

PUBLICATIONS ON EXPERIMENTAL BIOLOGY  
AND GENERAL PHYSIOLOGY

A SERIES of monographs covering the subjects of experimental biology and general physiology is announced by the J. B. Lippincott Company under the general editorship of Jacques Loeb, T. H. Morgan and W. J. V. Osterhout. The aim and character of the series are indicated by the following announcement of the editors.

The rapidly increasing specialization makes it impossible for one author to cover satisfactorily the whole field of modern biology. This situation, which exists in all the sciences, has induced English authors to issue series of monographs in biochemistry, physiology and physics. A number of American biologists have decided to provide the same opportunity for the study of experimental biology.

Biology, which not long ago was purely descriptive and speculative, has begun to adopt the methods of the exact sciences, recognizing that for permanent progress not only experiments are required but that the experiments should be of a quantitative character. It will be the task of this series of monographs to emphasize and further as much as possible this development of biology.

Experimental biology and general physiology are one and the same science, by method as well as by contents, since both aim at explaining life from the physico-chemical constitution of living matter. The series of monographs on experimental biology will, therefore, include the field of traditional general physiology.

The following is a list of the volumes announced:

*Published*

Vol. 1. Jacques Loeb (Rockefeller Institute), "Forced Movements, Tropisms and Animal Conduct."

*In Preparation*

T. H. Morgan (Columbia University), "The Chromosome Theory of Heredity."

E. M. East and D. F. Jones (Bussey Institution, Harvard University), "Inbreeding and Outbreeding: Their Genetic and Sociological Significance."

H. S. Jennings (Johns Hopkins University), "Pure Line Inheritance."

R. Pearl (Johns Hopkins University), "The Experimental Modification of the Process of Inheritance."

E. G. Conklin (Princeton University), "Localization of Morphogenic Substances in the Egg."

R. G. Harrison (Yale University), "Tissue Culture."

W. J. V. Osterhout (Harvard University), "Permeability and Electrical Conductivity of Living Tissue."

L. J. Henderson (Harvard University), "The Equilibrium between Acids and Bases in Organism and Environment."

T. B. Robertson (University of Toronto), "Chemical Basis of Growth."

G. H. Parker (Harvard University), "Primitive Nervous System."

A. R. Moore (Rutgers College), "Coordination in Locomotion."

There is also announced the publication of *The Journal of General Physiology* under the editorship of Dr. Jacques Loeb, the Rockefeller Institute for Medical Research, New York, and Professor W. J. V. Osterhout, Harvard University, Cambridge, Massachusetts. It will be published bimonthly from the Rockefeller Institute for Medical Research, beginning in September. The editors say:

*The Journal of General Physiology* is intended to serve as an organ of publication for papers devoted to the investigation of life processes from a physico-chemical viewpoint. As the constitution of matter is the main problem of physics and physical chemistry, so the constitution of living matter is the main problem of general physiology, and in both cases the method of quantitative experimentation is required.

Under the pressure of the demands of medicine and of other professions, physiology has developed in the direction of an applied science, with limited opportunity for the investigation of purely theoretical problems. On the other hand, the physico-chemical methods of analyzing life phenomena have thus far made little inroad into the domain of zoology and botany. Under these circumstances, it has happened that what might be regarded as the most fundamental of all the biological sciences, namely general physiology, has not come to have a journal of its own. It is this condition which the establishment of *The Journal of General Physiology* is intended to correct.

## SCIENTIFIC NOTES AND NEWS

DR. WILLIAM WALLACE CAMPBELL, director of the Lick Observatory, University of Cali-

fornia, has been elected a correspondant de l'Institut de France in the section of astronomy.

SIR JOSEPH LARMOR, M.P. for the University of Cambridge, has been awarded the Poncelet prize for the mathematical sciences this year by the French Academy of Sciences.

THE Paris Academy of Sciences has awarded the Montyon prize, consisting of 2,500 francs, to Drs. Henri Guillemard and André Labat, of the medical faculty of Paris, for their research work on asphyxiating gases.

At a meeting of July 30, the Paris Academy of Medicine elected, as vice-president for 1918 to succeed the late Professor Pozzi, Dr. Delorme, director of the School of Military Medicine. Conforming to the regulations of the academy, the vice-president succeeds to the presidency the following year.

THE Madrid Academy of Medicine has elected Dr. Max Nordau corresponding member. It will be remembered that he has been in Madrid since early in the war.

DR. HUGH M. SMITH, the commissioner of fisheries, was at Woods Hole in the latter part of July for the purpose of collaborating with Mr. William A. Found, superintendent of fisheries of the Dominion of Canada, in the preparation of the draft of the final report of the International Fisheries Conference.

PROFESSOR A. TANAKADATE, professor of physics in the University of Tokyo, visited Washington in July in the interest of international scientific work.

DR. ELWOOD MEAD, chairman of the Land Settlement Board of the State of California, has been appointed by Secretary Lane to assist in formulating a national policy for colonizing returned soldiers of the American Expeditionary Forces.

DR. EDGAR BUCKINGHAM, of the Bureau of Standards, has been appointed physical associate to the scientific attaché to the American embassy at Rome.

DR. T. GRIFFITH TAYLOR, of the Meteorological Bureau of Australia, has been awarded the David Syme Research prize for 1918 for a

thesis based on the correlation of Australian physiography, meteorology and climatology, with special reference to the control of its settlement and industrial development.

DR. FRANK J. MONAGHAN has been appointed deputy health commissioner in charge in Brooklyn to succeed Dr. Frank B. Knause, who has resigned in order to join the Medical Reserve Corps of the United States Army.

DR. CARL E. SEASHORE, professor of psychology in the University of Iowa, is conducting investigations on certain problems of hearing as related to the army and navy, and is also devising and standardizing a series of tests for the selection of telegraphers and radio operators. R. H. Sylvester, assistant professor of psychology, is now lieutenant and chief clinical psychologist at Camp Dodge.

PROFESSOR GUY F. LIPSCOMB, of the Clemson Agricultural College of South Carolina, is engaged for the summer on military work in the Chemical Laboratory at Princeton University.

DR. OLAF ANDERSON, petrologist at the Geophysical Laboratory of the Carnegie Institution at Washington, has resigned in order to accept the position of government geologist and director of an experimental silicate laboratory for the Norwegian Government, in Kristiania.

PROFESSOR E. W. GUDGER spent the present summer at the American Museum of Natural History, collaborating on the "Bibliography of Fishes" which the museum is now publishing.

PROFESSOR ROBERT F. GRIGGS, of the Ohio State University, director of the Katima Expeditions of the National Geographic Society, has received a wireless message from this year's field party composed of Messrs. Jasper Sayre and Paul R. Hagelbarger announcing the successful termination of the season's field work in the Valley of Ten Thousand Smokes. The party carried the topographic survey, begun last year, forward to the shore of the Bering Sea, adding some 1,500 square miles to the map and completing a section across the base of the Alaska Peninsula from Katmai Bay to Naknek. This survey will furnish the data for the construction of a topographic map on

the scale of 1/250,000 of the same standard of accuracy as the work of the United States Geological Survey on maps of this scale. In the Valley of Ten Thousand Smokes, beside continuation of the general exploration and securing many valuable photographs, they succeeded in obtaining the first accurate measurement of the temperatures of the vents. For this purpose the expedition was equipped with pyrometers by the geophysical laboratory of the Carnegie Institution. They report the highest temperature measured as 430° C. Although this is subject to correction when the instruments are recalibrated on returning to the states, it probably indicates correctly the order of magnitude of the temperature of the valley. The expedition expects to return home overland *via* the Iliamna route, probably reaching Seattle about September 15.

A WASHINGTON Section of the American Institute of Mining Engineers has been organized. The officers elected are Mr. Herbert Hoover, of the Food Administration, chairman; Dr. H. Foster Bain, of the Bureau of Mines, and Dr. David White, of the U. S. Geological Survey, vice-chairmen, and Mr. Harvey Mudd, secretary.

THE Committee on Mineral Imports and Exports has finished its work of formulating programs for the minimum importation of ores and minerals, and the members of the committee have taken up other work. Professor C. K. Leith has been appointed mineral adviser to the War Industries board from the standpoint of the conservation of shipping, Mr. J. E. Spurr is in charge of the war minerals investigation work of the Bureau of Mines, and Mr. Pope Yeatman continues in charge of the Non-Ferrous Metals Divisions of the War Industries Board.

WE learn from *Nature* that the Electrical Research Committee, which was appointed last autumn, under the auspices of the Department of Scientific and Industrial Research, is at present engaged in superintending a research on insulating materials (fibrous materials, porcelain, ebonite, mica, composite materials) and the water-proofing treatment of insulating windings of electrical machines, in

respect of which grants have been made to the Committee by the Research Department, the British Electrical and Allied Manufacturers' Association, and the Institution of Electrical Engineers. The Committee consists of three members nominated by the institution, and three members nominated by the B.E.A.M.A., the nominees of the former being Mr. C. H. Wordingham (chairman of the Committee), Mr. C. C. Paterson, and Mr. C. P. Sparks, and those of the latter Mr. F. R. Davenport, Mr. D. N. Dunlop, and Mr. A. R. Everest.

THE *Journal* of the American Medical Association states that the members of the National Public Health Service of Brazil have erected a monument to Oswaldo Cruz on the grounds of the Public Health Building at Rio de Janeiro. The bronze portrait figure is seated in the professorial chair, with arms resting on a desk, in a peculiarly graceful and easy pose. The inscription reads: "A Oswaldo Cruz, Homenagem do pessoal da Directoria Geral de Saude Publica, 23-III-1903—19-VIII-1909," the dates marking the period of his most productive work, the eradication of yellow fever from Rio. The statue was unveiled with much ceremony recently in the presence of the highest officials of the country. The *Brazil Medico* of June 15 gives an illustration of the memorial.

HARRY KIRKE WOLFE, professor of philosophy in the University of Nebraska, the author of valuable contributions to experimental psychology, died on July 30, at the age of fifty-nine years.

ADOLPH VON FABER DU FAUR, known for his work in mining engineering, died at his home, on August 18 at the age of ninety-two years.

THE death is announced of Dr. J. Kollmann, professor of anatomy in the University of Basel.

THE death is announced of G. Verriest, formerly professor of internal pathology at the University of Louvain, president of the Belgian Académie de médecine and of the International congress of Neurology at Brussels in 1903.

THE thirty-sixth stated meeting of the American Ornithologists' Union will be held at the American Museum of Natural History, New York City, November 12-14, 1918, with a business session of the fellows and members on the evening of the eleventh.

THE new National Museum has been closed to the public by the board of regents, as all available space in the building has been occupied by the Bureau of War Risk Insurance. It is expected that the museum will be again opened when the new office building of the bureau, at Vermont Avenue and H Street, is completed.

It is stated in the *American Journal of Science* that the Swiss Chemical Society, founded some seventeen years ago, has recently issued the first part (pp. 1-96) of a new periodical, to be devoted to pure chemistry and to serve as the organ of the society. The editorial committee consists of MM. Bosshard, Fichter, Guye, Pictet, Rupe and Werner, all of Switzerland. The present plan is to issue 6 to 8 parts yearly, aggregating from 500 to 1,000 pages; the subscription price is 25 francs per year.

At the last national medical congress in Mexico, it was voted to found a medical journal in which to publish the work of Mexican physicians and surgeons and to keep them informed of the progress of the medical sciences in other lands. The executive committee, preparing for the approaching medical congress, the sixth, has ratified this decision, and Dr. Francisco Bello, of Puebla, has been appointed editor.

*Nature* states that following upon the establishment of the Kaiser Wilhelm Institute for Research on Iron and Iron-ores comes the news from the German daily press of some preliminary steps that have been taken to found a similar institution for researches on all other generally useful metals. A committee composed of eminent engineers and university professors has been formed to consider the establishment of a metal research institute for the benefit of the German metallurgical industry.

THE series of congresses to be held at Monaco to promote the expansion of the thermal, mineral and climatic stations and baths of the allied and friendly nations will deal with hydrology, hygiene, alpinism, thalassotherapy and watering places. In connection with the congresses there will be an exhibition. The whole is under the patronage of the Prince of Monaco. Professor Maragliano, Senator of Italy, has been elected general president.

THE President has authorized a loan of one million dollars to the Forest Service for fire-fighting expenses, to meet the serious emergency conditions in the national forests of the northwest and the Pacific coast states. The loan was made from the special defense fund of fifty million dollars placed at the disposal of the President by Congress. It is recognized that the protection of the national forests is an important and essential war activity. Forestry officials regard the present fire season in the northwest as in some ways the most serious with which the government has ever had to cope. Early drouth, high winds, electrical storms, labor shortage and depletion of the regular protective force as a result of the war have combined to make the fire conditions unprecedentedly bad. Necessity for resort to the Presidential fund is due to the fact that the appropriation bill for the Department of Agriculture for the current year has not yet been passed.

THE council of the British Institution of Electrical Engineers is prepared to receive papers, not exceeding 15,000 to 20,000 words in length, on the subject of the "Coordination of Research in Works and Laboratories," and to award a special premium of £25 to the author of the paper which in their judgment best fulfils the object of the discussion. The papers should be sent to the secretary of the institution not later than November 4 next, and it is intended that the one selected shall be read and discussed at one of the ordinary meetings of the institution and shall afterwards be published in the *Journal*.

*Nature* reports that the following grants of money for research committees were voted by the General Committee of the British Associa-

tion at the meeting in London on July 5:—*Section A.—Mathematical and Physical Science*: Seismological investigations, £100; discussion of geophysical subjects, £10. *B.—Chemistry*: Colloid chemistry and its industrial applications, £5; non-aromatic diazonium salts, £7 7s. 8d. *D.—Zoology*: Inheritance in silkworms, £17. *F.—Economic Science and Statistics*: Women in industry, £10; effects of the war on credit, etc., £10. *H.—Anthropology*: Paleolithic site in Jersey, £5; archeological investigations in Malta, £10; distribution of bronze-age implements, £1; age of stone circles, £15; anthropological photographs, £1. *I.—Physiology*: The ductless glands, £9. *K.—Botany*: Heredity, £15; Australian Cycadaceae, £17s.; Australian fossil plants, £15. *L.—Educational Science*: The "free-place" system, £5.

#### UNIVERSITY AND EDUCATIONAL NEWS

It is officially announced that Yale University will receive, as residuary legatee of the late John W. Sterling, about fifteen million dollars, which will nearly double the endowment of the university.

A SPECIAL three months' course at the New York University and Bellevue Hospital Medical College has been arranged for those who wish to qualify as laboratory assistants in bacteriological work for immediate service in the camps and hospitals. The course is arranged by Dr. William H. Park, director of the laboratories of the New York Health Department, and Dr. Anna M. Williams, assistant director. It will open September 4.

THE College of Physicians and Surgeons of San Francisco has discontinued the teaching of medicine, but will retain a nominal existence for the next three years so as to grant diplomas to such students as shall complete their work satisfactorily in other medical schools.

PROFESSOR M. E. GRABER, fellow in mathematical physics at the University of Chicago, has been elected to the professorship of mathematics in Heidelberg University, Tiffin, Ohio.

DR. E. V. COWDRY has accepted an appointment in the Peking Union Medical College, China.

DR. J. C. WHITTEN, for twenty-four years professor of horticulture and head of the department of horticulture of the University of Missouri, has been appointed chief of the division of pomology of the University of California. Dr. Whitten arrived in Berkeley the middle of August and will begin his work on September 1.

MR. R. DOUGLAS LAURIE, who has been chief demonstrator and assistant lecturer in zoology and lecturer in embryology in the University of Liverpool for some years, has been appointed head of the department of zoology in the University College of Wales, Aberystwyth.

#### DISCUSSION AND CORRESPONDENCE HAND-MADE LANTERN SLIDES

As well expressed by Dr. Gray in *SCIENCE*, July 12, 1918, p. 43, it is of advantage and often of the greatest convenience to be able to prepare quickly for projection a series of lantern slides showing diagrams, tabulated data, etc. Dr. Gray suggests the use of celluloid instead of gelatin sheets for this. Both the gelatin and the celluloid sheets must be supported by glass plates to hold them flat. Celluloid and gelatin receive the pen wall, and are far less expensive than regular photographic lantern slides.

It was found by the present writer that for all the purposes of simple diagrams, tables, etc., a still simpler method answers admirably. Advantage was taken of the device employed by the lantern-slide artists who made by hand all the lantern slides before photographic ones were invented (1850). The device consists of varnishing the well-cleaned glass with a very thin solution of some hard varnish. When the varnish is dry the pen or brush can be used upon the varnished surface with the same ease as upon good paper. India ink gives the sharpest images and a fine pen is to be used for the writing or drawing.

In preparing the slides the glass is held by the edges between the thumb and fingers