

SCIENCE

VOL. LVII MARCH 16, 1923 No. 1472

<i>The Need of Monographic Activity in American Botanical Taxonomy: PROFESSOR B. L. ROBINSON</i>	307
<i>University Careers in Medicine and Surgery: DR. ELLIOTT C. CUTLER</i>	311
<i>Ionization and Resonance Potentials: DR. W. ALBERT NOYES, JR.</i>	314
<i>Arthur Lalanne Kimball: PROFESSOR JOSEPH O. THOMPSON</i>	318
Scientific Events:	
<i>Executive Board of the American Engineering Council; Appointments in the U. S. Bureau of Mines; Grants from the Elizabeth Thompson Science Fund; Gift to the Royal Society; The Endowment of the California Institute of Technology</i>	319
<i>Scientific Notes and News</i>	322
<i>University and Educational Notes</i>	326
Discussion and Correspondence:	
<i>Radiation a Form of Matter—Unproven: DR. N. ERNEST DORSEY. Right- and Left-handed Speakers: DR. W. GILMAN THOMPSON. The Bird Collector: H. GIFFORD. The Action of Sodium Hydrate upon the Composition and Digestibility of Grain Hulls: DRS. J. B. LINDSEY and J. C. ARCHIBALD. Stenomorph, a New Term in Taxonomy: DR. PAUL BARTSCH. Botanical Literature for Russia: DR. CONST. MEYER</i>	327
Scientific Books:	
<i>Pearl on the Biology of Death: PROFESSOR L. J. HENDERSON</i>	331
Special Articles:	
<i>Occurrence of Human Remains with Pleistocene Fossils in Texas: DR. ELLIS W. SHULER. The Effect of Sodium Hypochlorite upon the Spores of American Foul Brood: H. F. WILSON and W. A. HADFIELD</i>	333

SCIENCE: A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science, edited by J. McKen Cattell and published every Friday by

THE SCIENCE PRESS

100 Liberty St., Utica, N. Y. Garrison, N. Y.
New York City: Grand Central Terminal

Annual Subscription, \$6.00.

Single Copies, 15 Cts.

Entered as second-class matter January 21, 1922, at the Post Office at Utica, N. Y., Under the Act of March 3, 1879.

THE NEED OF MONOGRAPHIC ACTIVITY IN AMERICAN BOTANICAL TAXONOMY¹

It recently fell to my lot to oversee the reclassification of a large botanical library during its reshelving at the Gray Herbarium. Many questions arose during the process, most of them relating to clearness and expediency from the standpoints of library methods and experience. With these I will not trouble you. But incidentally I was impressed by certain quantitative aspects of botanical literature, particularly of taxonomic publication. These proved interesting to me and I hope I can make them so to you.

Nearly all publications on systematic botany fall pretty readily into one or the other of two chief categories: they are either floras, dealing with the vegetation of some particular region, or they are monographs treating a special group of plants. Our fundamental division was, therefore, into floras, arranged geographically, and monographs, classified systematically.

In this grouping the first thing that struck me was the overwhelming predominance, both in bulk and numbers, of the floristic works over the monographic. The second was that of the monographs, that is to say of those works treating not a region but a particular group of plants; the output in America has at all times been exceedingly small compared with that in Europe. Finally it was evident that most of the monographic work thus far accomplished in America has been restricted to purely American groups, exceedingly little of it taking on a cosmopolitan character.

The historic reasons for this state of affairs are tolerably obvious and there is no need to go into them at any length. American botany is relatively recent and its workers, at no time very numerous, have been confronted by the overwhelming task of reducing to systematic

¹ A communication read before the Systematic Section of the Botanical Society of America, December 29, 1922.

Cornell University Medical College

First Avenue and Twenty-eighth St.
NEW YORK CITY

The first year of the course is also
offered at Ithaca, N. Y., subsequent
years at New York City only.

For Information Address
THE SECRETARY

Johns Hopkins University Medical School

The Medical School 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 at least 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 75 students, men and women being admitted on the same terms. Except in unusual circumstances, applications for admission will not be considered after July 1st.

If vacancies occur, students from other institutions desiring advanced standing may be admitted to the second or third year provided they fulfill our 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 \$300 per annum, payable in three installments. There are no extra fees except for rental of microscope, certain expensive supplies, and laboratory breakage.

The annual announcement and application blanks may be obtained by addressing the

Dean of the Johns Hopkins Medical School,
Washington and Monument Sts., Baltimore, Md.

SUMMER WORK FOR GRADUATES IN MEDICINE

Beginning Monday, June 4th, and ending Saturday, July 14th, a course in medical diagnosis, including laboratory exercises in clinical pathology and demonstrations in pathological anatomy, will be offered. The course will be limited to thirty students, fee \$100. Applications should be made to the Dean's Office.

SCHOOL OF MEDICINE Western Reserve University of Cleveland, Ohio

HIGH STANDARD OF ADMISSION*
RESTRICTED CLASSES
THOROUGH INSTRUCTION
LARGE CLINICAL FACILITIES
HIGH STANDARD OF SCHOLARSHIP

**Admission confined to students
having academic degrees and to
Seniors in Absentia.*

For information address:

THE REGISTRAR
1353 East 9th St., Cleveland, O.

YALE UNIVERSITY SCHOOL OF MEDICINE

Affiliated with the New Haven Hospital
and New Haven Dispensary

111TH SESSION

Reorganized on a full-time basis

Entrance Requirements: A minimum of three years (or its equivalent) of college including general biology, physics, general and organic chemistry, qualitative analysis, physical chemistry or laboratory physics, and either French or German.

ALL THE GENERAL FACILITIES
OF THE UNIVERSITY ARE AVAIL-
ABLE TO MEDICAL STUDENTS

As the number admitted to each class is limited, applications must be made before July 1.

Dean, Yale University School of
Medicine
NEW HAVEN, CONN.

NEW YORK HOMOEOPATHIC MEDICAL COLLEGE AND FLOWER HOSPITAL

Entrance Requirements: A minimum of two years of college work, which must include certain specified courses.

Instruction: Four years' duration; broad in scope; adequate laboratory and clinical facilities. Active dispensary service.

For catalog address:

THE REGISTRAR
1183 Avenue A, New York City

Marine Biological Laboratory

Woods Hole, Mass.

INVESTIGATION

Entire Year

Facilities for research in Zoology, Embryology, Physiology, and Botany. Eighty-four private laboratories \$100 each for not over three months. Thirty 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.

INSTRUCTION

July 3 to August
14, 1923

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

SUPPLY DEPARTMENT

Open the Entire
Year



Animals and plants, preserved, living, and in embryonic stages. Preserved material of all types of animals and of Algae, Fungi, Liverworts and Mosses furnished for classwork, or for the museum. Living material furnished in season as ordered. Microscopic slides in Zoology, Botany, Histology, Bacteriology. Catalogues of Zoological and Botanical material and Microscopic Slides sent on application. State which is desired. For catalogues and all information regarding material, address:

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

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

Paleontologist and stratigrapher (Doctor of Philosophy) desires change of location for 1923-1924. Five years' teaching and field experience. Excellent recommendations. Specialties: Devonian, Cretaceous, Eocene. Address K2, care of SCIENCE, Grand Central Terminal, New York City.

GEOLOGIST, with nineteen years' field experience in practically every line of geology in seven countries, with teaching experience in two colleges and three universities, broad academic training, considerable published work, experienced in managing large enterprises and satisfactory references desires situation in non-state university or college. Charles Laurence Baker, 10 Mosswood Road, Berkeley, California.

FOR SALE

Journal American Chemical Society, 1900-1922 inclusive, complete, 1900-1907 bound half morocco 11 volumes, including 2 Research Review; Jour. Ind. & Eng. Chem. 1-14 inclusive, complete; Chemical Abstracts 1-16 inclusive complete. Chemistry Dept., University of B. C. Vancouver.

FOR SALE

Berichte der Deutschen Chemischen Gesellschaft, Vol. 1 to 47 (1868 to 1914 inclusive) complete with exception of Index for the year 1887. In perfect condition. Bound in half-calf. Address, T3, SCIENCE PRESS, Grand Central Terminal, New York, N. Y.

AMERICAN SCHOOL IN FRANCE OF PREHISTORIC STUDIES

Archaeological Institute of America

American Anthropological Association

Three scholarships for the year 1923-1924 are available.

Applicants should have some knowledge of prehistoric archaeology, not necessarily in the European field, and some acquaintance with French; a long course of preparation is not absolutely necessary.

The work of the School begins July first of each year, and continues for one year.

The time is divided between excavations, excursions and study in museums. This is supplemented by attendance at lectures given by French scholars and by the American Director.

Those who consider entering the school, whether or not applicants for scholarships, and whether or not intending to pass the entire year in the School, should address the chairman as soon as possible.

GEORGE GRANT MACCURDY,
Chairman

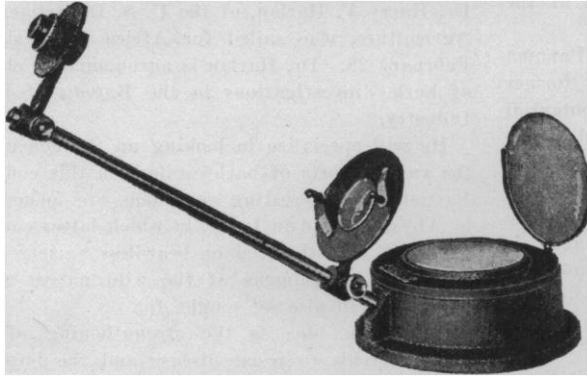
Yale University Museum
New Haven, Connecticut

STUDENT'S POLARISCOPE AND ACCESSORIES

Our new Student's Polariscopes is a scientific instrument showing by the interference of light waves the remarkable color effects of polarized light. It provides one of the most fascinating experiments in Elementary Physics and constitutes a never-ending source of instruction and enjoyment.

The instant favor with which our larger Polariscopes were received, has led us to offer a smaller instrument containing all essential parts at a price well within reach of every school and college. Daylight or artificial light diffused by a ground glass plate is reflected at a polarizing angle by a black glass mirror to the stage. The stage may be rotated or shifted up and down the rod and carries a glass plate and clips for holding the object under examination. The latter is viewed through a nicol prism analyzer which rotates in a collar graduated to 5°, making quantitative measurements possible.

The base of the instrument is hollow and felt lined so that the preparations and accessories may be kept with the instrument. A selected set of accessories is listed below. A number of others, along with our larger Polariscopes are listed in Bulletin No. 102, which will be mailed on request.



L 260—Student's Polariscopes.

L 260.	Student's Polariscopes.....	\$30.00
L 265.	Set of Seven Accessories, comprising:	
L 277.	Glass Plate for Clamp.....	\$1.30
L 278.	Pressure Clamp for showing double refraction in glass under strain.....	\$1.50
L 279.	Rhombohedral of Iceland spar.....	\$1.00
L 286.	Tourmaline Tongs.....	\$3.50
L 292.	Spar Plate cut perpendicular to axis.....	\$6.50
L 295.	Sheet of Clear Mica.....	\$1.00
L 296a.	Design in Selenite.....	\$8.00
	Complete at Special Price.....	\$20.00

WM. GAERTNER & CO.

5345-49 LAKE PARK AVENUE,
CHICAGO, ILL. U. S. A.

Leitz Microscopes are the Standard of the World

LEITZ LABORATORY AND STUDENT MICROSCOPES "L" AND "LL"

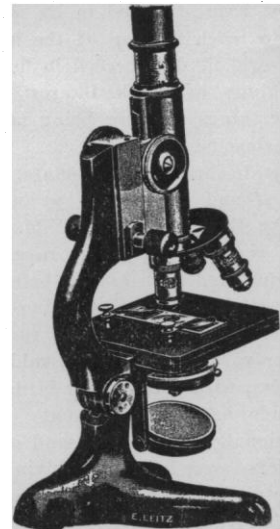
A Student Microscope is naturally subjected to hard usage and in order to withstand severe handling, its workmanship has to be durable beyond question.

The Leitz Laboratory and Student Microscopes embody the same high standard of optical and mechanical workmanship, so strongly identified with Leitz products, and are guaranteed, therefore, to serve in student laboratories in a more satisfactory manner than any others.

The "Leitz-Quality" is beyond comparison, and since it is unequalled, it is supreme.

Optical and Mechanical Efficiency are the chief points expected of any microscope; the Leitz instruments are recognized to possess these standards to a non-contestable degree.

Write for Pamphlet No. 0-1001

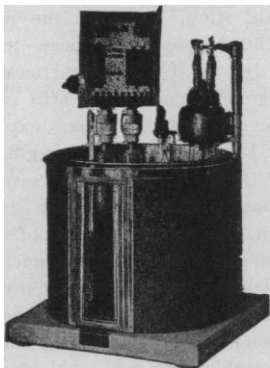


Laboratory and Student
Microscope "L 10"



60 EAST 10TH ST.

FREAS SENSITIVE WATER THERMOSTATS



Small Sensitive Thermostat

Where exacting physico-chemical experiments are carried out, Freas Sensitive Water Thermostats will meet most rigid requirements in a most satisfactory manner.

*For sale by all dealers in
Laboratory Apparatus*

Manufactured by

The Thermo Electric Instrument Co.
8 JOHNSON STREET, NEWARK, N. J.

BACTERIOLOGISTS

should

BUY AMERICAN STAINS

and should SPECIFY the only

AMERICAN

C.P. HÆMATOXYLIN

Endorsed by the Commission for
Standardization of Bacteriological
Stains.

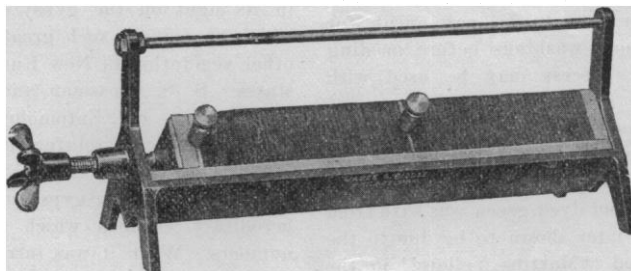
Obtainable from the Manufacturers

MACANDREWS & FORBES COMPANY

200 Fifth Ave., New York City

Or from your regular dealer.

Compression Carbon Rheostats



For service that requires exceedingly "fine" and uniform current regulation, we offer the following rheostats:—

No.	Normal Rating Watts	Approximate Range of Resistance	Dimensions of Carbon Blocks	Approximate Over-all Dimensions	List Prices
*10	250	.06—6 ohms	50 blocks $\frac{3}{8}$ " thick 1 $\frac{1}{2}$ " square	15 $\frac{1}{2}$ " long 4 $\frac{1}{2}$ " wide 5 $\frac{1}{2}$ " high	\$12.50
20	1000	.04—4 "	65 blocks $\frac{3}{8}$ " thick 2" square	20" long 5 $\frac{1}{2}$ " wide 6" high	\$25.00
30	1500	.01—2 "	60 blocks $\frac{1}{4}$ " thick 3" square	22" long 7 $\frac{1}{4}$ " wide 7 $\frac{1}{2}$ " high	\$50.00
40	3000	.005—1 "	60 blocks $\frac{1}{4}$ " thick 4" square	22" long 8" wide 9" high	Price on application

*This rheostat is supplied with three movable terminal plates, as shown in the picture.

Write for Illustrated descriptive Bulletin No. 980

JAMES G. BIDDLE

1211-13 ARCH ST., PHILADELPHIA