SPECIAL ISSUE CONTAINING THE REPORTS OF THE CINCINNATI MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE EDITED BY BURTON E. LIVINGSTON, PERMANENT SECRETARY

SCIENCE

Vol. LIX JANUARY 25, 1924 No. 1517

CONTENTS

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

> Cincinnati, December 27, 1923, to January 2, 1924

The Permanent Secretary's Report on the Cincinnati	
Meeting: PROFESSOR BURTON E. LIVINGSTON	71
Legislative and Executive Proceedings	79
The Council Roll	80
Officers Elected	- 82
The President: A Biographical Note	83
Financial Reports	84
Cincinnati Sessions of Sections and Societies:	
Introductory Note	84
Mathematics: PROFESSOR WILLIAM H. ROEVER,	
PROFESSOR ARNOLD DRESDEN, PROFESSOR W. D.	
CAIRNS, DR. KATHRYN WYANT	85
Physics: Professor S. R. WILLIAMS, PROFESSOR CHARLES F. BROOKS	86
Chemistry: PROFESSOR W. D. HARKINS	87
Astronomy: PROFESSOR F. R. MOULTON.	88
Geology and Geography: Professor E. S. Moore, Dr. Richard E. Dodge, Professor Geo. J. Mil- LER	89
	00
Zoology: HERBERT W. RAND, C. L. METCALF, A. F. BURGESS, GORDON WILSON	91
Botany: PROFESSOR ROBERT B. WYLIE, I. L. LEWIS, ALFRED GUNDERSEN	95
Science News	viii

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.

Entered as second-class matter July 18, 1923, at the Post Office at Lancaster, Pa., under the Act of March 3, 1879.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Street 10

THE PERMANENT SECRETARY'S REPORT ON THE CINCINNATI MEETING

GENERAL FEATURES

THE seventy-fifth anniversary of the founding of the American Association for the Advancement of Science was celebrated in the very successful seventyeighth meeting of the association and associated societies, which occurred at Cincinnati during convocation week, from December 27 to January 2. That was the third meeting to be held at Cincinnati. It was the annual meeting for the association year 1924, which had begun October 1, 1923.

The third Cincinnati meeting was in every way successful. In some respects it greatly excelled all earlier meetings of the association. In number of persons registered as in attendance it almost equalled the Boston meeting of the previous year and it did not fall far short of the last Chicago meeting, held in December, 1920, the largest on record. The registration figures for the annual meetings of the four years just ended (1921–1924) are given below, for the sake of comparison and convenient record.

2413, Chicago, December 27, 1920, to January 1, 1921
1832, Toronto, December 27 to December 31, 1921.
2339, Boston, December 26 to December 30, 1922.
2211, Cincinnati, December 27, 1923, to January 2, 1924.

The registration record for Cincinnati was probably not nearly complete, but it was apparently more nearly complete than that for any other recent meeting. Registration by regions is shown below:

The United States

Alabama	16	Maine	5
Arizona	2	Maryland	34
Arkansas	6	Massachusetts	57
California	17	Michigan	88
Colorado	11	Minnesota	39
Connecticut	23	Mississippi	11
Delaware	4	Missouri ~	47
District of Columbia	97	Montana	3
Florida	6	Nebraska	10
Georgia	9	New Hampshire	12
Illinois	163	New Jersey	40
Indiana	123	New York	172
Iowa	58	North Carolina	12
Kansas	31	North Dakota	8
Kentucky	118	Ohio	626
Louisiana	7	(Cincinnati 323)	

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

YALE UNIVERSITY School of Medicine

Affiliated with the New Haven Hospital and New Haven Dispensary

112TH 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 I.

Dean, Yale University School of Medicine

NEW HAVEN, CONN.

Johns Hopkins University Medical School

The Medical School is an Integral Part of the Uni-versity and is in the Closest Affiliation with the Johns Hopkins Hospital.

ADMISSION

Candidates for admission must be graduates of ap-proved 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

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 admis-sion will not be considered after July 1st. If vacancies occur, students from other institu-tions 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 Oc-tober 1, and closes the second Tuesday in June. The course of instruction occupies four years and es-pecial emphasis is laid upon practical work in the laboratories, in the wards of the Hospital and in the discensory. dispensary.

TUITION

The charge for tuition is \$300 per annum, payable in three installments. There are no extra fees ex-cept for rental of microscope, certain expensive sup-piles, and laboratory breakage. The annual announcement and application blanks may be obtained by addressing the Description of the laboratory breakage.

Dean of the Johns Hopkins Medical School, Washington and Monument Sts., Baltimore, Md. Summer Work for Graduates in Medicine

Beginning Monday, June 2d, and ending Saturday, July 12th, a course in medical diagnosis, including laboratory exercises in clinical pathology and demon-strations 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.





Vitreosil is unequalled by any other material in its chemical resistance, insolubility, and indifference to extreme temperature changes. It is highly refractory and the transparent quality possesses great translucency to ultra-violet light.

The extensive employment of vitreosil for atomic weight investigations attests its value for the most exacting chemical research.

Obtainable through all dealers

Literature on Request



RUSH MEDICAL COLLEGE IN AFFILIATION WITH THE UNIVERSITY OF CHICAGO

Curriculum.—The fundamental branches (Anatomy, Physiology, Bacteriology, etc.) are taught in the Departments of Science at the Hull Biological and the Ricketts Laboratories, University of Chicago. The courses of the three clinical years are given in Rush Medical College and in the Presbyterian, the Cook County Hospital, the Home for Destitute Crippied Children, and other hospitals.

Cook Kould's Graduation in the Home for Destitute Crippled Children, and other hospitals.
Requirements for Admission.—Three years of premedical college work.
Classes Limited.—The number of students admitted to each class is limited, selection of those to be admitted is made on the basis of merit in scholar-ship and other qualifications requisite for the study and practice of medicine.
Hospital Year.—The fifth year, consisting of service as an interne under supervision of the faculty in an approved hospital, or of advanced work in one of the departments is prerequisite for graduation.
Summer Quarter.—The college year is divided into four quarters, three of which constitute an annual session. The summer quarter in the climate of Chicago is advantageous for work. Students are admitted to begin the medical courses only in the Autumn and Spring quarters.
Elective System.—A considerable freedom of choices are offered in all departments. Students by attending summer quarters and prolonging their residence at the University.
Prize Scholarship.—Six prize scholarships—three in the first two years and three in the last two (clinical) years—are awarded to college graduates for theses embodying original research.
The Winter quarter commences January, 1924.
Tuition-\$80.00 per quarter, no laboratory fees.

Complete information may be secured by addressing: THE MEDICAL DEAN

The University of Chicago Chicago, Illinois

School of Medicine Western Reserve University

of Cleveland, Ohio

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

The 1924-25 session will open in the new medical building.

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

For information address:

THE REGISTRAR

CLEVELAND, OHIO

1353 E. 9TH ST.

SOCIÉTÉ GENEVOISE

D'INSTRUMENTS DE PHYSIQUE

SCIENTIFIC EQUIPMENT

includes

Length Standards and Comparators Spectrographic and Astrographic Comparators Spectroscopes and Spectrographs Polarimeters and Saccharimeters Goniometers and Heliostats High Pressure Pumps Measuring Microscopes Mineralogical Microscopes Electro-Magnets Refractometers Cathetometers Chronographs Telescopes

Also

SHOP EQUIPMENT:

Linear Dividing Machines Circular Dividing Machines Precision Screw-Cutting Lathes Locating and Jig-Boring Machines Measuring Machines Bench Micrometers Test Comparators Spherometers Invar

THE R. Y. FERNER COMPANY

U. S. Representatives

1410 H ST., N. W. WASHINGTON, D. C.

CHR. KREMP

(Established in 1885)

MICROSCOPES

FULL LINE

for High School, Undergraduate, and Research and Testing Work

offered for the first time in U.S.A.

Also a complete line of standard optical and repair parts, including compensated eyepieces, fluorite objectives, condensers, mechanical stages, racks and pinions, quick-motion screws and fine adjustment mechanism, and gears, cutters, screws and taps for general instrument construction and repairs.

WRITE FOR PRICES

THE R. Y. FERNER COMPANY

U. S. Representatives

WASHINGTON, D. C. 1410 H ST., N. W.

NUTRITION PRODUCTS **STANDARDIZED** BY THE WHITE RAT METHOD To conserve the time of investigators, we supply the following essential food factors and food mixtures to Universities and state Departments, Experiment Stations and Laboratories of the U.S. Government. Yeast Vitamine-Harris (Tablets)-Each Tablet contains 200 mgms of concentrated Vitamine-B fraction, from Brewers' Yeast (Described by Osborne & Wakeman, Jr. Biol. Chem., Dec., 1919). Widely used as a food supplement or auxiliary food factor. Valuable as a stimulant to the appetite and metabolism of the sick, convalescents and the young. (See: Gerstenberger: Amer. Jr. Diseases of Children, Oct., 1923.) Yeast Vitamine-Harris-Vitamine-B, concentrated fraction, from Brewers' yeast, described by Osborne and Wakeman, Jr., Biol. Chem., Dec., 1919. Most potent preparation of Vitamine-B available for feeding experiments. Stimulates the appe-

tite. See :-- Cowgill, Proc. Soc. Exp. Biol. and Med., 1922, xix, 282. Powder. For experimental animals or bacteriological media.

Yeast; dried, powdered—Fresh Brewers' yeast, washed, vacuum dried, powdered. Standardized for its Vitamine-B value. See: Evans and Bishop, Jr., A. M. A., Sept. 15, 1923.

Cod Liver Oil-Harris-Physiologically standardized for its fat-soluble-A content. Prevents or cures Rickets. Used as a standardized source of Vitamine-A. The first Cod Liver Oil with a Vitamine standard.

Casein-Harris-Free from water-soluble, Vitamine-B. Standardized by feeding to growing white rats.

Casein-Harris-Free from Vitamines A and B is of very high purity, both chemically and physiologically. Chemically analyzed and Biologically standardized. No other casein of this quality is available.

AVERAGE ANALYSIS

Moisture10.73 Calcium Trace Water, fat, ash-free..15.44 Nitrogen (cf.-Osborne & Harris, Jr. Am. Chem. Soc., 25-IV. 346)

Write for full list of Biological Products, description, chemical analyses, growth charts-Literature on the Vitamines.

Complete Rat Food Mixes, standard formulae Complete inorganic salt mixes, standard formulae Starches and fats, free from all Vitamines

THE HARRIS LABORATORIES TUCKAHOE, NEW YORK

xxì

"TURTOX" CATALOGS include

Aquaria Bird glasses Charts Chemicals Dissecting outfits Earthworms (special) Entomological supplies Glassware Lantern Slides Life Histories Microscope slides (General)

Microscope slides (special for High Schools) Microtomes outfits Models ms (spegical sup-Preserved Material for Botany, Embryology and lides Zoology ories Insect Mounts wes Skeletons we slides Syringes, Injecting l) Vascula and many other items.

Items in black type are our own special products. We are Manufacturers and Preparators of Biological Supplies.



Catalogues to cover any or all of the above items will be sent on request.

GENERAL BIOLOGICAL SUPPLY HOUSE 1177 East 55th Street, Chicago, III.

COMPLETE EQUIPMENT SERVICE



Explorers-Engineers-Travelers-Scientists The only place in the U. S. where every unit

of the correct outfit may be obtained. Fiala Patent Sleeping Bag

The only light weight, scientific bag madekeeps in the heat, allows body moisture to escape. \$20 up.

GURLE ("S celebrated Transits, Levels. Alidad:s, Water Meters and Registers. Write for descriptive sirculars

FIALA OUTFITS INC.

ANTHONY FIAL'A, 25 Warren Street, New York

Theresa Seessel Research Fellowships To promote original research in biological studies YALE UNIVERSITY

Two fellowships, yielding an income of \$1,500 each. Preference is given to candidates who have already obtained their Doctorate, and have demonstrated by their work fitness to carry on successfully original research of a high order. The holder must reside in New Haven during the college year, October to June. Applications should be made to the Dean of the Graduate School, New Haven, Conn., before May 1, 1924; they should be accompanied by reprints of scientific publications, letters of recommendation, and a statement of the particular problem which the candidate expects to investigate.

SPECIALTIES

Anatomical and Biological Models Skeletons and Skulls Anatomical and Biological Preparations Wall Charts Biological Material

Laboratory and Museum Glassware

Museum Cabinets

Please send your lists of requirements for prices and further information to

THE KNY-SCHEERER CORPORATION OF AMERICA

Department of Natural Sciences,

119-125 Seventh Avenue, New York City

Marine Biological Laboratory Woods Hole, Mass. Biological Material



1. ZOOLOGY. Preserved material of all types of animals for class work and for the museum.

2. EMBRYOLOGY. Stages of some invertebrates, fishes (including Acanthias, Amia and Lepidosteus), Amphibia, Beptiles and some mammals.

3. BOTANY. Preserved material of Algae, Fungi, Liverworts, Mosses, Ferns and Seed Plants. 4. MICROSCOPE SLIDES in

Bacteriology, Botany and Zoology. 5. LIFE HISTORIES, Germination Studies, and Natural History Groups.

Catalogues furnished on application to

GEORGE M. GRAY, Curator WOODS HOLE MASSACHUSETTS

DS HOLE MASSACHUSEIII

THE MICROSCOPE

By SIMON H. GAGE of Cornell University 13th Edition, Published December, 1920 In this edition. special emphasis is put upon the Dark-Field Microscope. POSTPAID. \$3.00. Comstock Publishing Co., Ithaca, N.Y.