SCIENCE

Vot. LXVII

May 18, 1928

No. 1742

CONTENTS

The Berthelot Centenary and the Resulting Interna- tional Efforts to Advance Chemistry: Dr. Ather- ton Seidell	497
Rainfall and Run-off: Professor Frank D. Adams	
Edward Sandford Burgess: Professor W. K.	
FISHER	501
Scientific Events: The Oxford Expedition to Greenland; The International Congress of Americanists; Building Plans of the American Museum of Natural History; New Building for Plant Industry at the University of Minnesota; Lectures under the Auspices of the Astronomical Society of the Pacific	502
Scientific Notes and News	505
University and Educational Notes	508
Discussion and Correspondence:	
The Reapportionment Bill in Congress: Professor Edward V. Huntington. Eye Soreness and Vitamin A Deficiency among the Nez Percés Indians: Dr. C. A. Browne. The Liter and Cubic Decimeter: H. W. Bearce. The Passing of the Circuit System of Collecting Weather Reports: Alfred J. Henry. The Abnormal Specific Heat of a Rarefied Gas at a Low Temperature, and the Cosmic Radiation: Dr. R. D. Kleeman	
Scientific Apparatus and Laboratory Methods:	• • •
Macroscopical Detection of the Medullated Wool Fiber: J. F. Wilson. A Perfusion Fluid for Elasmobranchs: Eleanor M. Kapp	512
Special Articles:	
The Sexual Stage of Fungi Induced by Ultra- Violet Rays: Professor F. L. Stevens. The Amide Nitrogen of Blood: Dr., Sidney Bliss	514
The American Association for the Advancement of Science:	
The Spring Meeting of the Executive Committee: DR. BURTON E. LIVINGSTON	
Science News	x

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

THE SCIENCE PRESS

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

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 BERTHELOT CENTENARY AND THE RESULTING INTERNATIONAL EFFORTS TO ADVANCE CHEM-ISTRY¹

In January last I had the pleasure of describing before the Chemical Society of Washington the celebration of the centenary of Marcelin Berthelot held in Paris from October 24 to 26 of last year. These remarks have been published in SCIENCE (Feb. 17, 1928) and possibly have been read by some of you.

Through the kindness of the French ambassador and M. Maurice Léon I am able to show you to-night a photographic record of the event, which will certainly give you a more vivid impression of it than I was able to convey by words alone to the chemists of Washington. Thanks to this pictorial presentation it will not be necessary for me to review again the details of the various ceremonies and more attention can be given to other aspects of the event.

Considering the celebration in its entirety there is no question but that it was the most magnificent tribute to chemistry but has ever been organized. More than fifty nations of the world sent distinguished chemists or governmental representatives. The president and entire government of France as well as the ministers and ambassadors of many other nations participated. Chemistry was extolled more highly than ever before. Judging by the space devoted to it by the newspapers the celebration attracted the attention of the general public to an extraordinary degree.

The gathering was noteworthy in being the first since the great war at which the chemists of the enemy nations have met together under such amicable circumstances. An especial effort was made to reestablish cordial relations between all, and the evidence of success in this direction was unmistakable.

The assemblage was unusual in that no other attraction than friendly regard drew the participants together. It is true that in the preceding week a program of chemical interest was provided by the Société de Chimie Industrielle, but at the Berthelot celebration nothing was presented other than discourses on Berthelot and the plan to perpetuate his ideals in regard to cooperation among scientists.

¹ Address delivered before the joint meeting of chemical societies at the Chemists' Club, New York, April 6, 1928.

Marine Biological Laboratory Woods Hole, Mass.

Facilities for research in Zoology, INVESTIGATION

Entire Year
Entire Year
three months. Fifty-six tables are available for beginners in research who desire to work under the direction of members of the staff. The fee for such a table is \$50.00.

Courses of laboratory instruction with lectures are offered in Invertebrate Zoology, Protozoology, Embryology, Physiology, and Morphology and Taxonomy of the student. Fee, \$75.00.

The annual announcement will. The annual announcement will be sent on application to The Director, Marine Biological Laboratory, Woods Hole, Mass.

SUPPLY DEPARTMENT Open the Entire Year

TEST OF YEAR

Biological Supplies

For the classroom, museum or collector.

Look for the sign of the Limulus. As the Limulus represents the test of time, we feel from the business growth that our supplies have also stood the test of years.

Send for Catalogue

No. I. Zoological and Embryolog-ical material. Life Histories and Habitat Groups. No. III. Botanical material. No. III. Microscopic Slides.

Address all correspondence regard-ing material and catalogues to: Supply Department

GEO. M. GRAY. Curator, Woods Hole, Mass.



is of invaluable assistance to

Librarians—Investigators—Teachers

It brings to them, in AUTHORS' ABSTRACT form, a brief review of all original papers on Biological Subjects which appear in the following journals:

Journal of Morphology and Physiology The Journal of Comparative Neurology
The American Journal of Anatomy
The Anatomical Record The Journal of Experimental Zoology The Journal of Experimental Zoology
American Journal of Physical Anthropology
The American Anatomical Memoirs
The Biological Bulletin (M. B. L., Woods Hole, Mass.)
Folia Anatomica Japonica (Tokio, Japan)
The Journal of Parasitology (Urbana, Ill.)
The Australian Journal of Experimental Biology
and Medical Science (Adelaide, South Australia)
Stain Technology (Geneva, N. Y.)
Physiological Zoology (Chicago, Ill.)

Advance Abstract Sheets

issued every few days, bearing Authors' Abstracts without bibliographic references, offer a practical means of making research immediately available in abstract form and of purchasing articles of special interest in reprint form without the necessity of subscribing to all the journals. Subscription \$200 per year. tion, \$3.00 per year.

Bibliographic Service Cards

with complete bibliographic references, printed on Standard Library-catalogue cards, are of value and assistance to Li-brarians and Investigators. Subscription, \$5.00 per year.

Abstracts in Book Form

referred to above, are brought together periodically, with Authors' and Analytical Subject Indices. Price \$5.00 per

Subscriptions to the Bibliographic Service and orders for reprints should be sent to

The Wistar Institute of Anatomy and Biology Thirty-sixth St. and Woodland Ave. Philadelphia, Pa.

JOHNS HOPKINS UNIVERSITY

SCHOOL OF MEDICINE

The School of Medicine is an Integral Part of the University and is in the Closest Affiliation with the Johns Hopkins Hospital.

ADMISSION

Candidates for admission must be graduates of approved colleges or scientific schools with two years' instruction, including laboratory work, in chemistry, and one year each in physics and biology, together with evidence of a reading knowledge of French and German.

Each class is limited to a maximum of 75 students.

Each class is limited to a maximum of 75 students, men and women being admitted on the same terms. Applications may be sent any time during the academic year but not later than June 15th.

If vacancies occur, students from other institutions desiring advanced standing may be admitted to the second or third year provided they fulfill the requirements and present exceptional qualifications.

INSTRUCTION

The academic year begins the Tuesday nearest October 1, and closes the second Tuesday in June. The course of instruction occupies four years and especial emphasis is laid upon practical work in the laboratories, in the wards of the Hospital and in the dispensary.

TUITION

The charge for tuition is \$400 per annum, payable in two installments. There are no extra fees except for certain expensive supplies, and laboratory breakage.

Inquiries should be addressed to the Executive Secretary of the School of Medicine, Johns Hopkins University, Washington and Monument Sts., Baltimore, Md.

Graduates in Medicine who satisfy the requirements of the heads of the departments in which they desire to work are accepted as students for a period not less than three quarters. Tuition charge is \$50 a quarter.

The Philosophy Wang Yang Ming

Translated from the Chinese by Frederick Goodrich Henke

Wang Yang Ming was an idealist of the monistic type. For him mind covered the entire gamut of existence. He thought that nothing exists independent of and apart from mind . . . each individual has the solution of the problem of the universe within himself.

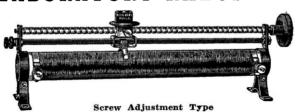
Cloth, \$2.50

The Open Court Publishing Company

339 East Chicago Avenue Chicago, Illinois

BECBRO

LABORATORY RHEOSTATS



"BECBRO" Rheostats carried in stock include numerous different ratings.

Included in the stock sizes are tubular types of lengths 20"; 16"; 8"; the resistance element being Wire or Ribbon.

Each tube has a slider adjustment which varies the resistance by very small steps from Zero to total value of the unit.

The approximate total resistance of these stock rheostats varies from 0.3 ohm to 30,000 ohms per unit, and have corresponding current capacities of 25 amperes down to 0.1 ampere.

Rheostats of more or less special construction include the Single Tube equipped with two rods and two sliders; Single and Double Tube equipped with Screw Adjustment (see cut); Double and Triple Tubes mounted as a Unit; Non-Inductive Wound Tubular and Stone Types.

"BECBRO" Carbon Compression Rheostats with corresponding Normal Ratings of 250: 1000: 1500.

Write for Catalog S-20

BECK BROS.

421 Sedgley Ave.

Philadelphia, Pa.

THE STANDARD WHITE RAT

Mus Norvegicus Albinus

We maintain the largest commercial colony of White Rats in the United States, confining our efforts solely to the breeding, raising and selling of a Standard Albino Rat. A standard animal enables biologists in different sections to obtain comparable results.

A BREEDING STOCK OF 2,000 AND A SALES STOCK OF 20,000 CONSTANTLY MAINTAINED BY A WEEKLY OUTPUT OF 1,500 TO 2,000 INSURES PROMPT AND SATISFACTORY EXECUTION OF ALL ORDERS.

Prices on Lots of 50 or more

BREEDING STOCK	GRADE A-M & F	\$1.75	eac
TOXICITY SIZE	100-150 Gm.	.75	66
MEDIUM SIZE	80-100 Gm.	.70	"
SMALL SIZE	50- 80 Gm.	.65	"
VITAMINE SIZE	30- 50 Gm.	.60	66
LITTERS-known age, wit	h Mothers (8 to 16 to litter)	1.00	66

Prices for Lots less than 50 furnished on request

All Shipments via Express Prepaid

Orders of less than 50 animals, express charges and crating will be at the expense of consignee and will be charged on invoice.

Orders of 50 or more, express charges and crating at our expense when the same does not exceed \$5.00 per hundred animals. Any excess of this amount will be charged on invoice.

ALBINO SUPPLY, INC.

916 Parrish Street

Phone, Market 5265

Philadelphia, Pa.

NEW SCIENTIFIC BOOKS

McGraw-Hill Book Company, New York

COMPARATIVE MORPHOLOGY OF FUNGI. Ernest A. Gan-Translated and revised by Carroll W. pp. xiv + 701. Illustrated. \$7.50. mann Dodge.

The introductory chapters contain a discussion of the most important points of view and the basic forms, assuming previous knowledge of a text-book. The last part of the book describes modifications of the basic forms.

Macmillan Company, New York

HUMAN VALUES AND VERITIES. Henry Osborn Taylor. pp. xiv +282. \$2.75.

Some chapters are: The functioning of faculty; Human values; Human validity; Values and validity in history; Cleavage between science and philosophy; Philosophy's validity and value; The imaginative arts; Art's value and verity: The active life.

Geological Survey of China, Peking Palaeontologia Sinica

FUSULINIDAE OF NORTH CHINA. Series B, Volume 4, Fascicle 1. Jonquei S. Lee. pp. vii + 172. plates, 21 figures.

Discusses the distribution of fusulinidae in North China, gives the terminology of the common structural elements in boultonia, fusulinella and fusulina and describes the various species contained within these groups.

REVISED DETERMINATIONS OF SOME TERTIARY MAMMALS FROM MONGOLIA. Series C, Volume 5, Fascicle 2. Gerrit S. Miller, Jr. pp. vi + 20.

Some of the mammals described are: scaptochirus primaevus; crocidura kormosi; hyaena; martes anderssoni; aplodontia asiatica: allactaga wimani.

The Biological Laboratory Cold Spring Harbor, Long Island, N. Y.

Now open the entire year for Research

in any branch of Biology

Fundulus and other marine material abundant for embryological and physiological investigation. Special Equipment for mammalian work. Fee for private laboratory \$75, table \$50.

Instruction

Six weeks, June 27th to August 8th. Courses in Field Zoology, Physiology, Surgical Methods in Experimental Biology, Endocrinology, Field Botany and Plant Ecology. Tuition, \$75.

A marine littoral location, in rolling, forested country, with close proximity to brackish and fresh water collecting grounds, yet only an hour from the center of New York City, with access to its splendid museums, institutions and libraries.



By means of sliding-contacts the resistance value of

JAGABI RHEOSTATS

can be varied from zero to full rating in exceedingly

They are eminently suited for, and are largely used in Educational, Research and Industrial Laboratories. Write for illustrated Bulletin 1140-S

> JAMES G. BIDDLE, PHILADELPHIA 1211-13 ARCH STREET

THE MICROSCOPE

By SIMON H. GAGE, of Cornell University

Revised, Dark-field Edition (1927) now Available. The Old and the New in Microscopy, with a special chapter on Dark-Field Methods and their Application.

Postpaid. \$3.50

COMSTOCK PUBLISHING CO., ITHACA, N. Y.

THEORY OF CONTINENTAL DRIFT

An international symposium on the origin, structure and movements of the earth's crust. Foreword by E. DeGolyer. Authors—van der Gracht, Willis, Chamberlin, Joly, Molengraaff, Gregory, Wegener, Schuchert, Longwell, Taylor, Bowie, White, Singewald and Berry. 240 pp., 29 figs. 6 x 9 inches. Cloth. Price, \$3.50, postpaid.

American Association of Petroleum Geologists Box 1852, Tulsa, Oklahoma, U. S. A.

PROFESSOR

Your manuscript or notes can be published by the photographic-zinc-plate process. We print on both sides of a page, reduce to desired size and bind in book form. Write for our booklet and prices.

SHELWOOD-HILL, Inc., 50 Church St., N. Y. C.

SCIENTIFIC PERIODICALS

Chemical, Medical and allied subjects. Complete files, volumes and copies, bought and sold. Kindly send us a list of your wants and items of which you may wish to dispose.

B. LOGIN & SON

20 East 21st Street

New York, N. Y.

FOR SALE

Complete set of SCIENCE, 1906 to 1927, unbound; a few numbers missing; also complete volumes for 1888 and 1889. Complete sets from beginning to date: Chemical Abstracts (without decennial index); Jour. Ind. and Eng. Chem.; all unbound. Journal of Amer. Chem. Soc. from 1893 to 1927, 1893 to 1906, bound in half leather; 1907 to 1927, unbound. Complete set "Orig. Communications Interna-

tional Cong. of Applied Chem.," 29 vols., unbound; Amer. Chem. Research, 1899 to 1906, bound in 3 vols. Address,

> H. EHRENFELD 57 S. Beaver St., York, Pa.



Hy-Speed Mixers

Clamp to any tank, operate from light circuit, mix all kinds of liquids. used ised for even temperature Thousands in use. baths.

Write for circular. /10 H. P. ALSOP ENGINEERING CO. \$37.50 up 47 W. 63rd St., New York



LIKE NEW AGAIN Microscopes

Rebuilt

Reconditioned Repaired Moderate Fees

Physicians' Supply & Drug Co. 427 S. Honore St.