamental Aspects.* Eörs Bajusz, Ed. Williams and Wilkins, Baltimore, 1965. 424 pp. Illus. \$16. Twenty-one papers: Cardiac metabolism and function (7 papers); Necrotizing cardiomyopathies (9 papers); and Vascular function and hypertension (5 papers).

Evolution and Modification of Behavior. Konrad Lorenz. Univ. of Chicago Press, Chicago, Ill., 1965. 125 pp. \$3.50.

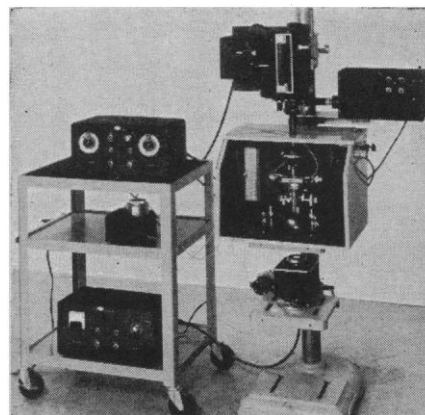
Fertilization. C. R. Austin. Prentice-Hall, Englewood Cliffs, N.J., 1965. 159 pp. Illus. Paper, \$2.95; cloth, \$4.95. Foundations of Developmental Biology Series, edited by Clement L. Markert.

A Flora of Northeastern Minnesota. Olga Lakela. Univ. of Minnesota Press, Minneapolis, 1965. 557 pp. Illus. \$10.

The Fungous Diseases of Man. J. Walter Wilson and Orda A. Plunkett. Univ. of California Press, Berkeley, 1965. 444 pp. Illus. \$15.

Handbook of Physiology. A critical, comprehensive presentation of physiological knowledge and concepts. Section 2, vol. 3, *Circulation.* W. F. Hamilton, Ed. Published for the American Physiological

EMDECO System . . for vibrationless time lapse photomicrography



The EMDECO system of time lapse photomicrography integrates a series of precision components to provide motion pictures of practically any object which can be viewed through a microscope. Absolutely motionless photomicrography at the highest magnifications is made possible by EMDECO's patented method which halts all moving parts in the unit throughout the duration of the exposure. This unique system is always in synchronization with the shutter, no matter which exposure cycle has been selected.

The EMDECO system permits making time lapse photomicrographs of the highest quality at any exposure time from 1/4 to 15 seconds at any exposure interval from 1 to 60 seconds. It may also be set to operate at the standard camera speeds of 1, 2, 4, 8, or 16 frames per minute.

The system is designed to operate with any one of four 16 mm motion picture cameras: The Kodak Cine Special I or II, the Kodak Reflex Special and the Bolex H-16. A drive unit for the 8 mm Bolex Special is also available from EMDECO.

All standard microscopes are suitable for use with the EMDECO cinephotomicrographic system.

Photomicrographs provided by this unit are precise and with minimal parallax. The EMDECO system is specially suited to medical research, bacteriology, physiology, geology, crystallography and industrial research. The method has been used successfully for the photomicrography of such biological specimens as tissue cultures, blood samples and bacteria. It is ideal for the study of any substances—such as metals, minerals and crystalline formations—which would be changed by time or temperature.

No photographic experience is necessary to obtain truly professional time lapse photomicrographs with the EMDECO system.

Write for EMDECO Bulletin EB-2S

EMDECO

THE ELECTRO-MECHANICAL DEVELOPMENT CO.
A subsidiary of Coleman Instruments Corporation
42 Madison Street, Maywood, Illinois 60154

Society by Williams and Wilkins, Baltimore, 1965. 985 pp. Illus. \$32.

Hawk's Physiological Chemistry. Bernard L. Oser, Ed. McGraw-Hill, New York, ed. 14, 1965. 1488 pp. Illus. \$19.50.

Hybrids. David C. Rife. Public Affairs Press, Washington, D.C., 1965. 167 pp. Illus. \$3.75.

Hypoglycaemia. Vincent Marks and F. Clifford Rose. Davis, Philadelphia, Pa., 1965. 368 pp. Illus. \$12.

International Review of Connective Tissue Research. vol. 3. David A. Hall, Ed. Academic Press, New York, 1965. 295 pp. Illus. \$12. Five papers: "The histochemistry of the connective tissues" by Harold M. Fullmer; "Connective tissue and periodontal disease" by Stig D. Schultz-Hautdt; "Experimental lathyrism" by Marvin L. Tanzer; "The physical chemistry of gelatin" by Arthur Veis; and "Acid hydrolases of connective tissue" by J. F. Woessner, Jr.

International Trends in Mental Health. Henry P. David, Ed. McGraw-Hill, New York, 1966. 382 pp. \$15. McGraw-Hill Series in International Development; 29 papers: Introduction; A World view (6 papers); Community centers (7 papers); Children and schools (5 papers); Approaches to social problems (6 papers); and Resources (5 papers).

Introduction to Anatomy. Roger Warwick. Arco, New York, 1965. 240 pp. Illus. Paper, \$1.65; cloth, \$3.50.

Introduction to Botany. H. J. M. Bowen. Arco, New York, 1965. 224 pp. Illus. Paper, \$1.65; cloth, \$3.50.

An Introduction to General Virology. Thomas M. Bell. Lippincott, Philadelphia, Pa., 1965. 292 pp. Illus. \$7.50.

An Introduction to the Study of Enzymes. H. Gutfreund. Wiley, New York, 1965. 345 pp. Illus. \$9.95.

The Microstructure of Cells. Stephen W. Hurry. Houghton, Mifflin, Boston, 1965. 48 pp. Illus. Paper, \$1.80.

The Mosquitoes of Victoria (Diptera, Culicidae). N. V. Dobrotworsky. Melbourne Univ. Press, Carlton, Australia; Cambridge Univ. Press, New York, 1965. 243 pp. Illus. \$18.

Myxomatosis. Frank Fenner and F. N. Ratcliffe. Cambridge Univ. Press, New York, 1965. 393 pp. Illus. \$19.50.

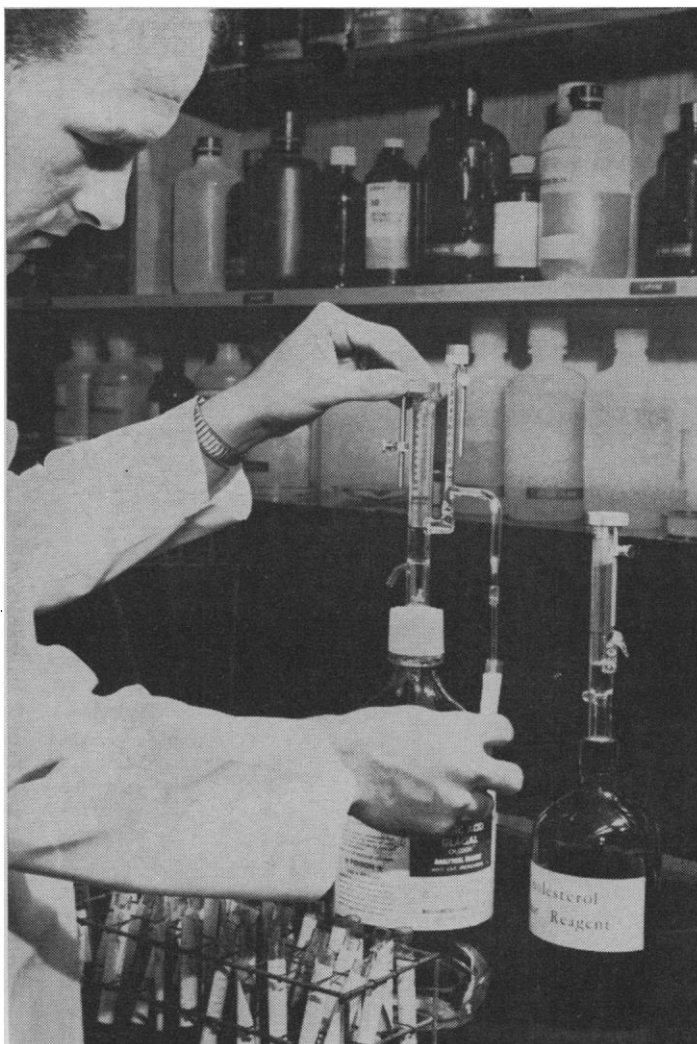
Neural Mechanisms of Higher Vertebrate Behavior. J. S. Beritoff. Translated from the Russian and edited by W. T. Liberson. Little, Brown, Boston, 1965. 400 pp. Illus. \$15.

Neurohistochemistry. C. W. M. Adams, Ed. Elsevier, New York, 1965. 769 pp. Illus. \$29. Seventeen papers: Histochemical and cytochemical technique (6 papers); Histochemistry of the normal nervous system (3 papers); and Histochemistry applied to neuropathology (8 papers).

Nonequilibrium Thermodynamics in Biophysics. A. Katchalsky and Peter F. Curran. Harvard Univ. Press, Cambridge, Mass., 1965. 260 pp. Illus. \$9.75. Harvard Books in Biophysics, vol. 1.

Pharmacology of the Coronary Circulation. Natalia V. Kaverina. Translated from the Russian by R. Crawford. Pergamon, New York, 1965. 277 pp. Illus. \$12.50.

Physiological Controls and Regulations. William S. Yamamoto and John R. Bro-



WHY DISPENSE FROM OPEN CONTAINERS? (You Don't with L/I Automatic REPIPETS* and Dilutors*)

No dirt, particulates, moisture or CO₂ can contaminate your reagents when you use L/I instruments. Because every L/I REPIPET and Dilutor has an air filter, fits air-tight *directly* on your reagent vessel, and is supplied with an air inlet tube and plastic cap. A wad of cotton in the cap keeps out particulates. Moisture and CO₂ are removed by attaching Aquasorb® or Malcosorb® filters.

L/I REPIPETS and Dilutors dispense and dilute *any* reagent, hot or cold, with a guaranteed accuracy of 1%, reproducibility $\pm 0.1\%$. Volumes? From microliters to deciliters. Cleanup? None.

Dilutors \$89.50, including complete set of tips for highest precision in all ranges. REPIPETS \$45. Immediate delivery in 1, 10, 20 and 50 ml sizes. Write for six-page brochure which gives complete details and specific clinical and chemical procedures.

*Patents Pending, REPIPETS (REpetitive PIPETS) and Dilutors



LABINDUSTRIES

1802 M Second Street, Berkeley, California 94710

Phone: TH 3-0220, Cable LABIND

From the HOLDEN-DAY Library of Pure and Applied Science

Science and Society

by Alexander Vavoulis and A. Wayne Colver,

CALIFORNIA STATE COLLEGE AT FRESNO

A stimulating collection of essays by noted scientists, philosophers, and educators intended to illuminate the basic principles and methods of science for nonscience majors. Selections probe the nature of the scientific enterprise, its historical development, its great literature, and its overall relationship with politics and society. Each essay is preceded by a biographical note and is followed by brief questions giving direction to the reading. \$4.95 (cloth) \$2.50 (paper)

The Cyclitols

by Theodore Posternak, UNIVERSITY OF GENEVA

(Chemistry of Natural Products Series, edited by Edgar Lederer)

This English edition represents a revised and completely up-to-date version of the original French edition "Les Cyclitols" published by Hermann, Paris, 1962. The work aims at a reasonably concise account of cyclitols that will, nevertheless, present as complete a picture as possible. The treatment of these fascinating compounds benefits by the rather complete reviews contained in the text. Posternak has placed the structurally selective and stereospecific reactions of cyclitols on a rational basis made possible by modern conformational theory. \$15.95

Introduction to Scientific Inference

by Robert Hooke, WESTINGHOUSE RESEARCH LABORATORIES

A monograph to acquaint scientists and engineers (and undergraduates) with some of the elements of scientific inference as statisticians see it, and to stimulate their interest in the study of statistics. Emphasizes ideas, with a low mathematical level, but provides clear and simple explanations of principles of quantitative description. \$3.75 (cloth) \$1.95 (paper)

Mach Bands:

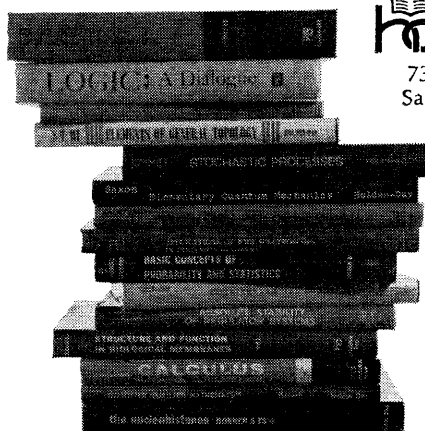
Quantitative Studies of Neural Networks in the Retina

by Floyd Ratliff, ROCKEFELLER INSTITUTE

Considers the visual phenomenon discovered in 1865 by Ernst Mach, now known as Mach Bands. Surveys the several theoretical formulations that have been advanced to explain the Mach Bands — explanations that are all in terms of inhibitory interaction, considering its role as a "sharpening" mechanism and as the possible basis for detecting complex patterns movement. Includes a biographical sketch of Mach. \$11.75

Available at all Science Book Stores

For a copy of the new Holden-Day catalog for 1966, listing titles in the fields of biology, chemistry, mathematics, physics, engineering, mathematical economics, and psychology, write to:



Holden-Day, Inc.

730 Montgomery Street
San Francisco, California
94111

beck, Ed. Saunders, Philadelphia, 1965. 374 pp. Illus. \$11.50. Fifteen papers.

Pollen and Sport Morphology: Plant Taxonomy. Gymnospermae, Bryophyta (text). An introduction to palynology, III. G. Erdtman. Almqvist and Wiksell, Stockholm, 1965. 216 pp. Illus. Plates.

Principles of Sensory Evaluation of Food. Maynard A. Amerine, Rose Marie Pangborn, and Edward B. Roessler. Academic Press, New York, 1965. 612 pp. Illus. \$19.50. Food Science and Technology Series, edited by M. L. Anson, C. O. Chichester, E. M. Mrak, and G. F. Stewart.

Readings in Animal Behavior. Thomas E. McGill, Ed. Holt, Rinehart, and Winston, New York, 1965. 604 pp. Illus. \$12. Fifty-five papers: Introductory readings (5 papers); Behavior genetics (6 papers); Neural, hormonal, and chemical control of behavior (8 papers); The development of behavior, critical periods, and imprinting (11 papers); Sensory processes, communication, and orientation (8 papers); Learning and motivation (10 papers); and Social behavior, ethology, and evolution (7 papers).

Speech Disorders. Multisensory techniques for remedial education in disorders of speech, language, and the psycho-neural motor system. Suzanne de Parrel. Translated from the French by D. M. Keane. Pergamon, New York, 1965. 254 pp. \$12.

Spore Liberation. C. T. Ingold. Oxford Univ. Press, New York, 1965. 220 pp. Illus. \$5.60.

Treatise on Invertebrate Paleontology. Raymond C. Moore, Ed. Pt. H., *Brachiopoda*, vols. 1 and 2. Alwyn Williams and others. Geological Soc. of America and Univ. of Kansas Press, Lawrence, 1965. vol. 1, 553 pp.; vol. 2, 406 pp. Illus. \$19.50.

The Veins: Normal and Abnormal Function. J. Edwin Wood. Little, Brown, Boston, 1965. 242 pp. Illus. \$10.

Mathematics, Physical Sciences, and Engineering

Adsorption from Solutions of Non-Electrolytes. J. J. Kipling. Academic Press, New York, 1965. 340 pp. Illus. \$12.

Advanced Quantum Chemistry: Theory of Interactions between Molecules and Electromagnetic Fields. Hendrik F. Hamaker. Addison-Wesley, Reading, Mass., 1965. 287 pp. Illus. \$13.75. Addison-Wesley Series in Advanced Physical Chemistry.

Advances in Chemical Physics. vol. 9. I. Prigogine, Ed. Interscience (Wiley), New York, 1965. 426 pp. Illus. \$15.75. Five papers: "Scaled particle methods in the statistical thermodynamics of fluids" by Howard Reiss; "Quantum chemistry of crystal surfaces" by Jaroslav Koutecký; "Vibrational properties of hexafluoride molecules" by Bernard Weinstock and Gordon L. Goodman; "Electronic correlation in atoms and molecules" by R. K. Nesbet; and "Diamond synthesis" by R. H. Wentorf, Jr.

Algebra. Serge Lang. Addison-Wesley, Reading, Mass., 1965. 526 pp. Illus. \$12.75.

Analytical Chemistry of Potassium. I.

M. Korenman. Translated from the Russian edition (Moscow, 1964) by N. Kaner. D. Slutzkin, Translation Ed. Israel Program for Scientific Translations, Jerusalem; Davey, New York, 1965. 250 pp. Illus. \$14. Analytical Chemistry of Elements Series.

The Biochemistry of the Nucleic Acids. J. N. Davidson. Methuen, London; Wiley, New York, ed. 5, 1965. 368 pp. Illus. \$5.50.

Catalytic Hydrogenation: Techniques and Applications in Organic Synthesis. Robert L. Augustine. Dekker, New York, 1965. 200 pp. Illus. \$8.75.

Ceramics for Advanced Technologies. J. E. Hove and W. C. Riley, Eds. Wiley, New York, 1965. 460 pp. Illus. \$19.50. University of California Engineering and Physical Sciences Extension Series. Fourteen papers.

The Collected Papers of Enrico Fermi. vol. 2, United States 1939-1954. Edoardo Amaldi, Herbert L. Anderson, Enrico Persico, Emilio Segrè, and Albert Wattenberg, Eds. Univ of Chicago Press, Chicago, 1965. 1101 pp. Illus. \$22.50.

Collected Papers of P. L. Kapitza. vol. 2, 1938-1964. D. ter Haar, Ed. Pergamon, New York, 1965. 497 pp. Illus. \$21.50. Twenty-five papers.

Computer Programming for Chemists. Kenneth B. Wiberg. Benjamin, New York, 1965. 279 pp. Illus. \$12.50. Frontiers in Chemistry Series, edited by Ronald Breslow and Martin Karplus.

Elements of Theoretical Mechanics for Electronic Engineers. Franz Bultot. Translated from the French by Elizabeth S. Knowlson. Pergamon, New York, 1965. 264 pp. Illus. \$7.50. International Series of Monographs in Electronics and Instrumentation, vol. 32, edited by D. W. Fry and L. Costrell.

The Engineer's Guide to Steel. Albert Hanson and J. Gordon Parr. Addison-Wesley, Reading, Mass., 1965. 414 pp. Illus. \$13.75.

Fluorimetric Analysis. M. A. Konstantinova-Schlezinger, Ed. Translated from the Russian edition (Moscow, 1961) by N. Kaner. Israel Program for Scientific Translations, Jerusalem; Davey, New York, 1965. 392 pp. Illus. \$15.25. Physical Principles and Techniques of Spectroscopic Analysis Series.

Fundamentals of Mathematics. Moses Richardson. Macmillan, New York, ed. 3, 1966. 623 pp. Illus. \$7.95.

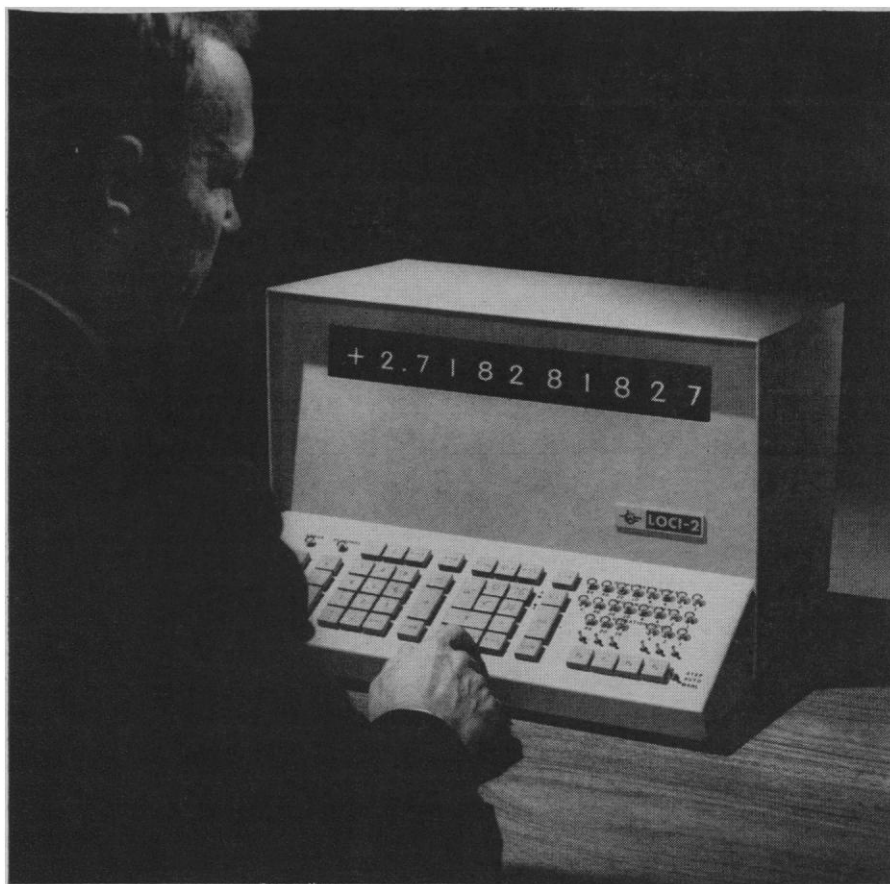
Gravimetric Analysis. pt. 3. László Erdey. Translated by Gyula Svehla. Ilona Buzás, Translation Ed. Pergamon, New York, 1965. 309 pp. Illus. \$7.50. International Series of Monographs in Analytical Chemistry, vol. 7, edited by R. Belcher and L. Gordon.

Green's Function Methods in Probability Theory. Julian Keilson. Hafner, New York, 1965. 228 pp. Illus. Paper, \$6.50.

High Pressure Chemistry. R. S. Bradley and D. C. Munro. Pergamon, New York, 1965. 194 pp. Illus. Paper, \$3.95. The Commonwealth and International Library.

Industrial Heat Transfer: Practical and Theoretical, with Basic Numerical Examples. Alfred Schack. Translated from the sixth German edition (Düsseldorf, 1962) by I. Gutman. Wiley, New York, 1965. 476 pp. Illus. \$16.

Introduction to Chemical Process Con-



loci

...shortest
distance
between
problem &
solution

LOCI-2 (Wang Laboratories' Logarithmic Computing Instrument) is the most powerful desktop computer you can obtain. At its keyboard you can expand your horizons, multiply your problem-solving capabilities and penetrate straight to the answer.

Because of its revolutionary logarithmic approach to data manipulation, LOCI-2 provides an inherent, absolutely unique flexibility and simplicity of operation. For example, it can compute $\text{Ln}(x)$ or e^x in only two keystrokes.

LOCI-2 can be readily programmed for a broad variety of complex routines, by means of pre-scored, easily-punched cards. Thus, with the appropriate card inserted in the reader, you can instantly compute and display $\sin(x)$ or $\cos(x)$ with a single keystroke. An extensive library of programs (statistical, general mathematical, etc.) is furnished free of charge to LOCI-2 purchasers.

And, best of all, LOCI-2 is always at your command. No standing in line for computer time, no complicated operating procedures, simply drop in your program card, enter variables, press RUN key and see your results immediately.

LOCI-2 prices range from \$2750 to \$8450. If you would like to learn more about this remarkable instrument, write for complete descriptive literature.

WANG

LABORATORIES INC

DEPT. D-1, 836 NORTH ST., TEWKSBURY, MASS. 01876, TEL. (617) 851-7311

trol. Daniel D. Perlmutter. Wiley, New York, 1965. 218 pp. Illus. \$6.95.

Introduction to Physical Gas Dynamics. Walter G. Vincenti and Charles H. Kruger, Jr. Wiley, New York, 1965. 556 pp. Illus. \$13.50.

Introduction to Variational Methods in Pergam Engineering. A. R. M. Noton. Pergamon, New York, 1965. 132 pp. Illus. \$5.

Magnetohydrodynamics. Andrey Gennadiyevich Kulikovskiy and Grigoriy Aleksandrovich Lyubimov. Translated from the Russian edition (Moscow, 1962) by Scripta Technica. Ludwig Oster, Ed. Addison-Wesley, Reading, Mass., 1965. 224 pp. Illus. \$9.75.

Man's Physical Universe. Arthur Talbot Bawden and Keith Kearney Fredericks. Macmillan, New York, ed. 5, 1966. 670 pp. Illus. \$8.95.

Method of Moments in Applied Mathematics. Yu V. Vorobyev. Translated from the Russian by Bernard Seckler. Gordon and Breach, New York, 1965. 178 pp. Illus. \$12.50. Russian Monographs and Texts on Advanced Mathematics and Physics Series.

Mixing in the Chemical Industry. Z. Štěrbáček and P. Tausk. Translated from the Czechoslovakian edition (Prague) by K. Mayer. J. R. Bourne, Translation Ed. Pergamon, New York, 1965. 405 pp. Illus. \$15. International Series of Monographs in Chemical Engineering, vol. 5.

Modern Ceramics: Some Principles and Concepts. J. E. Hove and W. C. Riley,

Eds. Wiley, New York, 1965. 421 pp. Illus. \$14.50. University of California Engineering and Physical Sciences Extension Series. Fourteen papers.

Molecular Photochemistry. Nicholas J. Turro. Benjamin, New York, 1965. 300 pp. Illus. \$12.50. Frontiers in Chemistry Series, edited by Ronald Breslow and Martin Karplus.

Nonexistent Compounds: Compounds of Low Stability. W. E. Dasent. Dekker, New York, 1965. 192 pp. Illus. \$8.50.

Ontogeny of Minerals. D. P. Grigor'ev. Translated from the Russian edition (1961) by IPST Staff. Y. Brenner, Translation Ed. Israel Program for Scientific Translations, Jerusalem; Davey, New York, 1965. 256 pp. Illus. \$11.50.

Oscillometry and Conductometry. E. Pungor. Translated by T. Damokos. A. Townshend, Translation Ed. Pergamon, New York, 1965. 255 pp. Illus. \$12. International Series of Monographs in Analytical Chemistry, vol. 21.

Particle Size: Theory and Industrial Applications. Richard D. Cadle. Reinhold, New York, 1965. 400 pp. Illus. \$16.50.

Pendulum Gravity Measurements at Sea, 1936-1959. J. Lamar Worzel. Wiley, New York, 1965. 442 pp. Illus. \$28.

Physics for the Space Age. Richard W. Schulz and Robert T. Lagemann. Lippincott, Philadelphia, ed. 2, 1966. 493 pp. Illus. \$5.80.

Polarographic Techniques. Louis Meites. Interscience (Wiley), New York, ed. 2, 1965. 770 pp. Illus. \$19.50.

Principles of Chemistry. Lewis G. Bassett, Stanley C. Bunce, Alison E. Carter, Herbert M. Clark, and Henry B. Hollinger. Prentice-Hall, Englewood Cliffs, N.J., 1966. 729 pp. Illus. \$8.95.

Problems of the Asymptotic Theory of Nonstationary Vibrations. Yu A. Mitropol'skii. Translated from the Russian edition (Moscow, 1964) by Ch. Gutfreund. Israel Program for Scientific Translations, Jerusalem; Davey, New York, 1965. 391 pp. Illus. \$14.50.

Quantitative Electron Microprobe Analysis. Roger Theisen. Springer-Verlag, New York, 1965. 174 pp. Illus. \$6.

Radiation Damage in Graphite. J. H. W. Simmons. Pergamon, New York, 1965. 254 pp. Illus. \$15. International Series of Monographs in Nuclear Energy, vol. 102, edited by J. V. Dunworth.

Starch: Chemistry and Technology. vol. 1, *Fundamental Aspects.* Roy L. Whistler and Eugene F. Paschall, Eds. Academic Press, New York, 1965. 597 pp. Illus. \$22. Twenty-one papers.

Thermodynamic Cycles of Nuclear Power Stations. D. D. Kalafati. Translated from the Russian edition (Moscow, 1963) by Z. Lerman. G. D. Myers, Translation Ed. Israel Program for Scientific Translations, Jerusalem; Davey, New York, 1965. 207 pp. Illus. \$14.

Transient Phenomena in Electrical Power Systems: Problems and Illustrations. N. D. Anisimova, V. A. Venikov, V. V. Ezhkov, L. A. Zhukov, S. V. Nadezhdin, M. N. Rozanov, D. A. Fedorov, and A. N.



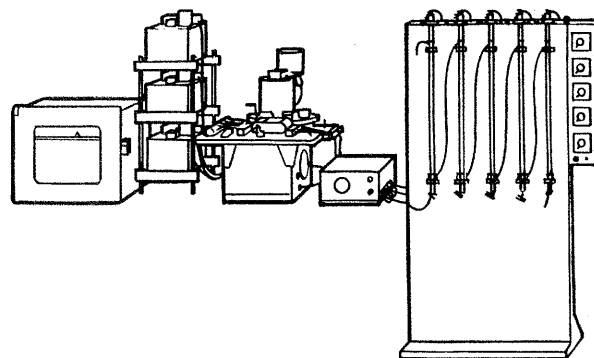
Parr now offers a completely new calorimeter for measuring heats of combustion with greater speed and excellent repeatability. Either adiabatic or isothermal operation is permissible using any existing Parr oxygen bomb. An automatic controller eliminates the time-consuming manual temperature adjustments formerly required in adiabatic calorimetry. (This same controller can be added to any Series 1200 adiabatic calorimeter.) Ask for new literature describing the complete line of Parr oxygen bomb calorimeters. Mention Spec. 1230.

PARR INSTRUMENT COMPANY
211 Fifty-Third St. Moline, Illinois



TECHNICON® CHROMATOGRAPHY SYSTEM

ONE LOADING, UNATTENDED RUNS
UP TO 8 CHROMATOGRAMS/DAY
IN SEQUENCE



Unrivalled for amino acids, carbohydrates, sugars, vitamins analysis. Speed: 3 hrs. for protein hydrolyzates; up to 8 chromatograms daily on expandable system. Accuracy: 3% for 0.020 to 1.00 micromole of each amino acid. Reproducibility: excellent on as little as 0.001 micromole. Features: One-minute sample injection without column disassembly... shutdown programmer for automatic column wash and regeneration, system purge and shutdown... continuous eluent delivery at precise adjustable rates of 0.03 to 2.0 ml/min. Write for details.



TECHNICON CHROMATOGRAPHY CORP.
Research Park • Chauncey, New York

Tsov'yanov. V. A. Venikov, Ed. Translated from the Russian (Moscow, 1962) by R. Kaplan. Bernard Adkins, Translation Ed. Pergamon, New York, 1965. 428 pp. Illus. \$15. International Series of Monographs in Electronics and Instrumentation, vol. 33.

Weak Interactions of Elementary Particles. L. B. Okun'. Translated from the Russian edition (Moscow, 1963) by Z. Lerman. I. Meroz, Translation Ed. Israel Program for Scientific Translations, Jerusalem; Davey, New York, 1965. 182 pp. Illus. \$12.75.

Conference and Symposium Reports

Adaptation et Aggressivité. Raoul Kourilsky, André Soullairac, and Pierre Grapin, Eds. Presses Universitaires de France, Paris, 1965. 230 pp. Paper, F. 12. Relation et Sciences de l'Homme Series; 13 papers presented at a colloquium.

Biology of the Skin and Hair Growth. Proceedings of a symposium (Canberra, Australia), August 1964. A. G. Lyne and B. F. Short, Eds. Elsevier, New York, 1965. 818 pp. Illus. \$23.50. Forty-six papers presented at a symposium sponsored by the Australian Academy of Science.

Chemistry: Opportunities and Needs. A report on basic research in U.S. Chemistry by the Committee for the Survey of Chemistry, NAS-NRC. Natl. Acad. of Sciences-Natl. Research Council, Washington, D.C., 1965. 232 pp. Illus. Paper, \$5. Report given at a conference (Washington, D.C.), November 1965.

Current Aspects of Exobiology. A symposium (Pasadena, Calif.), February 1963. G. Mamikunian and M. H. Briggs, Eds. Pergamon, New York, 1965. 432 pp. Illus. \$17. Ten papers: "Investigation of organo-chemical evolution" by J. Oró; "Organic remains in meteorites" by F. L. Staplin; "Microorganisms of middle Precambrian age from the Animikie series, Ontario, Canada" by E. S. Barghoorn and S. A. Tyler; "The survival capabilities and the performance of earth organisms in simulated extraterrestrial environments" by S. M. Siegel, G. Renwick, O. Daly, C. Giunarro, G. Davis, and L. Halpern; "The possibility of a primordial lunar life" by J. J. Gilvarry; "Possibilities of life on Mars" by F. Jackson and P. Moore; "Life-detection experiments" by G. L. Hobby; "Biological contamination of the planets" by P. J. Geiger, L. D. Jaffe, and G. Mamikunian; "The radio search for intelligent extraterrestrial life" by F. D. Drake; and "Trends and problems in exobiology" by M. H. Briggs and G. Mamikunian.

Hormonal Steroids: Biochemistry, Pharmacology, and Therapeutics. vol. 2. Proceedings of the First International Congress on Hormonal Steroids. L. Martini and A. Pecile, Eds. Academic Press, New York, 1965. 695 pp. Illus. \$20. Seventy-one papers on the following topics: Recent advances in steroid chemistry (14 papers); New anabolic steroids (9 papers); The regulating effect of progestational hormones (8 papers); Action of hormonal steroids on anterior pituitary function (8 papers); Action of hormonal steroids and

7 JANUARY 1966

RECOVER COMPONENTS ELECTROPHORETICALLY!

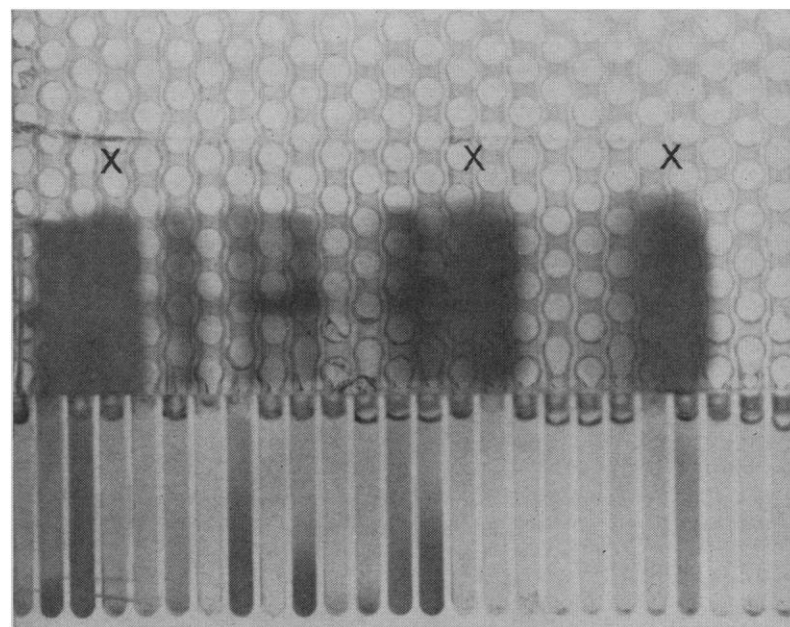
You can now recover as many as 30 undiluted fractions in one hour working time. Technique requires no organic solvents, no extreme pH, no salt precipitation, no dialysis, and no reconcentration of protein.

Discover the preparative electrophoresis system which is as easy as these three steps:

1. Pour single gel solution into EC 480 PREPARATIVE GEL ELECTROPHORESIS CELL, apply samples directly, run for one hour, and remove gel slab.
2. Using the EC 479 ELECTROPHORETIC DESTAINER, stain and destain "guide strip" only.
3. Place gel slab on its side in separating grid (shown below) of EC 730 ELUTION CONVECTION CELL. Protein components are recovered simultaneously by elution convection electrophoresis in *original undiluted concentration*.

Entire experiment requires less than two hours working time. Total elapsed time will vary between three and six hours.

Circle Reader Service Card for Details and Bibliography.



NEW PREPARATIVE ELECTROPHORESIS TECHNIQUE—Acrylamide gel pattern prepared in the EC 480 PREPARATIVE GEL ELECTROPHORESIS CELL being eluted into collecting tubules of the EC 730 ELUTION CONVECTION CELL. Note dye bands (x) not concentrated in the collecting tubules.

EC

APPARATUS CORPORATION
ELECTROPHORESIS / COUNTERCURRENT

220 So. 40th St., Philadelphia, Pa. 19104
PHONE: Area Code 215-382-2204