OBITUARY

FRANK PELL UNDERHILL

(1877–1932)

IN the death of Dr. Frank Pell Underhill medical science has lost an active and enthusiastic worker in the fields of physiology and pharmacology, whose accomplishments brought credit alike to him and to the university with which he was connected.

Endowed with high ideals of true scholarship, Dr. Underhill's experimental work always bore the marks of painstaking accuracy with a just appreciation of the value of truth, with the result that his conclusions were universally recognized as based upon trustworthy evidence. In the classroom and in the laboratory he strove diligently to inculcate in his students the same regard for truth, the same spirit of research that animated him, the many joint papers coming from the laboratory testifying to the value of his influence in the training of younger investigators in his chosen field of work. To such men as Underhill the scientific world owes much, for upon their labors the present-day advances in science are largely dependent. Men like Underhill give impulse and stimulus to men of lesser intellectual advancement and thereby help to raise the level of scientific accomplishments.

Dr. Underhill graduated from the Sheffield Scientific School in 1900 with his interest in physiological chemistry well developed, and after three years of graduate study he received the degree of doctor of philosophy. From 1903 to 1907 he served as instructor and from 1907 to 1918 as assistant professor of physiological chemistry in the Sheffield Scientific School, but from 1912 to the college year 1918–1919 he occupied also the position of professor of pathological chemistry in the Yale Medical School. For the following three years the title of his chair was changed to that of experimental medicine. On the reorganization of the university in 1921 he was appointed professor of pharmacology and toxicology in the school of medicine, which position he occupied up to the time of his decease. Thus, for nearly thirty years Underhill, through his ability as a teacher and his activities in research, was a potent factor in the development of physiological activities at Yale University.

During the years 1907–1918 five volumes of "Studies in Physiological Chemistry" came from the Sheffield Laboratory, of which Underhill was one of the editors and where a large number of his researches appeared. Among his earlier contributions reference may be made to his studies of carbohydrate metabolism, such as "The Mechanism of Phlorhizin Diabetes"; "The Rôle of Calcium in the Regulation of Blood Sugar Content"; "The Relation of the Acid-Base Equilibrium of the Body to Carbohydrate Metabolism and its Application in Human Diabetes." Equally worthy of note are his studies of "The Physiological Action of Tartrates"; "Tartrate Nephritis"; "The Physiological Action of Some Protein Derivatives"; "The Metabolism of Ammonium Salts"; "Creative Metabolism." In 1915 he published his book on "The Physiology of the Amino Acids," which gives a good résumé of knowledge of these important components up to that date.

During the world war Underhill was in charge of an investigation by the section on intermediary metabolism of the Medical Division of the Chemical Warfare Service, with the rank of lieutenant-colonel, and in 1920 there appeared the book "Lethal War Gases, Physiology and Experimental Treatment." In 1921 he published a "Manual of Selected Biochemical Methods," as applied to urine, blood and gastric analysis, and in 1924 there appeared a volume entitled "Toxicology, or the Effects of Poisons." During the later years of his life he was much occupied with a study of the pathological chemistry of burns, with many suggestions as to treatment.

Such briefly is a partial outline of the scientific activities of this man whose life was devoted to the experimental study of physiological problems of great importance. What he accomplished will stand throughout the years as a striking memorial of his great industry, of his skill in arriving at definite results and of his judgment in drawing correct conclusions from his experimental work. He was typical of the best to be found among the scientific workers of his generation.

RUSSELL H. CHITTENDEN

YALE UNIVERSITY

RECENT DEATHS

DR. ADAM CAPEN GILL, emeritus professor of mineralogy and petrography at Cornell University, died on November 8, at the age of sixty-nine years.

DR. SIDNEY POWERS, consulting geologist of the Amerada Petroleum Corporation, died on November 6, at the age of forty-two years.

A CORRESPONDENT writes: Wilhelm N. Suksdorf, who for years was the outstanding field botanist of the Pacific Northwest, was struck by a train and killed near his home at Bingen, Washington, on October 3. As a result of financial aid toward his field work and taxonomic studies given by the State College of Washington through a number of years, sometime before his death Mr. Suksdorf executed a will by the terms of which his very considerable private herbarium and

his botanical library are to be turned over to the college.

DR. HELEN UPDEGRAFF (Mrs. Arthur F. Cary), physiological chemist in the chemical laboratory of the Massachusetts Eye and Ear Infirmary, died on October 25. She was a daughter of Dr. Milton Updegraff, professor of mathematics, U. S. Navy, retired.

ALFRED BOSTOCK HILL, emeritus professor of hygiene and public health at Birmingham University, died on November 6. He was seventy-eight years old.

SCIENTIFIC EVENTS

INDUSTRIAL RESEARCH IN GREAT BRITAIN

THE report of the Committee on New Industrial Development set up by the British Economic Advisory Council in March, 1931, under the chairmanship of Mr. J. H. Thomas, has been issued. The conclusions are summarized as follows:

Having examined the various arguments which have been put forward in support of the proposed establishment of a new national research organization as outlined in our terms of reference, we consider that such an organization would cut right across the existing organization of the Department of Scientific and Industrial Research, and would be likely in practice, by the confusion of purpose and distraction of effort it would cause, to injure rather than to forward the cause of scientific research in British industry.

Moreover, we are satisfied that the existing government organization for the promotion of industrial research is efficient, and is sufficiently flexible to enable it to develop along such lines as may be desirable to meet the changing needs of industry.

We are, therefore, unable to recommend the establishment of a new national organization along the lines suggested.

It is highly desirable that there should be at the disposal of government a small fund capable of being readily used for research developments, such as that which is at present at the disposal of the Advisory Council for Scientific and Industrial Research. We consider, therefore, that when the balance of this fund is surrendered to the Exchequer at the end of the current year a sum of money should continue to be available for expenditure on research developments or unforeseen requirements by suitable provision in the department's annual estimate.

The evidence which we have received shows clearly how valuable are the services rendered to industry by the research associations established by particular industries, and we trust that it will be possible for his Majesty's Government to continue to provide financial assistance to these bodies on a scale sufficient to enable them to function effectively until such time as industry is in a position to bear the whole of their cost.

Dealing in the report with the suggestion that there is a gap in our research arrangements, the committee says that it doubts whether greater progress would be secured by attempting to work on more centralized lines, inasmuch as the value of research depends on a readiness to apply its results. Moreover, the Department of Scientific and Industrial Research is always willing to create organizations of its own in important industrial fields where it recognizes that a need for research exists. The committee holds, also, that there appears to be little danger in practice that discoveries arising in one part of the industrial field, as the by-product of research there carried on, will be wasted through lack of knowledge of them in the industries to which they are chiefly of interest.

The committee considers that the question of the extent to which facilities should be provided for large-scale tests, or for what is sometimes called "development research," is not one that can be settled in general terms, and that so far as organization is concerned, the requirements of development research seem to be adequately provided for by the machinery of the Department of Scientific and Industrial Research and provide no useful scope for the creation of a new organization.

SCIENTIFIC WORK IN CHINA

THREE years ago there was organized in the Little Gorges, near Chungking of Szechuan province, an Academy of Science of Western China. This institute is supported primarily by private contributions. It has now an annual budget of $40,000 Mex. for research and survey work in geology and biology. With the help of Dr. H. H. Hu, director of Fan Memorial Institute of Biology at Peiping, a herbarium and a botanical garden has been established by the academy, with a view to exploring all parts of the province and eastern Tibet and to collecting seeds, cuttings, bulbs, etc., for planting in the botanical garden. It is planned to establish in the garden a nursery where seeds and bulbs will be provided for sale or exchange. For instance, the collector was instructed to collect seeds of Rehderodendron, a new genus of three species of ornamental trees of Styracaceae, recently described by Dr. Hu. Seeds of other interesting and ornamental plants will be assiduously collected. The Arnold Arboretum of Harvard University will be the first in the United States to share a part of this collection. This year two parties have been sent out by the arboretum to collect herbarium specimens and seeds, one to eastern, another to southwestern, Szechuan.