

School of Medicine Western Reserve University

Cleveland, Ohio

NEW LABORATORIES AND
HOSPITALS

RESTRICTED CLASSES

THOROUGH INSTRUCTION

LARGE CLINICAL FACILITIES

HIGH STANDARD OF SCHOLAR-
SHIP

Admission confined to students having aca-
demic degrees and to Seniors in Absentia.

For information address:

THE REGISTRAR

2109 Adelbert Rd.

CLEVELAND

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, 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 for 1929-30 will be \$600 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.

BOSTON UNIVERSITY SCHOOL OF MEDICINE

ORGANIZED IN 1873

ANNOUNCEMENT

may be obtained by application to

THE REGISTRAR

80 East Concord Street,

Boston,

Massachusetts

School of Medicine and Dentistry THE UNIVERSITY OF ROCHESTER

Medical School, Strong Memorial Hospital, School of Nursing and Out-Patient Department of the University of Rochester and the Municipal Hospital of the City of Rochester, all under one roof. Medical, Surgical, Obstetric, Pediatric, Contagious and Neurological patients admitted. Unusual opportunities for school and hospital cooperation in medical and dental teaching.

Admission

Medical and dental candidates must have completed three years of college work with special requirements in chemistry, physics and biology. The entering class will not exceed 45, men and women being admitted on equal terms.

Tuition

Charge for tuition will be \$300 per annum, payable in equal installments at the beginning of each semester.

For information address

THE DEAN

School of Medicine and Dentistry
Crittenden Station, Rochester, N. Y.

Journal of the Optical Society of America and Review of Scientific Instruments

Published monthly by the *Optical Society of America* in co-operation with the *Association of Scientific Apparatus Makers of the United States of America*

CONTENTS FOR MARCH,† 1929

- Proceedings of the Michelson Meeting.
The Optical Exhibition.
*Repetition of the Michelson-Morley Experiment.
*The History and Present Status of the Physicist's Concept of Light.
*Electrons and Quanta.
*The Reduction of Glare from Automobile Headlights.
*On the Blackness of Black Bodies and the Illumination of Light Wells.
*Optics as Seen by a Psychologist.
*Some of the Physiological Effects of Radiant Energy.
*Some Effects of Radiant Energy on Plants.
*The Nature of the Sensitivity of Animals to Light.

*Presented by invitation at the Michelson Meeting of the *Optical Society of America*, November, 1928.

† This number, \$1.00

Address orders to

F. K. RICHTMYER, Manager
Rockefeller Hall
Ithaca, N. Y.



COLOR PLATES

Biological photographs authentically colored

SCIENCE demands correctness in data and photographic records, and the Agfa Color Plate process is a genuine step forward in this direction.

Agfa Color Plates produce actual photographs in natural colors—the entire color scale with its myriad gradations. The process is surprisingly simple. Any plate camera can be used.

The finished picture, an authentically colored transparency, is an ideal lantern slide.

Write for
your copy of
the free
32-page Agfa
Color Plate
Book.

AGFA ANSCO CORPORATION
BINGHAMTON, N. Y.

CHARLES SCRIBNER'S SONS.
NEW YORK \ \ LONDON

Henry Fairfield Osborn

Biological Series (1894-1928)

I. FROM THE GREEKS TO DARWIN

New and completely revised edition of this standard work. 12mo. 3d thousand. *Ready in 1929.* \$2.50

II. IMPRESSIONS OF GREAT NATURALISTS

Sequel to Vol. I. Darwin, Wallace, Huxley, Balfour, Bryce, Pasteur, Leidy, Cope, Butler, Burroughs, Muir, Roosevelt. With portraits. 12mo. 4th thousand. \$2.50

III. EVOLUTION AND RELIGION IN EDUCATION

Discussion with Bryan and other Fundamentalists of the years 1922-25. 12mo. 12th thousand. \$2.00

IV. CREATIVE EDUCATION

in School, College, University, and Museum

Fifty years' observation and experience in school, college, and university education and the training of biologists and geologists. "I rejoice that you have put your ripe experience into this brilliant book. It is tonic."—WILLIAM McANDREW. With portraits. 12mo. \$2.50

*Life History of Earth and Man Series
(1907-1928)*

I. THE ORIGIN AND EVOLUTION OF LIFE

On the theory of action, reaction, and interaction of energy. Profusely illustrated. 8vo. 12th thousand. \$4.00

II. THE AGE OF MAMMALS

New and revised edition in preparation. Profusely illustrated. 8vo. \$6.00

III. EVOLUTION OF MAMMALIAN MOLAR TEETH

Foundation of the tritubercular theory of human mammalian dentition up to the year 1907 (followed by W. K. Gregory's volume, "Origin and Evolution of the Human Dentition," of 1922). Profusely illustrated. 8vo. \$2.75

IV. MEN OF THE OLD STONE AGE

Their Environment, Life, and Art

Standard work in human archæology. Profusely illustrated. Cr. 8vo. 20th thousand. \$5.00

Princeton University Press

V. MAN RISES TO PARNASSUS

Intellectual and spiritual evolution of man to close of New Stone Age. Sequel to Vol IV. Illustrated. 8vo. 3d thousand. \$2.50

RECENT SCIENTIFIC BOOKS

Any book recorded here may be ordered at the price given (postage additional; also duty on English importations) from The Science Press Distributing Company, Grand Central Terminal, New York, N. Y.

GEOLOGY

- Kaufmann, Henning.** *Rhythmische Phänomene der Erdoberfläche.* pp. v+347. (Vieweg) \$4.00.
Neaverson, E. *Stratigraphical palaeontology; a manual for students and field geologists.* 538 pp. Ill. (Macmillan) \$6.50.
Steinmann, G. *Geologie von Peru.* 271 ill. 9 plates. Map. (Winter) \$7.68.
Structure of typical American oil fields. A symposium on the relation of oil accumulation to structure. Thirty papers on the program of the Twelfth Annual Convention of the American Association of Petroleum Geologists at Tulsa, Oklahoma, March 24, 25 and 26, 1927. Volume I. pp. xvii+510. 1929. (Am. Association of Petroleum Geologists) \$5.00.

ANTHROPOLOGY, ETHNOGRAPHY

- Fürst, Carl M.** *Index-Tabellen zum anthropometrischen Gebrauche.* Second ed. 37 pp. (Fischer) \$1.90
Kraitschek, G., and F. Cappeller. *Der Mensch und seine Entwicklung.* pp. xi+422. 243 ill. (Natur u. Mensch. Vol. III.) (de Gruyter) Cloth, \$7.68; ½ mor., \$8.64.
Schránil, Josef. *Die Vorgeschichte Böhmens und Mährens.* Mit e. Einleitungskapitel über d. ältere Steinzeit von Hugo Obermaier. (Grundriss d. slav. Philologie u. Kulturgeschichte.) (de Gruyter) \$10.80.
Kühn, Herbert. *Kunst und Kultur der Vorzeit Europas.* Das Paläolithikum. 531 pp. Ill. (de Gruyter) \$10.08
Guillaume, P., and Th. Munro. *La sculpture nègre primitive.* 150 pp. (Crès) Paper. \$1.75.
Kootz-Kretschmer, Elise. *Die Safwa.* Ein ostafrikan. Volksstamm in s. Leben u. Denken. 3 vols. Vol. II: Geistiger Besitz. pp. xii+337. Ill. (Reimer) Paper. \$3.60.
Knibbs, S. G. C. *The savage Solomons, as they were and are.* 282 pp. Ill. (Lippincott) \$5.00.
Harrington, J. P. *Vocabulary of the Kiowa language.* pp. v+255. (Bureau of American Ethnology Bulletin 84.) (U. S. Government Printing Office) 75 cents.

PSYCHOLOGY

- Murphy, Gardner.** *An historical introduction to modern psychology.* With a supplement by Heinrich Klüver. 488 pp. (International Library of Psychology.) (Kegan Paul) 21s.
Utitz, Emil (Ed.). *Jahrbuch der Charakterologie.* VI. 1929. pp. iii+419. Ill. (Pan-Verlag) \$5.52.
Dixon, Edward T. *The guidance of conduct.* 220 pp. (Psyche Monographs.) (Kegan Paul) 10s. 6d.
Coghill, G. E. *Anatomy and the problem of behaviour.* Lectures delivered at University College, London. 125 pp. Ill. (Macmillan) \$3.00.
Spranger, Eduard. *Psychologie des Jugendalters.* Eleventh ed. pp. xv+364. (Quelle) \$2.16.
Stinchfield, Sara Mae. *The psychology of speech.* 345 pp. Ill. (Bost. Expression Co.) \$3.75.

MEDICAL SCIENCE

- Rolleston, Humphry.** *Aspects of age, life and disease.* 312 pp. (Anglo-French Library of Medical and Biological Science.) (Kegan Paul) 10s. 6d.
Long, Esmond Ray. *A history of pathology.* 315 pp. Ill. (Williams & Wilkins) \$5.00.
Stinchfield, Sara Mae. *Speech pathology, with methods in speech correction.* 300 pp. Ill. (Bost. Expression Co.) \$3.50.
Tidy, H. L. (Ed.). *An index of symptomatology.* By various writers. 722 pp. 130 ill. (Simpkin) 42s.
Edens, Ernst. *Die Krankheiten des Herzens und der Gefässe.* pp. viii+1057. 239 ill. (Springer) \$16.56.
Lucien, M., J. Parisot and G. Richard. *Traité d'endocrinologie.* Vol. III: Glandes surrenales et organes chromaffines. 700 pp. 42 figs. (Doin) Paper. \$4.00.
Report of the International Conference on Cancer. London. July 17-20, 1928. pp. xxi+588. (Wood) \$12.00.
Fauchet, Victor, Gabriel Luquet and A. Hirschberg. *Ulcères de l'estomac et du duodénum.* (Etude anatomo-clinique et traitement chirurgical.) 354 pp. 309 figs. (Doin) Paper. \$3.40.
Menze, Carl (Ed.). *Handbuch der Tropenkrankheiten.* Third ed. Vol. V. pp. xii+846. Ill. (Barth) \$22.56.
Aalsmeer, W. C., and K. F. Wenckebach. *Herz und Kreislauf bei der Beri-beri-Krankheit.* pp. iv+81. Ill. (Urban & Schwarzenberg) Paper. \$1.92.
Ross, Sir Ronald. *La découverte de la transmission du paludisme par les moustiques.* Preface and translation by C. Broquet. Ill. (Maloine) Paper. \$1.00.

MISCELLANEOUS

- Leeming, Joseph.** *Peaks of invention.* 282 pp. Ill. (Century) \$2.50.
Merrill, William Stetson. *Code for classifiers.* Principles governing the consistent placing of books in a system of classification. pp. viii+128. (Am. Library Association) \$1.90.
Hutchins, Margaret, and others. *Guide to the use of libraries; a manual for college and university students.* Fourth ed. 245 pp. Diags. (Wilson) \$1.25.
Meredith, Mark (Ed.). *Who's who in literature.* 1929 ed. A continuance of the bibliographical section of the Literary Yearbook. 515 pp. (Bowker) \$5.00.
Keller, Helen Rex. *The reader's digest of books.* New ed. (Macmillan) \$6.00.
Sperlings Zeitschriften und Zeitungs Adressbuch. Vol. 55. 1929. pp. vi+840+48. 3 plates. (Verlag d. Börsenvereins) \$4.80.
Weigall, Arthur. *The paganism in our Christianity.* 277 pp. (Putnam) \$2.50.
Edwards, William. *Notes on European history.* Vol. V: 1870-1915. 376 pp. (Putnam) \$4.50.
Dannehl, Otto. *Carl Schurz, ein deutscher Kämpfer.* pp. viii+404. Ill. (de Gruyter) \$2.40.