kindly. His father had been distinguished before him as a professor of astronomy and mathematics and erstwhile president at Wesleyan University. He thus carried on a family tradition of intellectual interest and culture. He was a passionate and experienced traveler, and made his home the repository of many artistic treasures.

Professor Van Vleck is survived by Mrs. Van Vleck (Hester Raymond) whom he married in 1893, who shared with him his many interests and who continues to make her home in Madison, Wis., and by his son, John Hasbrouck Van Vleck, professor of mathematics and physics at Harvard University.

RUDOLPH E. LANGER

GEORGE WEST GRAVES

DR. GEORGE WEST GRAVES, professor of agriculture and biology at Fresno State College, died in Fresno, Calif., on October 26, 1943. Professor Graves was born in Cedar Rapids, Iowa, on May 1, 1886. He is survived by his wife, the former Ella Macklin, and his parents, Walter Robert Graves and Mary Alice Graves.

His early education was received in the public schools of Chicago, Ill., where he graduated from the John Marshall High School. In 1905 he was graduated from Oberlin College. He received the Ph.B. from the University of Chicago in 1908. In 1912 he was awarded the M.S. by the State College of Washington. Further graduate study at the University of Southern California, the University of California and the University of Chicago led to the Ph.D. from the University of Chicago, 1931.

His interests were broad and enhanced by visits to England, Scotland, France, Belgium, Holland, Germany, Switzerland, Austria and Italy. In connection with his travels he studied the development of gardens at Kew, Pous, Berlin, Dresden and Amsterdam.

During the first World War he served as instructor in field artillery at Camp Taylor.

His more serious research interests were in the field of botany, where he made contributions on the ecological relationships of *Pinus sabiniana*. At the time of his demise he was actively participating in a study of fertilization in *Araucaria Bidwillii*.

In addition to serving as supervisor of agriculture in the public schools of Los Angeles, Professor Graves served as instructor in the State College of Washington, the University of Southern California and the University of California.

From September, 1919, until his demise, he served continuously as head of the department of agriculture and biology at Fresno State College. During this period of service he was successful in developing the largest department in that institution.

He played an active role in improving agricultural and science education in the San Joaquin Valley during the past twenty years, and was greatly interested in the development of science education throughout California. Since 1932 he contributed generously to the planning and preparation of the "Science Guide for Elementary Schools," a progressive enterprise of the California State Department of Education.

For the past sixteen years, Dr. Graves assumed the chief responsibility for the development of experimental gardens at the Fresno State College. As a token of appreciation, the administration of the college has taken steps to designate this enterprise in his memory as the George West Graves Botanical Gardens.

His general understanding of college problems had a tremendous influence in the development of the Fresno State College. His warm, friendly thoughts were generously shared with both students and colleagues, who quickly learned to seek his counsel. Always dealing with principles, never indulging in personalities, he will be remembered by those who were privileged to know him as a splendid teacher, a warm counselor and a sincere friend.

LEO F. HADSALL

FRESNO STATE COLLEGE

RECENT DEATHS

DR. LOUIS J. RETTGER, of Bedford Village, N. Y., from 1891 to 1937 professor of physiology and dean of Indiana State Teachers College and from 1931 to 1935 vice-president, died on December 1 at the age of seventy-six years.

CHARLES W. MANN, since 1922 senior pomologist at the Bureau of Plant Industry of the U. S. Department of Agriculture, died on December 3 at the age of sixty-four years. Mr. Mann was soil scientist with the Bureau of Soils from 1906 to 1910, assistant pomologist of the Bureau of Plant Industry, 1910–1917 and pomologist from 1919–1922, when he was appointed senior pomologist. He was a fellow of the American Association for the Advancement of Science.

DR. WILLIAM SALANT, from 1908 to 1918 chief pharmacologist of the Bureau of Chemistry of the U. S. Department of Agriculture, died on December 10 at the age of seventy-three years. Dr. Salant became acting professor of physiological chemistry at the University of Wisconsin after leaving the Department of Agriculture, and from 1920 to 1929 was professor of physiology and pharmacology at the School of Medicine of the University of Georgia. He then became until his retirement in 1932 research pharmacologist of the biological laboratory at Cold Spring Harbor, L. I., N. Y.

DR. HAROLD STANARD ADAMS, vice-president and

plant manager of the Upjohn Company, manufacturing druggists, died on December 4 at the age of fifty-five years.

DR. QUICK LANDIS, research chemist at the Fleischmann Laboratories, Standard Brands, Incorporated, died on November 28 at the age of forty-two years.

SCIENTIFIC EVENTS

SCIENTIFIC AND TECHNOLOGICAL TRAINING IN GREAT BRITAIN

THE Parliamentary correspondent of *The Times*, London, reports that a motion, tabled in the House of Commons, by about one hundred members of Parliament of all parties urges the Government to take bold action to encourage scientific and technological training and to stimulate and coordinate research work of all kinds as an aid to post-war reconstruction policies. Most of the members who have signed the motion belong to the Parliamentary and Scientific Committee, of which the chairman is E. W. Salt, and many of them are members of the Tory Reform Committee. The sponsors of the motion are: Mr. Salt, Lord Hinchingbrooke, Dr. A. V. Hill, M. P. Price, Sir George Schuster and H. Graham White. The motion is as follows:

That this House, recognizing that if the United Kingdom is to maintain its position in the post-war world and carry out effective plans for physical reconstruction and social betterment, research and the application of scientific knowledge in all fields must be promoted on a far bolder scale than in the period 1919–39, urges his Majesty's Government forthwith:

(1) To assure the universities that in planning future developments for research, teaching, and higher learning as a whole they will receive support from the State on a much larger scale than hitherto.

(2) To arrange that education and training in schools, technical colleges, and universities shall be directed at the earliest date towards providing a far greater number of persons highly trained in science and technology.

(3) To set in motion schemes to ensure a substantial and coordinated expansion of research activity by private firms, cooperative industrial research associations, and State and other research establishments; and to this end, to provide assistance by adjustment of taxation, by more generous financial grants and through adequate priorities both in demobilization and for materials required for building and equipment.

RUBBER FROM RUSSIAN DANDELIONS

AN account of the work being done at Kew Gardens during the war was given on November 10 at the British Ministry of Agriculture by Sir Geoffrey Evans, economic botanist at Kew Gardens, who described, as reported in *The Times*, London, an experiment in the attempt to develop additional sources of rubber.

Seeds of three plants, from which rubber has of recent years been produced in Russia, were received at Kew and cultivated there and at 22 other stations. The plants were two kinds of dandelion—Kok-saghyz and Krim-saghyz—and a salsify, Tau-saghyz. The last was everywhere a failure, and Krim-saghyz proved rather delicate.

The most promising is Kok-saghyz, which comes from the Ukraine and Poland, and seems capable of giving as good results in Britain as in Russia—that is to say, a yield of perhaps 65 to 100 pounds of rubber to the acre, a figure which may be compared with 800 to 1,000 pounds an acre of Para rubber. These Russian dandelions contain from 2 per cent. to 17 per cent. of rubber in the dry root. No British native dandelion has been found to have more than 5 per cent. The rubber is found in the cells of the plant and can not be collected as with Para rubber from the latex or sap.

Kok-saghyz may be planted in the autumn and harvested the following August or it may be sown in the spring, and treated as an 18-month crop. The evidence is, however, that it needs good soil, and can not be grown on second-class land. Three or four crops sown in Scotland were poor.

The plant requires, moreover, a great deal of hand-weeding, which is extremely expensive. In Russia this is done by women and children on collective farms. The rubber is of reasonably good quality, but so far the authorities do not advise its general cultivation.

FINANCES OF THE UNIVERSITY OF ILLINOIS

ACCORDING to the annual financial report of Comptroller Lloyd Morey, in the seventy-five years since the University of Illinois began its educational and research activities, it has built and accumulated a plant and equipment worth $43,971,932. For the fiscal year, ending June 30, its income, including auxiliary enterprises, was $12,309,886, and the corresponding expenditures for all purposes were $11,893,878.

There are outstanding bonds in the amount of $2,233,800 on the Medical, Dental and Pharmacy Building in Chicago, and on four self-liquidating non-educational structures at Chicago and at Urbana.

The university has 2,383 acres of land, including the campus at Urbana-Champaign, the campus at Chicago, the agricultural experiment farms of 1,127 acres at Urbana-Champaign, and other farms comprising 700 acres in 24 counties; 74 major buildings and 70 others; utilities, equipment and a library containing 1,759,851 volumes, reprints, maps, etc., which make it the largest of any state university.

The portion of income used for educational and general purposes was $11,040,392, of which appropriations from state tax revenues provided $6,578,795