surgery. In 1900 he was appointed professor of clinical surgery in Western Reserve University and became professor of surgery in 1911. In 1924 he retired in order to give his entire time to the Cleveland Clinic, of which he was a cofounder in 1921. After this clinic was fully established he devoted most of his time to travel and more general biological studies.

For Dr. Crile the road to surgery was through physiology—an association closely linked with his earlier teaching of this science. Also in those early years his extensive experience in traumatic surgery greatly stimulated his interest in the problem of surgical shock. No surgeon probably has had a keener and quicker appreciation of surgical risk, of how to handle living tissues and of the practical means for conserving the patient's natural resistance. To these ends through a very busy professional life of over 50 years he utilized to the utmost his unusual speed in operating, manual dexterity and technical training. Dr. Crile combined an unusual capacity for sustained mental and physical work requiring the highest skill with personal charm and leadership. Endowed with a physique far above the average he conserved this endowment to the utmost only to expend it lavishly for the advancement of his professional work. A typical day began at 8 A.M. with 6 or 8 major operations lasting until noon. He then spent an hour or more with his staff and visitors in his personally financed research laboratory. After lunch he handled his correspondence, went over research projects and data and took care of a busy consultation practice.

Dr. Crile was actively engaged in investigative work throughout his long surgical career. Early identified with the physiological problem of surgical shock for which he received the Cartwright prize in 1897, the Nicholas Senn prize in 1898 and the Alvarengo prize in 1901, he has made noteworthy contributions to its nature and to the methods for its prevention and relief. He was perhaps the first to make a direct transfusion of blood (1905) as a means of combatting this serious complication of physical and psychic trauma. Much of his experimental and clinical research in this field is to be found in his books on "Blood Pressure in Surgery" (1903), "Hemorrhage and Transfusion" (1909), "Anaemia and Resuscitation" (1914) and "Anociassociation" (with W. E. Lower, 1914).

His active and unusual mind gradually took him into more general fields of biological investigation and away from the strictly surgical problems of earlier years. Such monographs as "The Kinetic Drive" (1916) (Wesley M. Carpenter lecture), "A Bipolar Theory of Living Processes" (1926) and "The Phenomenon of Life, a Radio-Electric Interpretation" (1936) illustrate this phase of his activity and also aroused some criticism.

Dr. Crile was a member of many foreign and domestic medical societies, including those of the basic sciences, clinical medicine and surgery. He was an unusually regular attendant at most of the meetings of these societies and generally contributed papers or participated in discussions. He was a prolific contributor to medical journals and in addition published more than 25 monographs, including "Man, An Adaptive Mechanism" (1916), "Diseases Peculiar to Civilized Man," "A Mechanistic View of War and Peace" (1915) and "Intelligence, Power and Personality" (1941).

Many honors came to him. Honorary degrees were conferred by Hiram College, the University of Wooster and by the Universities of Dublin and Glasgow. He was president of the American College of Surgeons, a charter member of the Board of Regents and its chairman since 1917. He was a member of the founders group of the American Board of Surgery and in 1923 was president of the American Surgical Association.

Dr. Crile was the recipient of many medals, including American Medicine (1914), The National Institute of Social Sciences, the Trimble Lecturer medal, the Lannelongue International Medal of Surgery, the Cleveland Medal for Public Service and the Distinguished Service Gold Key of the American Congress of Physical Therapy.

In 1898 he was Brigade Surgeon in the Volunteers with the rank of Major and served in Cuba and Puerto Rico. In 1917 he organized and was professional director of U. S. Army Base Hospital No. 4 stationed in France. He was promoted to Colonel in 1918 and in 1921 to Brigadier General in the Medical Officers Reserve Corps. He was awarded the Distinguished Service Medal in 1919, became an honorary member of the military division, 3rd class, Commander of Bath, and in 1922 was made a Chevalier in the French Legion of Honor.

Dr. Crile married Grace McBride of Cleveland in 1900, who ably contributed to his career.

DAVID MARINE

MONTEFIORE HOSPITAL,
NEW YORK, N. Y.

HARVEY LEROY WESTOVER

HARVEY LEROY WESTOVER, in charge of the Alfalfa Project in the Division of Forage Crops and Diseases, Bureau of Plant Industry, Agricultural Research Administration, U. S. Department of Agriculture, died in Washington, D. C., on January 2, of a heart complication. He was born in Austerlitz, N. Y., on June 4, 1879, the son of Seymour and Anna Gott Westover. He took his college work at Cornell, where he received his B.S. in 1906. He came to the U. S. D. A. that same year to the Office of Soil Survey, where he spent five years, then after devoting two additional years to

classifying soils for the Forestry Division he came to Forage Crops, as it was then called, in 1913. The division had been created in 1905 with a broad and important research program. The study of alfalfa was one of the principal lines of work and by 1913 it had progressed far enough to reveal its immense potentialities. The newcomer to the ranks was therefore assigned to the study of alfalfa—a study he was to follow with notable results until the time of his death. He and his crop grew in stature together. He worked in field and laboratory, he learned from books and from farmers in every section of the country where alfalfa is grown, he traveled across the world looking for better alfalfa, hardier alfalfa, disease-resistant alfalfa. He went to Argentina and Chile in 1924, to Russian Turkestan and Continental Europe in 1929, to Spain and North Africa in 1930, to Russian Turkestan and Turkey in 1934, and to Turkey in 1936. His persistent, systematic work, his faith and his loyalty were richly rewarded in his growth and the growth of the plant he studied. As years passed and the country grew and developed, deep, rich, green fields of alfalfa spread across the Northern Great Plains giving enormous and seldom-failing yields of hay and seed.

In the history of the world 1915 marks an epoch. World War I disturbed the established order of things and focused the attention of the farmer and scientist as well on the need for food crops. As a good deal of alfalfa improvement work had been done with emphasis on the factor of winter hardiness, and a group of superior varieties and strains had been developed, growers of the crop and breeders too turned their attention and talents elsewhere. Plants like humans suffer strange ills under crowded conditions and the fine fields of full-yielding alfalfa began to wither and die and no one knew why. The Department of Agriculture investigated and found that the disease was produced by a hitherto unknown bacterium that caused a malady they called bacterial wilt. Now that a diagnosis had been made the next and most important step was to find a remedy. The logical recourse seemed to be a breeding program. Westover set out and traveled the remote quarters of the globe gathering alfalfa in almost every country, seeking new varieties and strains that might prove resistant and save the enormous losses that were being sustained and that would eventually destroy the crop in certain localities. From Russia, from Turkestan, from Morocco, from Spain and from Continental Europe he brought seeds and plants and more seeds and plants until his collection grew to over a thousand different strains being grown with hope and skill in nurseries all over the United States.

In 1933 the Alfalfa Improvement Conference was created by scientists from all parts of the United States and Canada and logically Mr. Westover was elected the Permanent Secretary of the Executive Committee. In experiment stations all over the country the work progressed, the interest grew, hope was kindled and strangely coincidental is the fact that on the very day Harvey Westover closed his desk for the last time he had dictated the release of a new variety which had been called Ranger. Ranger is a composite of seed collected from various explorations, brought together, developed and tested at the Nebraska Agricultural Experiment Station and elsewhere. It promises to be what he set out to find—an alfalfa that can withstand bacterial wilt.

As Mr. Westover traveled over the world collecting alfalfa, he collected other seeds and plants along his way. Great packing boxes of these he sent back to the Department and these too are being carefully and hopefully studied and developed. He published many bulletins and scientific papers, not only on his major interest, but on other studies that he carried on in addition—silage, crested wheatgrass, root crops, lawns and fine turf particularly. During 1926–1929 he served as the acting chairman of the Greens Section Committee of the United States Golf Association. He was a fellow of the American Society of Agronomy and of the American Association for the Advancement of Science, and belonged to the Botanical Society of Washington, American Museum of Natural History, Explorers Club of New York and the Cosmos Club of Washington.

A tireless worker, no detail was too small for his consideration if it contributed to the thoroughness of his work. The exactness and excellence of his research is largely responsible for the role that alfalfa is playing in the farm program of the country. He was soft-spoken, modest and retiring. Wherever agronomists meet Harvey Westover will be remembered not only as a fellow-scientist whose contribution was outstanding, but as a valued friend. He had an extraordinary genius for friendship. He made friends wherever he went—be it to the steppes of Russia, the hills of Spain, or the ranchos of the Americas. That warm human quality was part of him and all who came into contact with him felt and responded to it. As Fitz-Greene Halleck said of his friend, I say of mine:

Green be the turf above thee, friend of my better days
None knew thee but to love thee, nor named thee but to praise.

Funeral services were conducted for him in Washington, D. C., on January 3, after which his body was taken home to the hills of New York to sleep the long sleep with those of his blood.

OLAF S. AAMODT
MARY BURR PIETERS
U. S. DEPARTMENT OF AGRICULTURE,
BELTSVILLE, MD.