

SCIENCE

NEW SERIES
VOL. 91, No. 2366

FRIDAY, MAY 3, 1940

SUBSCRIPTION, \$6.00
SINGLE COPIES, .15

NEW EDITIONS—Completely Revised

EWING'S Neoplastic Diseases

New (4th) Edition!—In this new edition Dr. Ewing records in practical form the most recent knowledge of the origin, structure and natural history of tumors. He presents tumors, both malignant and benign, as specific diseases. The approach is logical and orderly, covering definition, incidence, etiology, histologic aspects, signs and symptoms, characteristics, clinical course, and effect upon other parts and systems of the body.

By JAMES EWING, A.M., M.D., Sc.D., LL.D., Professor of Oncology at Cornell University Medical College. Octavo of about 1160 pages, 581 illustrations. **Ready in May!**

PEARL'S Medical Biometry and Statistics

New (3rd) Edition!—The complete revision of Dr. Pearl's book will be enthusiastically welcomed by all concerned with the teaching and study of biometric methods. Dr. Pearl has brought his book *completely up-to-date* in order to include the latest methods of collecting, tabulating, adjusting and drawing sound conclusions from statistical data regarding human life. As in previous editions, the author continually emphasizes the application of these methods to medicine, biology and hygiene.

By RAYMOND PEARL, Professor of Biology in the School of Hygiene and Public Health, and in the Medical School, The Johns Hopkins University. Octavo of 459 pages, illustrated. **Ready in May!**

KRUEGER'S Personal Hygiene

New (3rd) Edition!—Dr. Krueger's text is a forceful teaching instrument especially designed to make the student appreciate the value of good personal health habits. Dr. Krueger demonstrates the points he wishes to impress by citing situations closely related to the student's everyday life. *Mental health* is thoroughly covered. For the *New (3rd) Edition* additions and changes have been made in the discussions of the feet, posture, nutritional needs, hygienic aspects of nutrition, health fads, skin care, the common cold, etc.

By WALTER W. KRUEGER, Ph.B., Instructor in the Grand Rapids Junior College. 304 pages, illustrated. Cloth, \$1.75.

RAND, SWEENEY, VINCENT'S Development of Young Child

New (3rd) Edition!—A complete revision has brought this standard text into full accord with the latest knowledge of child development. Greater emphasis has been placed on family life; reorganization of certain subjects further simplifies and facilitates teaching; and shifts in emphasis have been made in the light of the latest practical experience in the field. As in previous editions, the authors' aim is to interpret and integrate recent research findings in a manner practical to both teachers and students.

By WINIFRED RAND, A.B., R.N., Specialist in Parental Education; MARY E. SWEENEY, M.S., M.A., Nutritionist; and E. LEE VINCENT, Ph.D., Psychologist, at the Merrill-Palmer School, Detroit. 462 pages, illustrated. **Ready in May!**

W. B. SAUNDERS COMPANY
West Washington Square Philadelphia

Science: published weekly by the Science Press, Lancaster, Pa.
Entered as second-class matter July 18, 1923, at the Post Office at Lancaster, Pa., under the Act of March 3, 1879.

Early Publications of the Carnegie Institution of Washington

A Few Copies Now Available at Reduced Prices

Pub. No.

9. Hill, George William. *The Collected Mathematical Works of George William Hill*. 4 volumes. \$4.00 set, paper; \$5.00 set, cloth.
66. Goss, W. F. M. *High Steam Pressure in Locomotive Service*. \$0.50 paper; \$1.00 cloth.
74. Sommer, H. Oskar. *The Vulgate Version of the Arthurian Romances*. Edited from MSS. in the British Museum. 7 volumes. \$10.00 set, paper only; \$1.50 per volume.
75. Hay, O. P. *The Fossil Turtles of North America*. \$2.50 paper; \$3.00 cloth.
77. Benedict, F. G. *The Influence of Inanition on Metabolism*. \$1.00 paper; \$1.50 cloth.
339. Perret, Frank A. *The Vesuvius Eruption of 1906: Study of a Volcanic Cycle*. \$1.00 paper; \$1.50 cloth.

The Carnegie Institution of Washington, Washington, D. C., has published some 750 volumes covering the wide range of its researches. Orders may be placed direct or through regular dealers. Advise subjects in which you are interested, and catalogue will be sent upon request.

SERIES OF SCIENTIFIC JOURNALS FOR SALE

- Amer. Jour. Anatomy. Complete—65 volumes
Anatomical Record. Complete—75 volumes
Biological Bulletin. Complete—77 volumes
Jour. of Morphology. Volumes 27 to 50
Jour. of Comparative Neurology. Volumes 26 to 53
Science. Volumes 14 (1901) to date

All bound in full or half buckram and in excellent condition, from private library of F. C. Waite, Western Reserve University, Cleveland, Ohio.

A Manual of the Flowering Plants of California by Willis Linn Jepson

Containing an essay on distribution, geographic origins and endemism in the native flora. Reinforced binding, waterproof buckram with design of Calochortus in gold on side; 1248 pages, 1023 illustrations. \$5.00 + .06 postage. (In Cal. add .15 sales tax.)

Associated Students Bookstore,
University of California, Berkeley, Cal.

A HISTORY OF WOMEN'S EDUCATION IN THE UNITED STATES

By THOMAS WOODY

THE SCIENCE PRESS

GRAND CENTRAL TERMINAL LANCASTER, PA.
NEW YORK, N. Y.

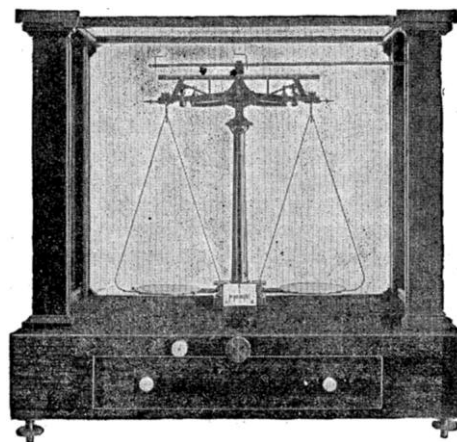
THIRD DIGEST of INVESTIGATIONS in the TEACHING of SCIENCE

BY FRANCIS D. CURTIS, PH.D.
Professor of Secondary Education and Teaching of Science, University of Michigan

419 Pages. \$3.50 (1939)

This third digest includes chiefly the research investigations published from 1931 through 1937. The content was selected by members of the National Association for Research in Science Teaching. There are digests of 94 studies together with supplementary lists of other studies. Indicative of trends of research, the following differences between the content of this volume and the preceding two, are: (1) a greatly increased portion of learning studies; (2) marked progress in the improvement and refinement of statistical procedures; (3) increased attention to problems dealing with the chief objectives of science teaching (scientific principles, scientific attitudes, scientific method) and, (4) increased proportion of investigations dealing with problems of general importance to the entire field. Each research is analyzed as to problem, method, findings and conclusion.

—THE BLAKISTON COMPANY—
Philadelphia



No. 10 Analytical Balance

HENRY TROEMNER

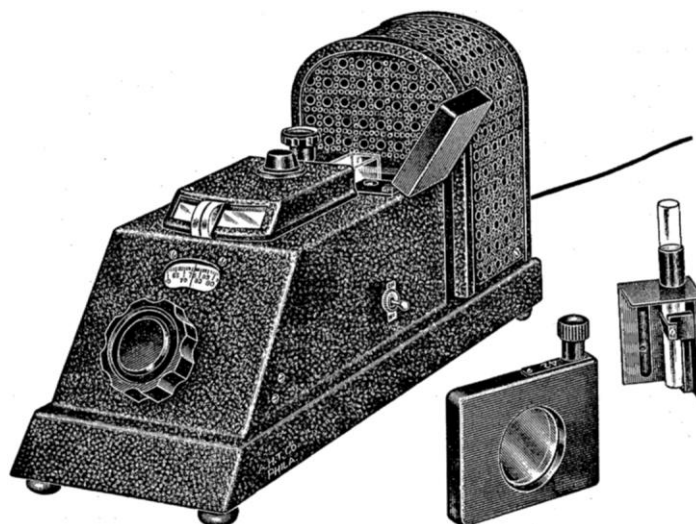
The Standard of Excellence for 100 years.

Manufacturer of the highest grade Analytical, Assay and Pulp Balances and Weights of Precision.

Catalog 1929S

911 Arch Street
Philadelphia, Pa.

KLETT-SUMMERSON PHOTOELECTRIC COLORIMETER NEW, GLASS CELL MODEL



3790-A.

PHOTOELECTRIC COLORIMETER (Photoelectric Photometer), Klett-Summerson Glass Cell Model. A modification of, and offered in addition to, the Test Tube Model described by W. H. Summerson, of Cornell University Medical College, in *The Journal of Biological Chemistry*, Vol. 30, No. 1 (Sept., 1939), p. 149, and sold by us under our No. 3788-A at \$148.00. In the new model, measurements are made in fused glass cells with solution depths of 2.5, 10, 20 or 40 mm, permitting photoelectric measurements over a wide range of colored or turbid solutions. An adapter, for insertion in the cell chamber, provides for the use of standard 12.5 mm test tubes.

A self-contained, portable instrument of simple and rugged construction, with built-in galvanometer. Measurements can be made with ease and rapidity. *The zero point does not shift and results are unfailingly reproducible.*

Operating upon a compensated electrical circuit based on the double photoelectric cell null-point principle, giving colorimetric measurements in terms of the graduations on a precision potentiometer. Light source consists of a 100-watt lamp which can be operated from any convenient electric outlet, a.c. or d.c.

With *logarithmic scale* reading from 0 to 1000, so graduated that concentration of unknown solutions is obtained directly by multiplying the scale reading by the proper factor, predetermined from a standard. Plotting of calibration curves or the use of logarithm tables is unnecessary for solutions obeying Beer's law.

The inherent precision of measurements is approximately $\frac{1}{3}$ of 1% of a full linear scale length, which is equivalent to an error of less than 1% for many of the usual colorimetric procedures. This instrument is suitable for practically any procedure which has been devised for the visual colorimeter.

3790-A. Colorimeter, Photoelectric, Klett-Summerson Glass Cell Model, as above described, complete with two color filters, i.e. 5400A and 4200A, built-in galvanometer, heat filter, 100-watt lamp bulb, and fused glass cell for 20 mm and 40 mm solution depth, but without test tube adapter shown in illustration. For use on 110 volts, a.c. or d.c.	183.00
3790-J. Adapter, for standard 12.5 mm test tubes	8.00
3788-I. Filter Frame, only, for holding any standard light filter 2 inches square	2.80

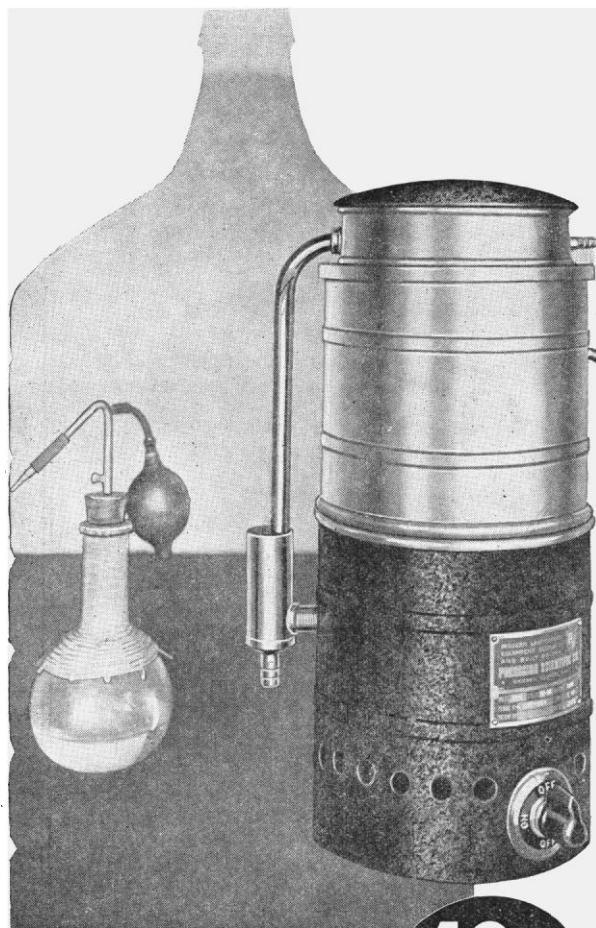
More detailed information sent upon request

ARTHUR H. THOMAS COMPANY
RETAIL—WHOLESALE—EXPORT
LABORATORY APPARATUS AND REAGENTS

WEST WASHINGTON SQUARE

Cable Address BALANCE, Philadelphia

PHILADELPHIA, U. S. A.



MIDGET

\$42⁵⁰
COMPLETE
FOR 110 VOLTS
WALL BRACKET
\$3.50 Extra

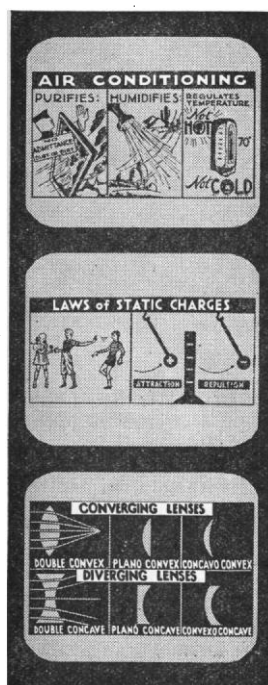
Automatic **WATER STILL**
*produces pure distilled water at
the rate of ONE QT. PER HOUR*

YOUNGEST member of the "Precision" still family is the Midget, small in size but a giant in its ability to give you fresh, pure distilled water when you want it, with no bother at all—no trouble to install, and no watchful handling, because it's automatic. At its low price, the "Midget" now offers you your own independent distilled water supply, gives you the insurance and convenience of fresh distilled water all the time. Even if you don't use much distilled water, you can make good use of the "Midget," because it produces just a quart per hour, takes no more space than a 5 gallon bottle, does away with the fuss of bottle-handling, and will pay for itself in a short while. Get your "Midget" now!

Other sizes to 200 gallons. Send for Bulletins

PRECISION SCIENTIFIC CO 
1730-54 NORTH SPRINGFIELD AVENUE, CHICAGO, ILLINOIS, U. S. A.

NEW VISIOGRAPH FILMROLS FOR PHYSICS



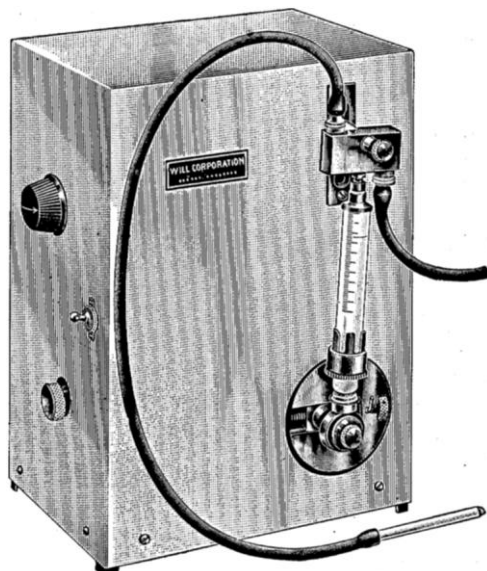
Complete Set of Six
Visiograph Physics
Filmrols

\$12.00

Visiograph Filmrols are action-illustrations in sequence from a new authoritative text dealing with the theories, principles and applications of physics. Each Filmrol (non-inflammable motion picture film 35 mm wide) contains 26 to 35 illustrations and covers one or more important divisions of physics. The full set of six rolls embraces 175 illustrations covering a complete standard high school course in physics and is priced at only \$12.00, or slightly less than 7 cents per picture. Each roll comes in a protective metal container together with lecture manual and copy of textbook "Physics Made Easy" by Louis T. Masson. Descriptive literature listing contents of each roll will be sent on request or the complete set of 6 rolls will be gladly sent on 10-day approval plan to recognized institutions.

See our catalog, either No. 46 or 48 for complete listings of
Physical Instruments, Apparatus and Supplies.

Chicago Apparatus Company
Science Laboratory Equipment
1735 NORTH ASHLAND AVENUE • CHICAGO U. S. A.



AUTOMATIC PIPETTING MACHINE

Designed by Dr. John H. Brewer, Johns Hopkins University

For repeated delivery of measured quantities of solutions, Wasserman reagents, etc., and for filling ampoules.

This apparatus has proven extremely satisfactory for pipetting reagents used in various serological tests in hospitals, medical schools, boards of health, and experiment stations, as well as for dispensing liquids into small containers in the manufacture of pharmaceuticals, antigens, etc. It is simple in design, precisely made, and all moving parts are easily accessible. It employs standard Luer-Lok Control syringes and can be adjusted to deliver from 0.05 ml. to 25 ml.

The entire assembly, valves, syringe, and rubber tubes with which the liquid comes in contact may be removed as a unit for sterilization. The liquid to be dispensed is pumped directly from an ordinary flask or bottle; hanging drop at the delivery tip is eliminated; and the valve assembly requires no lubrication.

13891 **AUTOMATIC PIPETTING MACHINE** for quantities from 0.05 to 5 ml.; delivery speed from 10 to 120 strokes per minute. Complete with delivery tips, but without syringe. For 110 volts A.C. or D.C. 95.00

13891-A **AUTOMATIC PIPETTING MACHINE** for quantities from 0.05 to 25 ml.; delivery speed from 10 to 40 strokes per minute. Complete with delivery tips, but without syringe. For 110 volts A.C. or D.C. 115.00

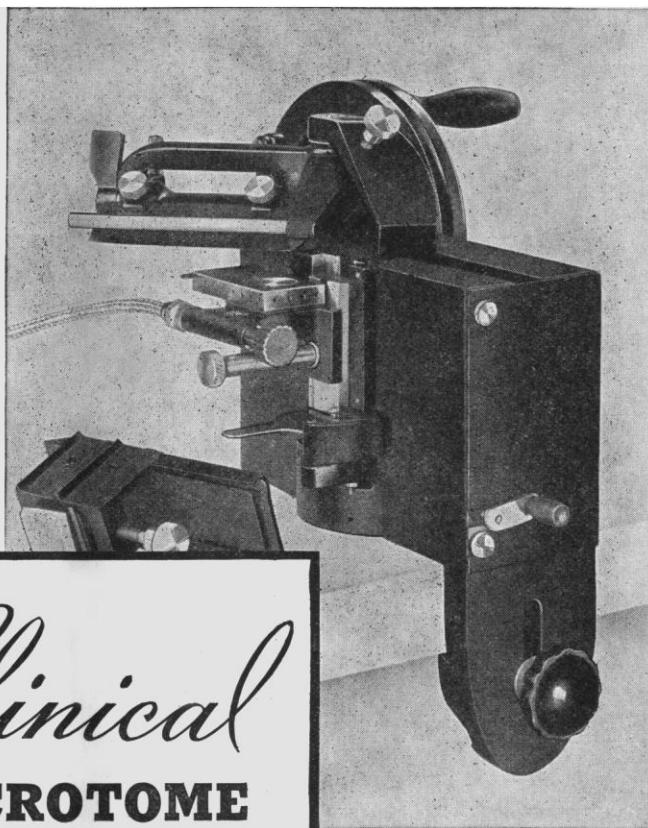
WILL CORPORATION, ROCHESTER, NEW YORK
Offices and Warehouses

BUFFALO APPARATUS CORP., Buffalo, N. Y. • WILL CORPORATION, 596 Broadway, New York City

LABORATORY APPARATUS AND CHEMICALS

OTHER B&L MICROTOMES

The complete line of Bausch & Lomb Microtomes includes: Clinical Microtomes, Automatic Laboratory Microtomes, Minot Rotary Microtomes, Minot Automatic Precision Microtomes, Thomson-Jeffery Microtomes and Hand Microtomes. Accessories available are: knives, knife clamps, knife hones and strops, embedding boxes, fiber blocks, CO₂ and dry ice freezing attachments and object clamps.



B & L IMPROVED *Clinical*
MICROTOME
RAPID . . . CONVENIENT . . . PRECISE

Here is a microtome designed especially for the pathologist and laboratory technician. You will appreciate its convenience in working with frozen and embedded material. Following are some of its outstanding features:

1. Large freezing chamber with 38 x 38 mm. freezing surface with Snell exhaust slot cooling knife.
2. Interchangeable object clamp accommodating 25 x 31 mm. blocks for celloidin and paraffin work.
3. Knife holder (with guard) which allows tilting knife to proper angle for material of any consistency.
4. Curvilinear slant or straight knife stroke as required by consistency of material.
5. Automatic knife feed for sections from 5 to 75 microns thick in steps of five microns. Quick feed screw return.
6. Quick acting table clamp. Enclosed working parts readily accessible for lubrication. All working adjustments made from outside.

For further details on B&L Microtomes, write to Bausch & Lomb Optical Co., 642 St. Paul Street, Rochester, N. Y.

BAUSCH & LOMB
OPTICAL COMPANY



FOR YOUR EYES, INSIST ON BAUSCH & LOMB EYEWEAR, MADE FROM BAUSCH & LOMB GLASS TO BAUSCH & LOMB HIGH STANDARDS OF PRECISION

SCIENCE

VOL. 91

FRIDAY, MAY 3, 1940

No. 2366

<i>The National Academy of Sciences:</i>		<i>Special Articles:</i>	
<i>Presentation of Medals</i>	413	<i>Syntheses of Model Unsaturated Lactones Related to the Cardiac Aglycones:</i> PROFESSOR ROBERT C. ELDERFIELD and OTHERS. <i>Nature of the Pasteur Enzyme:</i> DR. KURT G. STERN, DR. JOSEPH L. MELNICK and DR. DELAFIELD DUBOIS. <i>Prolificacy of Rats Treated with Mare Gonadotropic Hormone:</i> PROFESSOR H. H. COLE	435
<i>Abstracts of Papers</i>	418	<i>Scientific Apparatus and Laboratory Methods:</i>	
<i>Obituary:</i>		<i>An Adaptable Rotating Unit for Roller Tube Tissue Cultures:</i> LAWRENCE H. OTT, DR. ROBERT TENNANT and AVERILL A. LIEBOW. <i>A Personal File of Geologic Photographs:</i> DR. CHESTER K. WENTWORTH	437
<i>David M. Mottier:</i> PROFESSOR RALPH E. CLELAND.		<i>Science News</i>	8
<i>Recent Deaths and Memorials</i>	423		
<i>Scientific Events:</i>			
<i>The Colorado Rocky Mountain Observatory of Harvard University; Fellows of the Lalor Foundation; The William Lowell Putnam Mathematical Competition Awards; Symposium in Theoretical Physics at the University of Michigan; The Section of Public Health and Medicine of the American Scientific Congress; Elections of the National Academy of Sciences</i>	425		
<i>Scientific Notes and News</i>	428		
<i>Discussion:</i>			
<i>Vitamin L and Filtrate Factor:</i> DR. WARO NAKAHARA, FUMITO INUKAI and SABURO UGAMI. <i>The Attempted Characterization of Malignant Tissue Protein with D-Amino Acid Oxidase:</i> DR. L. EARLE ARNOW and JEANETTE C. OPSAHL. <i>The Peace Resolution of the American Association of Scientific Workers:</i> PROFESSOR ROBERT S. MULLIKEN	431		
<i>Scientific Books:</i>			
<i>The Stone Age of Mount Carmel:</i> PROFESSOR LOREN C. EISELEY. <i>Sokolnikoff's Advanced Calculus:</i> PROFESSOR ALBERT A. BENNETT	432		
<i>Societies and Meetings:</i>			
<i>Special Research Conferences on Chemistry</i>	434		

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. MCKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

Lancaster, Pa. Garrison, N. Y.
New York City: Grand Central Terminal

Annual Subscription, \$6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary in the Smithsonian Institution Building, Washington, D. C.

THE NATIONAL ACADEMY OF SCIENCES¹

PRESENTATION OF THE AGASSIZ MEDAL TO FRANK RATTRAY LILLIE²

In these times of exaggerated nationalism it is fortunate that we can still emphasize the internationalism of science. The Murray Fund of the National Academy of Sciences is peculiarly international in its foundation and purpose. It was established in 1911 by Sir John Murray, Canadian by birth, Scot by adoption, internationalist in science, to honor the memory of Alexander Agassiz, Swiss-born American, cosmopolitan as the ocean in his research work. Of the seventeen awards of the Agassiz Medal which have been made hitherto, fourteen were given to foreign oceanographers, three to American. Of the foreign awards, five went to Norwegians, two to Swedes, two to Danes, two to Britons and one each to oceanographers of Holland, Germany and Monaco.

¹ Meeting at Washington, D. C., April 22 and 23.

² The presentation of medals was made at the annual dinner, April 23.

The eighteenth award of this medal is to one who is a Canadian by birth, American by adoption and an internationalist in his sympathies and services, Frank Rattray Lillie, thirteenth president of the National Academy of Sciences. For twenty-six years he was director of the Marine Biological Laboratory at Woods Hole, Mass., and he was president of that institution from 1926 to 1939. During nearly half a century his research activities have been largely associated with marine biology and particularly with normal and experimental embryology and cytology, problems of fertilization and parthenogenesis, and during all these years he has stimulated or directed the research work of many hundreds of investigators. The Marine Biological Laboratory, one of the greatest institutions of its kind in the world, in large part owes its physical plant, its financial endowments and, best of all, its stimulating and cooperative atmosphere to his wise guidance and friendly supervision.

connected to the unit by a flexible power cable³ (J) that passes through the thermometer vent of the incubator. The gear ratio of the motor is 900 to 1. The cable is joined to the rotator shaft by a worm and gear (L) whose gear ratio is 50 to 1. The rotator makes about 10 revolutions per hour.

This arrangement is adapted when only direct current is available and it is necessary to keep the motor outside of the incubator, since heat is generated during its operation. Where alternating current is supplied a small synchronous motor which generates a negligible amount of heat can be attached directly to the shaft of the rotator by a suitable arrangement of gears.

LAWRENCE H. OTT
ROBERT TENNANT
AVERILL A. LIEBOW

YALE UNIVERSITY

A PERSONAL FILE OF GEOLOGIC PHOTOGRAPHS

A RECENT note on indexing and filing scientific photographs¹ seems to the present writer to cover only part of the ground, and it would be interesting to learn of the experience of various others. In 1919, the writer, in considering a plan of arrangement and storage for photographs, consulted with several persons in Washington and decided to deviate from the common custom of geologists then with the U. S. Geological Survey, in setting up a personal card file. The plan followed has served well for the arrangement, preservation and use of approximately 15,000 negatives and corresponding prints. Procedure is as follows:

Each lot of field negatives after development is arranged in the order of taking, and for each negative a 4- by 6-inch plain file card is made out with serial number (upper left); date (upper right)—in later experience the possible legal value of exact dates on photographs of water and vegetation has led to recording of the complete date; state or equivalent division (left); locality (right), and title, with as much specific data as may seem desirable. The serial numbers are chronological within any given block or project; but several projects that are carried on concurrently may be allocated to separate thousands, and it is not essential that these number blocks be filled. (Numbers are cheap.) The negatives are numbered and filed each behind the appropriate card. When prints are made, they also are filed behind the cards and are conveniently available for inspection or removal.

In the entire file, three sets of guide cards are used, with contrasting colors. One refers to serial numbers, another to dates and a third to regions or projects. For the use of an individual this chronological ar-

range, rather than a strict subject or dictionary rearrangement, seems best, and by means of project and date it is easy to locate any particular series. It is admirably suited to maintaining a complete record of all one's photography, including the portion that may be done for official agencies. In the latter case, the filling out of the data card must likewise be done by the field man, and it may be retained in his personal file with a record print. At the proper time the negative and official prints may be transmitted into the official collection for any desired arrangement, the data being taken from the field man's personal file as originally composed from field notes. The latter work can all be done by office assistants.

Older parts of the file are in steel cases; current blocks are kept in light cardboard file boxes, which may be taken to the darkroom when printing or enlarging is done, or moved about in connection with work on a given project. Handling of field and laboratory negatives in such a file in no way prevents the subject arrangement of a display or file set of prints in the manner suggested by Trefethen, but it is an approach to the earlier, and in the writer's view, the more fundamental problem, the systematic labeling and preservation of original field negatives. This is important, for the scientist especially whose work is for successive agencies but who wishes to preserve the continuity of his own photographic record.

CHESTER K. WENTWORTH

BOARD OF WATER SUPPLY,
HONOLULU

BOOKS RECEIVED

- American Medical Association, Council on Medical Education and Hospitals. *Graduate Medical Education in the United States: I, Continuation Study for Practicing Physicians, 1937 to 1940.* Pp. 243. The Association.
- Biological Survey of the Connecticut Watershed: Report of Herbert E. Warfel.* Pp. 256. 86 figures. 4 plates. New Hampshire Fish and Game Commission, Concord.
- Brooklyn Botanic Garden Record: Twenty-ninth Annual Report, 1939.* Pp. 155. 11 figures. Brooklyn Institute of Arts and Sciences.
- CURTIS, FRANCIS D., OTIS W. CALDWELL and NINA H. SHERMAN. *Everyday Biology.* Pp. xi+697. Illustrated. Ginn.
- Duke University. *Report of the President and Other Officers, 1938-1939.* Pp. 190. 1 figure. The University.
- Herbage Publication Series. Bulletin 27. The Control of Weeds,* R. O. WHYTE, Editor. Pp. 168. Illustrated. 7/6. *Bulletin 28. Technique of Grassland Experimentation in Scandinavia and Finland.* Pp. 52. Illustrated. 2/6. *Bulletin 29. Grassland Investigations in Australia.* Pp. 107. 5/. Imperial Bureau of Pastures and Forage Crops. Aberystwyth, Great Britain.
- KEMP, JAMES F. *A Handbook of Rocks.* Sixth edition, revised by FRANK F. GROUT. Pp. viii+300. 96 figures. Van Nostrand. \$3.00.
- TAYLOR, F. SHERWOOD. *Science Front, 1939.* Pp. 301. 44 figures. Macmillan. \$2.50.
- WOODWORTH, ROBERT S. *Psychology.* Fourth edition. Pp. xiii+639. 109 figures. Holt. \$2.75.

³ S. S. White Dental Manufacturing Company.

¹ J. M. Trefethen, SCIENCE, 91: 2349, 24, 1940.

Outstanding Wiley Successes in the Sciences**5***Chemistry*

GETMAN and DANIELS'

**OUTLINES OF
THEORETICAL
CHEMISTRY***(Sixth Edition 1937)*By FREDERICK GETMAN, *Formerly Associate Professor of Chemistry,
Bryn Mawr College;*Sixth Edition revised by FARRINGTON DANIELS, *Professor of Chemistry,
University of Wisconsin***259****Adoptions****in****1939-1940*****Still heading the list***

The enormous popularity of this book has not diminished—as a matter of fact, the list of users, which totalled well over two hundred last year, has increased to the unprecedented figure shown above. Many of the colleges have used it ever since it first appeared in 1913.

***"One of the most teachable books in
physical chemistry"***

"From the point of view of the instructor, the Getman-Daniels is one of the most teachable texts available. For the student, it provides sound fundamental background material in the broad field of theoretical chemistry."

—PROFESSOR HAROLD B. FRIEDMAN, *Georgia School of Technology*

"As a user of the original Getman and of its successor Getman-Daniels for many years, the writer welcomed the sixth edition as a rejuvenated old friend of long standing. Dr. Daniels has admirably succeeded in incorporating the latest advances and by eliminating descriptive matter, has kept the number of pages down to the limit set by the previous edition. The inclusion of a large number of problems, mostly new, some with answers and some without, is an excellent feature in a text whose usefulness has greatly increased with age."

—PROFESSOR H. S. VAN KLOOSTER, *Rensselaer Polytechnic Institute*

662 pages**170 illustrations****6 by 9****\$3.75****JOHN WILEY & SONS, INC., 440-4th AVE., NEW YORK**

Water Hardness Determination

REAGENT—Palmitic Acid

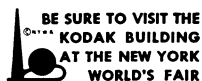
METHOD—Titrimetric

ADVANTAGES—Speed . . . accuracy . . . convenience

REFERENCE—Kitto, *Analyst*, **63**, 168 (1938)

IMPROVEMENTS in the method of titrating hardness in water result in greater ease of manipulation and greater accuracy, especially when the degree of hardness is low. The reagent is stable in solution so that a single standardization is sufficient. An abstract of the method will be forwarded upon request.

Eastman Palmitic Acid is supplied in a purified grade suitable for such analytical purposes. . . . Eastman Kodak Company, *Chemical Sales Division*, Rochester, N. Y.



EASTMAN ORGANIC CHEMICALS

WANTED—Teaching or Industrial Position. Majors in Biology and Chemistry. A.B., B.Sc.Pharm., M.Sc.Bact. degrees, with additional year of graduate work toward Doctorate degree. In addition have had a year of Medical college, and a year of Education courses. Have taught successfully for 7 years in college Biology Dept. Excellent references. For complete record please write "F.L." care of SCIENCE, 3941 Grand Central Terminal, New York, N. Y.

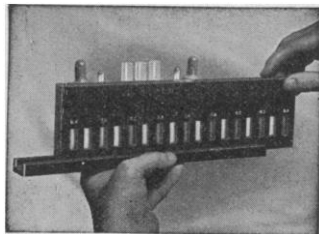
—WE DO TRANSLATIONS—

Technical and Scientific Translations
from and into all languages

Chemistry, Physics, Biology, Medicine; Metallurgy, Engineering, Aeronautics, Radio, etc. We translate manuscripts, books, patents, articles from foreign journals, catalogues and descriptive literature.

TRANSLATION & RESEARCH BUREAU
55 West 42nd St., New York, N. Y.

TAYLOR Swimming Pool Sets



The ideal outfit for complete control (pH and chlorine) of swimming pool water.

Standards enclosed in plastic slide—no separate standards to handle.

All standards carry an unlimited guarantee.

Determinations made by matching sample with standards and reading value directly from slide.

Taylor Swimming Pool Set \$17.50
f.o.b. Baltimore

W. A. Taylor & Co., Inc.
891 Linden Ave., Balto., Md.

THE ELECTRO-MEDICAL LABORATORY

Incorporated

HOLLISTON, MASSACHUSETTS,
U. S. A.

THE ELECTROENCEPHALOGRAPH

Single and multiple channel units for recording, with cathode ray and ink-writing oscillographs, the electrical activity of the peripheral and central nervous system.

Write for Catalog B.