

Dr. Maxwell remained at the University of California for the rest of his life, rising gradually through the various ranks from instructor to professor. When Loeb went to the Rockefeller Institute in 1910, biochemistry was split off from physiology and Dr. Maxwell was made chairman of the division of physiology. Except for an interval of four years, he continued to hold this position until his retirement.

At the time of Dr. Maxwell's arrival in California the activity in Loeb's laboratory was intense. The subject upon which all the workers were concentrating their attention was temperature coefficients of physiological reactions. Martin Fischer had investigated the effect of heat on the beat of the crab's heart, and Dr. Theodore Burnett, at that time a volunteer in the laboratory, was assisting Loeb in similar experiments on the rate of conduction of the nerve impulse in the huge garden slugs found on the campus. For this purpose Loeb had had an expert machinist construct an elaborate piece of apparatus of shining polished brass and ebonite, which, unfortunately, proved useless. Loeb in disgust turned the problem over to Dr. Maxwell as soon as he arrived. Dr. Maxwell merely soldered a few wires to a discarded candy tin, and solved the problem in short order. This was typical of Dr. Maxwell's experimental methods. Simple, home-made gadgets to supplement the ordinary physiological apparatus in his hands brought results.

Dr. Maxwell's early papers were along lines similar to Loeb's, *e.g.*, the effect of salts on ciliary activity, chemical stimulants of the cerebral hemispheres, etc. He wrote a popular article on Loeb's experiments in chemical fertilization, and with Loeb wrote on heliotropism in plants and animals.

It was, however, not until 1919 that he began the work on the labyrinth with which his name is always associated. Loeb founded the *Journal of General Physiology* in 1918, and in the second volume appeared two articles by Dr. Maxwell, (1) "Comparison of the Otolith Organs and of the Semicircular Canals" (2) "The Mechanism of the Dynamic Functions of the Labyrinth." This was the beginning of a series of papers which in 1923 were summed up in his book "Labyrinth and Equilibrium" in the series of monographs on experimental biology sponsored by

Loeb, Morgan and Osterhout. This was the first, and for some time, the only volume on vestibular function in English. The conclusions drawn were based almost entirely on experiments on the dogfish, but by inference they have been considered to apply to mammals and have been incorporated in many texts of physiology for medical students. Until 1930, when Creed translated Canus's "The Physiology of the Vestibular Apparatus," Dr. Maxwell's book was the authority on this subject.

Shortly after his retirement Dr. Maxwell suffered partial paralysis which affected both speech and muscular movements. However, he made fairly good recovery and for several years was able to go about with the use of a cane, and his speech, although slow, had suffered no other impairment. Death was caused by a second stroke.

Dr. Maxwell's name will always be associated with that of Loeb in the scientific work which came out of the Spreekels Physiological Laboratory of the University of California during the early years of this century and for his careful experiments on the inner ear of the dogfish.

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RECENT DEATHS

DR. ARTHUR EDWARD HILL, professor of chemistry in the College of Arts and Pure Sciences of New York University and head of the department of chemistry, died on March 16 at the age of fifty-eight years.

DR. IRVING GILMAN DAVIS, professor of agricultural economics and chairman of the department of economics of Connecticut State College, died on March 15 at the age of fifty-four years.

DR. FRANK PARSONS NORBURY, since 1913 superintendent of the Norbury Sanatorium at Springfield, Ill., died on March 15 at the age of seventy-five years.

DR. LEONARD HALFORD DUDLEY BUXTON, since 1928 reader in physiological anthropology at the University of Oxford, fellow and bursar of Exeter College, died on March 6. He was forty-nine years old.

SCIENTIFIC EVENTS

THE IMPERIAL BUREAU OF DAIRY SCIENCE

IN 1936 the British Commonwealth Scientific Conference, which met in London to consider the working of the organizations controlled by the Executive Council of the Imperial Agricultural Bureaux, recommended that a new Imperial Bureau of Dairy Science

be established. The conference also suggested the National Institute for Research in Dairying as the most suitable location for the bureau.

Following agreement by all the authorities concerned the new Imperial Bureau of Dairy Science has now been established at Shinfield, near Reading. Professor H. D. Kay, director of the National Institute

for Research in Dairying, has been appointed director of the bureau. W. G. Sutton, Massey Agricultural College, New Zealand, has been appointed deputy director and has now taken up his duties. The bureau is financed cooperatively by the governments of the British Empire in the same way as the other Imperial Agricultural Bureaux.

The functions of the bureau are to index research work in dairy science, whether carried out in the Empire or elsewhere; to collect, abstract and collate information bearing on dairy science and to distribute such information both by publication and by private communication to research workers, officials and advisory officers throughout the Empire. In addition the bureau is charged with the duty of establishing and maintaining contact between research workers with common interests, promoting conferences of workers and visits to research centers, and in general encouraging the circulation of information ideas, material and personnel.

The field of dairy science to be covered by the bureau was defined by the conference when recommending its establishment. This field includes the microbiology, chemistry and physics of milk and its products; animal diseases in so far as they affect milk and its products; the technology of processing milk and manufacturing dairy products; the physiology of milk secretion as affecting quality and quantity of milk and dairy products; standards for the composition and quality of milk and its products.

The routine work of the bureau, such as indexing and abstracting, will already be familiar to many dairy workers from the activities of the bureaux already established in other subjects. An aspect of bureau work which may not be so well known and understood is the more informal service which can be given to research workers, teachers and field officers. The bureau aims to be the friend of these dairy workers. It will deal directly with the individual workers in dairy science, who are invited to write to the bureau for information which is not obtainable in their own countries. It may be able to supply the information or to put the inquirer in touch with some one who can do so more effectively.

SCHOLARSHIPS OF THE WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY AT THE CARNEGIE INSTITUTE OF TECHNOLOGY

THE cooperative engineering educational plan of the Carnegie Institute of Technology, in cooperation with the Westinghouse Electric and Manufacturing Company, which enables a student to obtain practical experience in Westinghouse plants during five summer vacations and two college semesters as well as to complete eight semesters of college class work, was made

possible by the appropriation of \$200,000 by the Westinghouse Company in 1937. Last summer the first ten scholarship students were elected.

When in complete operation, the scholarship course will include fifty students, with ten scholarships becoming vacant each summer. A scholarship has a value of \$3,000 and is awarded to a student of exceptional ability, final selection being based on results of competitive examinations, character and personality. Applications for the second scholarship class must be received before April 1.

D. F. Miner, George Westinghouse professor of engineering at the institute, who as coordinator of the cooperative program supervises the scholarship holders, points out that the plan affords an unusual opportunity for combining theoretical training with practical experience. At the age of twenty-two to twenty-four, the participants will have completed a four-year formal engineering course and, at the same time, will have acquired a substantial background of two years' industrial experience.

W. G. Marshall, vice-president of the Westinghouse Company, states that through this opportunity in engineering education the Westinghouse Company "confidently expects to guide the development of a group of young men who will become industrial engineering and business leaders of the future. The first year of operation of the plan has met with wide success, and it is anticipated that even greater accomplishments by the students will be evidenced during the coming year."

Last year the scholarships were awarded to the ten highest ranking students among 293 applicants. The successful students came from states as widely separated as Montana, Pennsylvania, Washington, Ohio and New Jersey.

GRANTS OF THE COMMONWEALTH FUND IN AID OF MEDICAL RESEARCH

THE twentieth annual report of the Commonwealth Fund states that in trying to advance public health the fund has found no better way than "to help schools to teach and doctors to learn the best contemporary medicine." Appropriations for this purpose through various channels reached the sum of approximately \$375,000 in 1938. As a new element in this program, the ten fellowships were awarded to junior instructors in medical schools, on nomination of their department chiefs, not only to give promising young men an opportunity for professional growth but to strengthen the teaching resources of the schools where they are at work. This offer, it was announced, will be continued. Similar fellowships were given to four junior staff men interested in the teaching of pediatrics to enable them to study psychiatry as an aid to the better handling of children.