Evolution in the Genus Drosophila

by John T. Patterson and Wilson S. Stone

The most extensive treatment of any living genus thus far attempted, the book covers the evolution of the Drosophila as demonstrated by living forms. It is mainly concerned with isolating mechanisms, genetic systems shown by hybrids, and the cytology of over one-third of the known species of the genus. Being a monograph of the Genus Drosophila, the book gives the distributional relationships, chromosomal evolution, and changes in genetic systems leading to isolation which allows the genus to diversify.

610 pages. 1953 $8.50

Genetics in the Twentieth Century

edited by L. C. Dunn

This collection of papers prepared for the Golden Jubilee Meeting of the Genetics Society of America surveys the growth and development of genetic theory during the past 50 years. Each outstanding contribution covers a different phase of the science. Important agricultural and medical applications are discussed as well as the latest theoretical and experimental findings.

634 pages 1951 $5.00

Evolution Emerging

in two volumes—by William K. Gregory

This new work summarizes from the available evidence the epic of evolution, spanning a time period of more than 500 million years and the slowly changing patterns of life from primeval forms to man. It is arranged in general order from the earliest to the later forms, and from the less differentiated to the more differentiated. Volume I contains all the textual material, while Volume II consists entirely of illustrations organized in the same order as the material in Volume I.

Vol. I 736 pages, Vol. II 1013 pages 1951 $20.00 per set

The Macmillan Company

60 FIFTH AVENUE, NEW YORK 11, N. Y.
New Treatment of a Rapidly-Growing Field

GENERAL BIOCHEMISTRY

By JOSEPH S. FRUTON and SOFIA SIMMONDS, both at Yale University. Here modern biochemistry is presented from a general point of view. Balancing the structural and dynamic aspects of the subject against each other, this new book gives attention to the fundamental principles of biochemistry. The factual material which underlies these principles is drawn from studies with plants and microorganisms, as well as animals. Emphasis is placed on the central place of proteins and enzymes in the chemical activity of living matter. 1953. 940 pages. $10.00.

Algebra as a Language

BEGINNING ALGEBRA for COLLEGE STUDENTS, Second Edition

By LLOYD L. LOWENSTEIN, Kent State University. Here is a refreshing text which, from the very start, establishes algebra as a logical structure. It draws upon the student’s experiences in arithmetic to develop his understanding of the rules of algebra. Presenting Algebra as a language, the book teaches the reader to pronounce algebraic symbols and to translate from English to the new language and back again. Throughout there is a consistent pattern in the development of each new idea. 1953. 279 pages. $3.50.

Science Comes to Life

MAN AND HIS PHYSICAL UNIVERSE: An Integrated Course in Physical Science

By RICHARD WISTAR, Mills College. This book, keyed to the central problems of physical science which are of continuing interest, builds on a framework of familiar, common experiences. For example: it promotes an understanding of the principles of light through one of its popular applications—photography. This natural approach makes it easier for the reader to grasp and retain new principles and arouses his interest in many contributions science makes to his everyday life. The book’s broad units cut across chemistry, physics, geology, and astronomy, uniting these fields and showing their mutual interdependence. 1953. 488 pages. $4.75.

Fourth Edition of a Favorite

ESSENTIALS of PHYSIOLOGICAL CHEMISTRY

By ARTHUR K. ANDERSON, The Pennsylvania State College. This is the new edition of a textbook that’s already proved itself in three earlier editions and in nearly 200 colleges. It presents the important aspects of biochemistry relating to the animal body with emphasis on the chemistry of the carbohydrates, lipids, and proteins. It is especially designed to give a good, basic knowledge of biochemistry to students who lack specialized training. Latest information on isotopes, photosynthesis, and vitamins are among the many highlights of the new edition. 1953. Approx. 457 pages. Prob. $5.00.

Much Wider in Scope

GENERAL PHYSIOLOGY

By BRADLEY T. SCHEER, University of Oregon. Designed as a thorough first course, this book provides an intelligible, up-to-date picture of vital functions. It is shorn of as much irrelevant detail as possible, yet offers a clear exposition of the nature and present status of the basic problems of physiology. The emphasis is placed both on those principles common to most organisms, and on those general phenomena of life which have been successfully analyzed in physicochemical terms. This new book is wider in scope than other available texts on the same subject. 1953. 613 pages. $7.00.

Send for on-approval copies

JOHN WILEY & SONS, Inc. 440 Fourth Avenue, New York 16, N. Y.

Science, Vol. 117
First Book in a New Field

MICROWAVE SPECTROSCOPY
Written at Duke University by WALTER GORDY, WILLIAM V. SMITH, and RALPH TRAMBARULO. This new book—the first ever written in the field—provides up-to-date theory, experimental techniques, and applications of the most powerful method yet developed for investigating effects of nucleus on molecular spectra and for the study of nuclear spin and nuclear quadrupole moments. This is a rounded and balanced introduction to the field, using a theoretical approach and including practical information on instrument techniques. 1953. Approx. 416 pages. Prob. $7.50.

Fills a Gap

INTRODUCTION to SOLID STATE PHYSICS
By CHARLES KITTEL, University of California. This is the only book on an introductory level to cover a large part of the field of solid state physics. It gives a basic and concise discussion of representative areas of the physics of solids. Those areas in active research in solids which may be discussed in terms of simple physical models are emphasized. 1953. Approx. 387 pages. Prob. $7.00.

The Seventh in a Prominent Series

ORGANIC REACTIONS, Volume VII
Editor-in-Chief, ROGER ADAMS, University of Illinois. Volume VII of this well-known and widely used series gives ready access to an even larger compilation of reliable and comprehensive information. The best methods of synthesizing unfamiliar but important compounds, based on complete and critical evaluations of experimental methods and laboratory procedures, are placed at the organic chemist’s fingertips. Volume VII deals with 7 important reactions carefully chosen with regard to their value in current research. 1953. Approx. 464 pages. Prob. $8.50.

Scientific Study of Nationalism

NATIONALISM and SOCIAL COMMUNICATION
By KARL W. DEUTSCH, The Massachusetts Institute of Technology. Here is a timely book which attempts a fundamental political theory of nationalism that can be applied to research on concrete situations. The book provides a structural and quantitative analysis of nationalism. It investigates when and why nationalistic ideas and policies are accepted and supported by large numbers of people, drawing upon many pertinent research results and methods which have become available in several fields of social science since World War II. Co-published by Wiley and The Technological Press of the Massachusetts Institute of Technology. 1953. Approx. 272 pages. Prob. $5.00.

New Approach to Fishery Science

FISHERY SCIENCE: Its Methods and Applications
By GEORGE A. ROUNSEFELL, Ph.D., Department of the Interior, and W. HARRY EVERHART, Ph.D., University of Maine. This is the first book to approach fishery science with the general philosophy that freshwater and marine fisheries management are essentially similar, with no special refinements necessary in developing and using methods for one or the other. It integrates the most successful and specialized methods employed in the research, conservation, and management of fishery resources. 1953 444 pages. Prob. $7.50.

PUBLISHED LAST MONTH
An INTRODUCTION to STATISTICAL SCIENCE in AGRICULTURE

Send for on-approval copies

JOHN WILEY & SONS, Inc. 440 Fourth Avenue, New York 16, N. Y.

April 17, 1953
New and different bacteriology—

**BASIC BACTERIOLOGY**

Its Biological and Chemical Background

By Carl Lamanna, Ph.D., Associate Professor of Bacteriology, and M. Frank Mallette, Ph.D., Associate Professor of Biochemistry, both in Johns Hopkins University School of Hygiene and Public Health

Presents the nature of the cytological, morphological, taxonomic, physiological and biochemical problems which have confronted the bacteriologist. Gives both student and graduate worker the necessary knowledge of general biological, chemical and physical principles—from the point of view of the interests and needs of the bacteriologist.

Introduces much subject-matter that is new to textbooks of bacteriology; places a new and different emphasis on many traditional matters.

Explains bacteriological phenomena, emphasizing ideas and principles rather than factual knowledge.

Communicates to student and worker in bacteriology a clear insight into the nature of the general methodology of science—by means of critical treatment of some of the problems, methods and data of bacteriology, combined with a measure of scientific philosophy.

Important sections:

- Gram-reaction and acid-fast stain: the chemistry and bacteriology are completely explained, which is not done in any other bacteriology text.
- Photosynthesis: most up-to-date explanation in print.
- Bacterial metabolism: full and valuable discussion.
- Bound water concept: unique in bacteriology books.

680 pp. 100 figs. $10.00

Available May 18

The Williams & Wilkins Company
Mt. Royal and Guilford Aves.
Baltimore 2, Maryland

Please send LAMANNA & MALLETTE: BASIC BACTERIOLOGY ....................... $10.00

Name ...................................................
Address ..................................................

HISTOCHEMISTRY
Theoretical and Applied

by A. G. Everson Pearse
Lecturer in Histochemistry at the
Postgraduate Medical School (University of London)

This book is an endeavour to compass the whole of histochemistry as applied to tissue sections. It deals solely, therefore, with the theoretical and practical aspects of Microscopical Histochemistry.

TECHNICAL APPENDICES TO EACH CHAPTER

530 pages, 109 ill., 4 color plates $12.00

CIBA FOUNDATION COLLOQUIA ON ENDOCRINOLOGY

Volume V

Bioassay of Anterior Pituitary and Adrenocortical Hormones

Contents

Requirements for Clinically Useful Endocrine Bioassays
Thyrotrophic Hormone
Gonadotrophins and Prolactin
Growth Hormone
Adrenocorticotropic Hormone
Adrenocortical Hormone

224 pages, 53 illustrations $6.75

A CIBA FOUNDATION SYMPOSIUM

VISCERAL CIRCULATION

Chairman
Professor J. McMichael
M.D., F.R.C.P., F.R.S. Ed.

Contents

Visceral Vascular Architecture
General Principle of Blood Flow Regulation
Regional Blood Flow Regulation
Interaction of General and Visceral Circulation

278 pages, 72 illustrations $6.50

LITTLE, BROWN & COMPANY
BOSTON

The Mark of Good Books Since 1837
check list
OF McGRAW-HILL BOOKS

• agriculture
• bacteriology
• botany
• chemistry
• education
• forestry
• genetics
• geography
• geology
• health science
• mathematics
• meteorology
• physics
• psychology
• social science
• zoology
Agricultural Sciences
FUNDAMENTALS OF FRUIT PRODUCTION

PRODUCTION OF FIELD CROPS

Bacteriology
MICROBIOLOGY WITH APPLICATIONS TO NURSING
By Catherine Jones Wirton, Simmons College. McGraw-Hill Series in Nursing, 680 pages, $4.75

Botany
PLANT MORPHOLOGY

Chemistry
PHYSICAL CHEMISTRY OF METALS
By L. S. Darken and R. W. Gurney, U. S. Steel Research Laboratory. Metallurgy and Metallurgical Engineering Series, 535 pages, $8.50

ORGANIC CHEMISTRY

LABORATORY MANUAL IN PHYSICAL CHEMISTRY
By R. B. Ellis, Southern Research Institute, and A. P. Mills, U. S. Naval Reserve. In press

ORGANIC CHEMISTRY
By R. W. Getchell, Iowa State Teachers College. In press

IONIC PROCESSES IN SOLUTION
By R. W. Gurney, University of Maryland. International Chemical Series. In press

QUANTITATIVE PHARMACEUTICAL CHEMISTRY

PHYSICAL CHEMISTRY FOR COLLEGES

LABORATORY EXPERIMENTS IN GENERAL CHEMISTRY AND SEMI-MICRO QUALITATIVE ANALYSIS
By George W. Watt and L. O. Morgan, University of Texas. In press

Education
MENTAL HYGIENE FOR CLASSROOM TEACHERS
By Harold W. Bernard, Oregon State System of Higher Education. 470 pages, $4.75

TEACHING VOCATIONAL AGRICULTURE

TEACHING METHODS FOR PHYSICAL EDUCATION

Forestry
FOREST POLICY
By W. B. Greeley, Vice-President, West Coast Lumbermen's Assn. American Forestry Series, 278 pages, $5.50

WOOD PRESERVATION
By George M. Hunt, U. S. Forest Products Laboratory, and George A. Garratt, Yale University. American Forestry Series, 402 pages, $7.00

PULP AND PAPER MANUFACTURE
PRINCIPLES OF MATHEMATICAL ANALYSIS

LINEAR ALGEBRA AND MATRIX THEORY

Meteorology
MICROMETEOROLOGY
By O. G. Sutton, Military College of Science, Shrivenham, England. 333 pages, $8.50

Nature Study
THIS FASCINATING ANIMAL WORLD
By Alan deVoE. 303 pages, $3.75

AMERICAN LAND BIRDS
By Robert C. Murphy and Dean Amadon, American Museum of Natural History. In press

WILDLIFE MANAGEMENT Volume II
By Reuben E. Trippensee, University of Massachusetts. American Forestry Series. In press

Nuclear Sciences
SIGNAL, NOISE, AND RESOLUTION IN NUCLEAR COUNTER AMPLIFIERS

BIOLOGICAL EFFECTS OF RADIATION. Vol. I
Editor: Alexander Hollaender, Oak Ridge National Laboratory. In press

ISOTOPIC TRACERS IN BIOCHEMISTRY AND PHYSIOLOGY
By Jacob Sacks, University of Arkansas. In press

PHARMACOLOGY AND TOXICOLOGY OF URANIUM COMPOUNDS. Parts 3 and 4
Edited by Carl Voegtlin, formerly of U. S. Public Health Service, and Harold C. Hodge, University of Rochester. Div. VI, Vol. 1—National Nuclear Energy Series. $18.00

Physical Sciences
FUNDAMENTALS OF PHYSICAL SCIENCE
By Konrad Bates Krauskopf, Stanford University. Third edition. 694 pages, $6.00

Physics
INTRODUCTION TO ELECTRON MICROSCOPY

A LABORATORY MANUAL OF EXPERIMENTS IN PHYSICS
By Leonard R. Ingersoll, University of Wisconsin; Miles J. Martin, General Electric Research Laboratory, and Theodore A. Rouse, University of Wisconsin. In press

PHYSICS: Principles and Applications

MESON PHYSICS

INTRODUCTION TO GEOMETRICAL AND PHYSICAL OPTICS
By Joseph Morgan, Texas Christian University. In press

METHODS OF THEORETICAL PHYSICS
By P. M. Morse and Herman Feshbach, M.I.T. International Series in Pure and Applied Physics. 450 pages, $6.50

ELECTRICITY AND MAGNETISM
By Edson R. Peck, Northwestern University. In press

DISLOCATION OF CRYSTAL
Low TEMPERATURE PHYSICS

MESONS

EXPERIMENTAL COLLEGE PHYSICS

Psychology

PRACTICAL PSYCHOLOGY
By Karl S. Bernhardt, University of Toronto. Second edition. 337 pages, $3.75

PSYCHOANALYTIC THEORIES OF PERSONALITY
By Gerald S. Blum, University of Michigan. McGraw-Hill Publications in Psychology. 219 pages, $3.75

DEVELOPMENTAL PSYCHOLOGY

PERSONALITY AND ADJUSTMENT
By W. L. Patty, Los Angeles City College and Louise S. Johnson, University College, Rutgers. In press

INTRODUCTION TO EXPERIMENTAL METHOD

Social Sciences

INNOVATION

POPULATION PROBLEMS

Statistics

STATISTICAL THEORY IN RESEARCH
By R. L. Anderson, University of North Carolina, and T. A. Bancroft, Iowa State College. 399 pages, $7.00

ENGINEERING STATISTICS AND QUALITY CONTROL
By Irving C. Burk, Purdue University. In press

STATISTICAL QUALITY CONTROL
By Eugene L. Grant, Stanford University. Second edition. 555 pages, $6.50

CHARTING STATISTICS
By Mary Eleanor Spear, U. S. Department of Labor and American University. 253 pages, $4.50

STATISTICAL TABLES AND PROBLEMS
By A. E. Waugh, University of Connecticut. Third edition. $3.00

Zoology

COMPARATIVE ANATOMY

FUNCTIONAL ANATOMY OF THE MAMMAL

METHODS AND PRINCIPLES OF SYSTEMATIC ZOOLOGY

TEXTBOOK OF HISTOLOGY
By Jose F. Nonidez, and W. F. Windle, Baxter Laboratories and University of Pennsylvania. In press

ELEMENTS OF CHORDATE ANATOMY

330 WEST 42ND STREET,
NEW YORK 18, N.Y.

April 17, 1953
McGraw-Hill Announces
Completion of
M.I.T. Radiation Laboratory Series
with Publication of
THE INDEX

1. Ridenour—RADAR SYSTEM ENGINEERING
2. Hall—RADAR AIDS TO NAVIGATION
3. Roberts—RADAR BEACONS
5. Glascoe and Lebacqz—PULSE GENERATORS
6. Collins—MICROWAVE MAGNETRONS
7. Hamilton, Knipp, and Kuper—KLYSTRONS AND MICROWAVE TRIODES
8. Montgomery, Dicke, and Purcell—PRINCIPLES OF MICROWAVE CIRCUITS
9. Ragan—MICROWAVE TRANSMISSION CIRCUITS
10. Marcuvitz—WAVEGUIDE HANDBOOK
11. Montgomery—TECHNIQUE OF MICROWAVE MEASUREMENTS
12. Silver—MICROWAVE ANTENNA THEORY AND DESIGN
13. Kerr—PROPAGATION OF SHORT RADIO WAVES
14. Smullin and Montgomery—MICROWAVE DUPLEXERS
15. Torrey and Whitmer—CRYSTAL RECTIFIERS
16. Pound—MICROWAVE MIXERS
17. Blackburn—COMPONENTS HANDBOOK
18. Valley and Wallman—VACUUM TUBE AMPLIFIERS
19. Chance, Williams, Hughes, Sayre, and MacNichol—WAVEFORMS
20. Chance, Hulsizer, Williams, and MacNichol—ELECTRONIC TIME MEASUREMENTS
21. Greenwood, Holdam, and MacRae—ELECTRONIC INSTRUMENTS
22. Soiler, Starr, and Valley—CATHODE RAY TUBE DISPLAYS
23. Van Voorhis—MICROWAVE RECEIVERS
24. Lawson and Uhlenbeck—THRESHOLD SIGNALS
25. James, Nichols, and Phillips—THEORY OF SERVOMECHANISMS
27. Svoboda—COMPUTING MECHANISMS AND LINKAGES
28. Henney—INDEX

Send for copies on approval
JUST PUBLISHED!

ELEMENTARY STATISTICS WITH APPLICATIONS IN MEDICINE

by FREDERICK E. CROXTON, Professor of Statistics, Columbia University

Here is a complete treatment of basic statistical methods which uses illustrative material directly from the field of medicine. Providing all the fundamental statistical techniques needed by users of medical data, the text stresses practical application.

Unusually practical features:

- Emphasis is on application rather than mathematical proofs
- No advanced mathematics required (thus valuable to medical and pre-med students who have no advanced mathematical training)
- All symbols clearly explained by a “symbol vocabulary” in each chapter
- Over 100 charts and graphs from actual medical data
- With each table involving areas of a curve, an explanatory chart is presented for extra clarity
- Tables of normal curve areas and ordinates in the Appendix

376 pages • 5\(\frac{5}{8}\)" x 8\(\frac{3}{8}\)" • Illustrated

Send for Your Copy Today
NO ROOM FOR DOUBT . . .

yet year after year laboratory projects prove to be inconclusive because of inconsistent and undependable reagents. For more than 11 years CARWORTH FARMS has been experimenting with newer and more advanced methods of improved guinea pig complement production and

"VACSEAL" Guinea Pig Complement

represents the culmination of these many years of efforts.

Our large output enables us to pool the serum of no less than 11 guinea pigs per lot, assuring the highest titer uniformity.

"VACSEAL" is packaged in high vacuum all glass containers. It is distributed in three sizes with a special diluent for restoration to the following amounts:

3cc. 7cc. 20cc.

For further information please write to:
CARWORTH FARMS, INC. • NEW CITY NEW YORK

Cylindrical, Tapered or Square Shaped

F. S. Precision-Bore Glass Tubes are made to exact inside dimensions for application where interchangeability and precise bore are required.

Inside diameter: 0.216 mm (0.0085") to 100 mm (4") kept accurate within .01 to .001 mm (±.0004" to

For: Manometers, Viscometers, Flowmeters, Barometers, Gauges, Pumps and many other scientific, technical and industrial purposes.

Ask for Bulletin PB-298
Made of Pyrex or Kimble NC. glass

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

PHYSICS
by Noel C. Little

A general elementary text that requires only college entrance mathematics. Trigonometry of the right triangle is developed in the text. Facts presented are based upon a few underlying principles. Part One introduces five fundamental concepts, length, time, force, electricity, and temperature. Part Two cuts across the subdivisions, mechanics, sound, light, heat, etc., and organizes the subject matter in types of phenomena, energetics, flow, field, periodic, and quantum phenomena. The organization of the text makes for economy in presentation and knits the science together into a consistent whole.

Mendenhall, Eve, Keys and Sutton
College Physics, 3rd Edition

Snyder
The Principles of Heredity, 4th Edition

Fieser and Fieser
Organic Chemistry, 2nd Edition

Textbook of Organic Chemistry

Hopkins and Bailar
General Chemistry for Colleges, 4th Edition

McBain
Colloid Science

Oelke
Semimicro Qualitative Analysis

Henrici and Ordal
The Biology of Bacteria, 3rd Edition

Stover
An Introduction to the Anatomy of Seed Plants

D. C. HEATH AND COMPANY
Sales Offices: New York · Chicago · San Francisco · Atlanta · Dallas Home Office: Boston

April 17, 1953 37
"Zetopan" by Reichert
Since 1875

- Built-in Transmitted, Incident and Dual Illumination.
- Highly corrected Double Diaphragm Condenser
- Instantaneous switch from Visual Observation to Photo-Micrography
- Bilateral Focusing Adjustments and Stage Controls
- Rotating Observation Tubes

Write for more detailed information, or visit us at Booth No. 84, Third Annual Research Equipment Exhibit, Bethesda, Md. We'll be there April 27 to 30.

William J. Hacker & Co., Inc. 82 Beaver Street
New York 5, N. Y.

PHOTOVOLT
Exposure Photometer Mod. 200-M
for PHOTOGRAPHY

Accurate determination of exposure time in black-and-white and color photomicrography
Write for Bulletin #810 to Price $72.00
PHOTOVOLT CORP.
95 Madison Ave.
New York 16, N. Y.

The Stars
A new way to see them

An astronomy for everyone and a revolution in practical star recognition. For the first time in centuries the constellations look what they are called.

By H. A. Rey
$4.50 at all bookstores * Houghton Mifflin Company
LEA & FEBIGER SCIENTIFIC PUBLICATIONS

Boyd—Introduction to Medical Science. New 4th edition. 304 pages, 124 illustrations and 3 plates in color. $4.50

Bradley, Gustafson and Stoklosa—Pharmaceutical Calculations. New 2nd edition. 290 pages. $3.75

Buchanan—Functional Neuro-Anatomy. Second edition. 323 pages. 7” x 10”, 273 illustrations, 19 in color. $7.50


Chandler—Evergreen Orchards. 452 pages, 66 illustrations. $6.00


Craig—Laboratory Diagnosis of Protozoan Diseases. Second edition. 384 pages, 56 illustrations and 7 plates in color. $6.50

Craig and Faust—Clinical Parasitology. Fifth edition. 1032 pages, 326 illustrations and 6 plates in color. $12.00

Faust—Human Helminthology. Third edition. 744 pages, 313 illustrations. $10.00

Frohman—Brief Psychotherapy. 265 pages. $4.00

Gathercoal and Wirth—Pharmacognosy. Second edition. 756 pages, 372 illustrations and 3 plates in color. $10.00


Hartman and Brownell—The Adrenal Gland. 581 pages, 72 illustrations. $12.00

Kendall—Microscopic Anatomy of Vertebrates. Third edition. 354 pages, 225 illustrations. $6.00

Knott—Vegetable Growing. Fourth edition. 314 pages, 81 illustrations. $4.00


Levinson and MacFate—Clinical Laboratory Diagnosis. Fourth edition. 1146 pages, 221 illustrations and 13 plates, 10 in color. 117 tables. $12.00

Lucas—Elements of Human Physiology. Second edition. 357 pages. 158 illustrations, 2 in color. $4.75

McDougall—Plant Ecology. Fourth edition. 234 pages, 118 illustrations, $4.00

Marshall—Applied Medical Bacteriology. 340 pages. Illustrated. $4.50

Quiring—The Extremities. 117 pages, 106 illustrations. $2.75

Quiring—The Head, Neck, and Trunk. 115 pages, 103 illustrations. $2.75

Rogers, Soine and Wilson—Inorganic Pharmaceutical Chemistry. Fifth edition. 850 pages, illustrated. $10.00

Schafer—Essentials of Histology. Fifteenth edition. 655 pages, 662 illustrations, some in color. $6.50

Seiverd—Hematology for the Medical Technologist. New. 180 pages. 5¼” x 8”, 106 illus. on 45 figures and 7 plates in color. $3.50

Soffer—Diseases of the Endocrine Glands. 1142 pages, 88 illustrations and 3 plates in color. 32 tables. $15.00

Starling—Principles of Human Physiology. New 11th edition. 1210 pages, 709 illustrations, some in color. $11.00

Talbert—Growing Fruit and Vegetable Crops New. Just ready

Talbert—General Horticulture. 452 pages, 129 illustrations. $4.00

Wiggers—Physiology in Health and Disease. Fifth edition. 1242 pages, 280 illus. $10.00

Wintrobe—Clinical Hematology. Third edition. 1048 pages, 220 illustrations and 17 plates, 13 in color. $12.50


April 17, 1953
THE GENUS EUGLENA

By Mary Gojdics

• All the known morphological and taxonomic material on Euglenas has now been incorporated into one book. This volume contains an explanation of all the taxonomic features of the Euglena; a key to the 155 species considered valid, with supplementary keys to the red and attached species; the complete taxonomy of all the validated species and varieties listed in the key; and an annotated checklist of all species of Euglena to be found in literature.

264 pages. 39 plates. $6.50

UNIVERSITY OF WISCONSIN PRESS
811 State Street, Madison 5, Wisconsin

PHOSPHORYLATED SUGARS
and OTHER PHOSPHATES

Important in Carbohydrate Metabolism or Enzymic Reactions

Sugar Phosphates for fermentation and metabolic studies: Fructose-6-phosphate, barium; fructose-1,6-diphosphate (soluble monobarium, monocalcium and monomagnesium salts of at least 85 per cent purity); glucose-1-phosphate, dipotassium; glucose-6-phosphate, barium (crystalline); phosphoglyceric acid, barium; ribose-5-phosphate, barium.

Other Phosphate Compounds available for enzymic studies: Acetyl phosphate, lithium, cocarboxylase (thiamine pyrophosphate), ribonucleotides and adenosine phosphates.

Specify Schwarz for assurance of highest purity in biochemicals. Write for price list showing low costs resulting from Schwarz quantity production.

SCHWARZ LABORATORIES, INC.
230 Washington St., Mount Vernon, N. Y.

BOOKS FROM HUNGARY

Archeological, Scientific and Technical Books
Books on Arts + Books on History
published in Hungary
in English, German and French

ACTA
Periodicals of the Hungarian Academy of Sciences publish papers in English, German and French.

Acts Linguistics
Acts Antiqua
Acts Orientalia
Acts Historica
Acts Archeologica
Acts Ethnographica
Acts Mathematica
Acts Physica
Acts Biologica
Acts Medica
Acts Morphologica
Acts Physiologica
Acts Geologica
Acts Chimica
Acts Agronomica
Acts Veterinaria
Acts Technica

Price/Vol. $6.

Ask for free catalogues!

“KULTURA”
Hungarian Trading Company for Books and Newspapers, Budapest, 62. P. O.
Box 149.

IONOGRAPH

FOR ELECTROPHORETIC SEPARATIONS
ON PAPER AND OTHER MEDIA

• SEPARATES Proteins, Amino Acids, and other mixtures of organic and inorganic compounds • DETERMINES isoelectric points of Amino Acids and Proteins • the presence of complex-ion formation in solution • and some electro-kinetic properties.

Double-walled insulated cabinet for wide temperature operation, holds 7 strips or large sheet. Use is not limited to water soluble substances.

Constant Temperature Media can be circulated through body and COVER. Voltage range from 0-2,000 volts. Inlet for inert gas atmospheres provides for water saturation, prevents drying of paper surfaces, aids in heat removal.

ALL SIMILAR TECHNIQUES ARE WITHIN THE SCOPE OF THE IONOGRAPH. WRITE FOR REPRINT PAPER AND BULLETIN 11329.

PRECISION SCIENTIFIC COMPANY
3737 WEST CORTLAND STREET — CHICAGO 47, ILLINOIS

SCIENCE, Vol. 117
When revising both the text and the manual (described below) Beaver stressed the scientific method and emphasized the relationship of plants and animals to man throughout both. They have been so well accepted by teachers in the subject, we thought you would like to read some of their remarks.

If you have not considered the books for use in your classes, now would be a good time to inspect them.

Typical of some of the remarks on the text, are the following:

"This fourth edition continues in my estimation as one of the better general texts in this field. We have used the third edition a great deal as a reference source in seminar reviews and I predict this fourth edition will be equally popular."
—P. A. W., Chairman, Dept. of Biology, Randolph-Macon Woman's College, Lynchburg, Virginia

"I especially appreciate the treatment of scientific terms in that their Greek or Latin origins are explained. In this age in which these languages are so sadly neglected on the secondary level your break-down of terms is a much needed aid to the student."
—W. K., Head Dept. of Biology, N. Dak. School of Forestry, Bottineau, N. D.

895 pages 375 Illustrations Price, $5.85

Beaver's

BIOLOGICAL SCIENCE
In Laboratory and Field—Fourth Edition

There is a wide selection of exercises of various types to meet the requirements of different kinds of courses (for one year, or one semester) even when another text is used with this manual.

Here are some teacher's comments on the Manual:

"Well organized laboratory manual; designed to accompany an excellent text. It should make an excellent teaching aid."
—P. A. W., Chairman, Biology Dept., Randolph-Macon Woman's College, Lynchburg, Va.

"This manual and Beaver's THE SCIENCE OF BIOLOGY present a comprehensive and integrated course in College Biology. The predominant emphasis on the scientific method is a distinctive and commendable feature."
—Rev. J. S. D., Professor of Biology, Loyola College, Baltimore, Maryland

"Very complete. The new approach should help to stimulate curiosity and original thinking."
—H. B., Asst. Prof. of Biology, Calvin College, Grand Rapids, Michigan

"Well organized and gives a fair emphasis to the plant material in relation to the animal material."
—L. B. W., Chairman of Division of Natural Science, Elmira College, Elmira, New York

256 pages Price, $3.50

Both by WILLIAM C. BEAVER, Ph.D., Head of the Department of Biology, Wittenberg College, Springfield, Ohio
Chemical Physiology of Contraction in Body and Heart Muscle

By A. SZENT-GYÖRGYI
The Institute for Muscle Research at the Marine Biological Laboratory, Woods Hole, Massachusetts

April 1953, xxii, 136 pages, illustrated, approx. $4.50

Contents:

Advances in Biological and Medical Physics
Edited by JOHN H. LAWRENCE and C. A. TOBIAS
University of California, Berkeley

Volume III, April 1953, x, 368 pages, illustrated, $8.00

Contents:
Recent Developments in Ultraviolet Microscopy and Ultraviolet Microspectroscopy
By ELKAN R. BLOUT, Polaroid Corporation, Cambridge, Massachusetts
Approaches to X-Ray Microscopy
By PAUL H. KIRKPATRICK and HOWARD H. PATTER, JR., Stanford University, California
Biological Actions of Ultrasonic Waves
By PIERRE GRABAR, Pasteur Institute, Paris, France
The Kinetics of Biological Processes
By A. K. SOLOMON, Harvard Medical School, Boston, Massachusetts
Primary Ionization as a Test of Molecular Organization
By ERNEST POLLARD, Yale University, New Haven, Connecticut
Antibodies as Specific Chemical Reagents
By DAVID PRESSMAN, Sloan-Kettering Institute for Cancer Research, New York, New York
The Dosimetry of Artificial Radioactive Isotopes
By W. V. MAYNORD and W. K. SINCLAIR, Royal Cancer Hospital, London, England
Author Index—Subject Index.

Advances in Genetics
Edited by M. DEMEREC
Carnegie Institution, Cold Spring Harbor, New York

Volume V, April 1953, viii, 332 pages, illustrated, approx. $7.50

Contents:
Population Dynamics of Rodents and Other Small Mammals
By W. FRANK BLAIR, University of Texas, Austin
The Genetics of Polymorphism in the Lepidoptera
By E. B. FORD, Genetic Laboratories, Oxford, England
Inheritance in Bacteriophage
By A. D. HERSHEY, Carnegie Institution of Washington, Cold Spring Harbor, New York
Biochemical Genetics of Bombyx mori (Silkworm)
By HIDEO KIKKAWA, Osaka University, Japan
The Genetics of Aspergillus nidulans
By G. PONTECORVO, The University, Glasgow, Scotland
(With sections by J. A. ROPER, L. M. HEMMONS, K. D. MACDONALD, and A. W. J. BUPTON)
Genetics of the Silkworm, Bombyx mori
By YOSHIMARO TANAKA, National Institute of Genetics, Misima, Japan
Author Index—Subject Index.
Assistant research Professor in Entomology, now located at small eastern university, desires change of position. Thoroughly trained in research and teaching. Prefer position with educational institution, government agency or research laboratory. Available after September. Box 72, SCIENCE.

Assistant research Professor in Zoology, now located at small southwestern university, desires position with educational institution, government agency or research laboratory. Available after September. Box 72, SCIENCE.

Assistant research Professor in Biology, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Botany, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Microbiology, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Chemistry, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Physiology, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Physics, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Psychology, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Geography, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Geology, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Sociology, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Economics, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Political Science, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Journalism, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Philosophy, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Medieval Languages, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Russian, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in English, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in French, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in German, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.

Assistant research Professor in Spanish, now located at small northeastern university, desires position at a graduate school. Box 72, SCIENCE.
SCIENTIFIC BOOKS and PERIODICALS WANTED

Complete libraries—Sets and runs—Single titles
Also, please send us your want lists.

STECHERT-HAFNER, INC.
31 East 10th St., New York 3.

GEOLOGY APPLIED TO SELENOLOGY

By J. E. SPURR

"This is the first time that Lunar features have been studied carefully by one trained and experienced in Modern Structural and Igneous Geology."—Journal of Geology
- Features of the Moon
  Vols. I and II combined, 1945, 450 pp., 95 text figures $5.00
- Lunar Catastrophic History
  Vol. III, 1946, 253 pp., 47 text figures 4.00
- The Shrunk Moon
  Vol. IV, 1946, 207 pp., 36 text figures COMPLETE SET 12.00

ROBERT A. SPURR

* * *

SCIENTIFIC PERIODICALS and BOOKS

WANTED TO PURCHASE . . .

Sets and runs, foreign and domestic. Entire libraries and smaller collections wanted.

WALTER J. JOHNSON • 125 East 23rd St., New York 10, N. Y.

BACK NUMBER PERIODICALS — Bought and Sold

Abrahams Magazine Service
DEPT. P. 56 E. 13th ST.
NEW YORK 3, N. Y.

LABORATORY SERVICES

Project research and consultation in Biochemistry, Chemistry, Bacteriology and Entomology.
Amino acid assays and biological protein evaluations • Vitamin and antibiotic assays • Chick feeding tests • Toxicity studies • Phenol coefficient determinations

Specific immune sera.

WISCONSIN ALUMNI RESEARCH FOUNDATION
P. O. BOX 2059 • MADISON 1, WISCONSIN

PROFESSIONAL SERVICES

GBI CATALOG No. 677

Lists more than 300 items for Research — Biological, Microbiological, Bacteriological, Biochemical, Nutritional. Write

GENERAL BIOCHEMICALS, INC.
72 LABORATORY PARK • CHAGRIN FALLS, OHIO

CONSIDERATION RESEARCH

SOUTH SHORE ANALYTICAL AND RESEARCH LABORATORY, Inc.
Complete and superlative chemical analysis on all types of biological and non-biological materials. Justly and expertly performed.

ALBERT TEACHERS AGENCY
25 E. Jackson Blvd. Chicago 4, Illinois

RELIABLE and PERSONAL SERVICE

Member N.A.T.A.

STARKMAN Biological Laboratory

Pioneers in development of the standard laboratory Albino rat

Box 2071 • Madison 5, Wisconsin • Phone 35318

SPRAGUE-DAWLEY, INC.

For uniform clinical and research determinations

SWISS ALBINO MICE
ALBINO RATS
N. Z. WHITE RABBITS

Annual production 130,000

Box 597 • Bainbridge, N. Y.
For CONSISTENT Rats . . .
- BUDD MT. RODENT FARM
- CHESTER, N. J.
Breeders of a recognized strain of Wistar.

BLUE TETRAZOLIUM (BT)
[3,3'-Dianisole bis-4,4'-(3,5-diphenyl)tetrazolium chloride]
For staining in vivo and in vitro oxidation-reduction systems
Descriptive Literature and Prices on Request
DAJAC LABORATORIES
511 Lancaster St., Leominster, Mass.

MICE • RATS
FOR LABORATORY USE
BLUE SPRUCE FARMS, R.F.D. #2, ALTAMONT, N. Y.
(Phone-4461)

LABORATORY ANIMALS
Mice, Rats, Hamsters, Guinea Pigs, Rabbits, Cats and Dogs
MANOR FARMS • STAATSBURG NEW YORK
Purity of Strain Guaranteed

CUSTOM CHEMICAL LABORATORIES
2054 N. Cicero Ave., Chicago 39, Ill.

CUSTOM CHEMICAL LABORATORIES
2054 N. Cicero Ave., Chicago 39, Ill.

TACONIC FARMS
Germantown, N. Y.
Phone 187 F 2
- Swiss Mice
- Webster Strain

STAINLESS STEEL BEAKERS
1. RUGGED 2. TOUGH
3. POUROUT SPOUT 4. EYE APPEAL
5. EVEN HEAT DISTRIBUTION
No. 21-43-S
Approx. Size
50 ml 75 ml 100 ml
Dra. Lat
Doz. Each
$1.20 $1.50 $1.75
$1.10 $1.40 $1.60

CUSTOM CHEMICAL LABORATORIES
2054 N. Cicero Ave., Chicago 39, Ill.

ANIMAL CAGES and ACCESSORY EQUIPMENT
BUY DIRECT FROM MANUFACTURER
SHIPMENT OF STANDARD ITEMS FROM STOCK
HOELTGE BROS., Inc.
1919 Gest St. Cincinnati 4, Ohio
Write for Illustrated Catalog

Laboratory Animals
- Dogs
- Rats
- Rabbits
- Cats
- Pigeons
- Hamsters
- Guinea Pigs
- Mice
- Poultry

Laboratory Animals
- Dogs
- Rats
- Rabbits
- Cats
- Pigeons
- Hamsters
- Guinea Pigs
- Mice

W.T. GLUTARALDEHYDE DIOXIME
50 g $15.00 100 g $22.50
2,4-DINITROFLUOROBENZENE
25 g $4.25 100 g $15.50
N,N'-DIMETHYLPIPERAZINE
50 g $11.00 100 g $20.00

Lovins Engineering Company
Silver Spring, Md.
The value of the Papanicolaou technique lies not only in early diagnosis of cervical and uterine cancer, but as a criterion against which newer experimental methods may be tested. Mellors, Keane and Papanicolaou, selecting their material according to Papanicolaou’s staining method and morphological analysis found a significant increase in the nucleic acid content of squamous cancer cell nuclei over normal nuclei.

Ortho’s Papanicolaou staining preparations give the sharp nuclear and cytoplasmic definition required for accurate cytologic diagnosis.

ORTHO® offers the following Papanicolaou stains:
- EA 50, 100 cc. and 450 cc. bottles
- EA 65, 100 cc. bottles
- OG 6, 100 cc. and 450 cc. bottles
- Harris Hematoxylin (Ortho modification) 100 cc. and 473 cc. bottles
- Vaginal Pipettes and Aspirator Bulbs.

Ortho Pharmaceutical Corporation • Raritan, New Jersey
Engineered to function as an integral part of AO Microscopes, No. 700 Illuminator moves with the microscope—and stays in alignment. It has achieved popularity among all who require efficient general purpose illumination plus utmost convenience.

Now, the AO No. 700 Illuminator has been redesigned to offer still greater advantages at no increase in price. Incorporating a built-in condenser and a standard, low cost, long-life lamp bulb, it gives considerable more light and spreads it evenly throughout the entire field. A heat-absorbing glass is included—as well as provision for interchanging blue, green, and ground glasses.

No. 700 Illuminator also serves as an ideal separate substage lamp with any microscope. Ask your local AO Distributor to let you try one—or write Dept. R3.

American Optical

INSTRUMENT DIVISION
BUFFALO 15, NEW YORK