Considered from one point of view, we may think of the heritage of man as represented in three elements—the sun, the earth and our machinery for use and development of knowledge. The earth with its story is the objective of the geologist. Upon it must concentrate the most intense study that human intelligence can plan. By definition the geologist becomes conservator of great natural resources upon which life and the future of mankind will in large measure depend. Conservation is not *disuse*—but *which* use shall we permit. Within its program research may well come to have the highest place, with premium placed not alone on discovery of the situation in which a substance is found. The way to use the material to full advantage will also be recognized as of enormous human value.

Recently we began to discover that certain of our biological resources which might soon vanish may be replaced. The reproduction or the synthesis of that which forms the solid earth we have yet to learn. Geology must draw on all knowledge to build its broad foundation even wider. So chemistry and physics and geology will unite to locate and to devise the economic exploitation and the best human use of a wide range of substances of inestimable value to man. In another direction geology and agriculture see the study of erosion and sedimentation as an essential phase of research relating to future use of the arable lands of the world.

And, last of all, among the sciences geology bears responsibility as teacher in a field which is always spread before us in daily life. To some the earth's face never ceases to be flat, and so flat-minded they remain. To others the hills and valleys, through the story of history and building and beauty they present, open a vision of realities which lifts us far above the pettiness of things which in the routine of the day may tend to trouble us.

OBITUARY

TOSHIKI MORISHITA

ON July 2, 1929, occurred the death of Dr. T. Morishita, who for two and a half years had been connected with the Yale University department of bacteriology as an assistant and research student engaged in a study of dental bacteriology and pathology. He had been suffering for several weeks from a respiratory disturbance which did not appear serious and which until a few days before his death promised complete recovery.

Dr. Morishita was born in Japan in 1896. He obtained his early education in the Tono High School, and in 1914 entered Tokyo Dental College, from which he graduated in 1918. For several years after graduation he practiced dentistry in Japan. His yearning for scientific research related to problems of dental decay became a passion, and in 1922 he relinquished his profession and sailed for America to prepare himself further for scientific dental research. He entered the Toronto Dental College, receiving the degree of D.D.S. in due course.

After having engaged in special research work in McGill and Harvard Universities, where he further laid an excellent foundation for his work as an investigator, he became intimately associated with the division of general bacteriology of Yale University, where for over two years he prosecuted his research feverishly and without serious interruption until his untimely death.

Dr. Morishita's chief interest was centered in natural dental decay, and more particularly the influence of high acid producing and tolerating (aciduric) organisms which he found to be so intimately connected with initial and progressive caries. The first report of this painstaking work appeared in the *Journal of Bacteriology* for September, 1929. It was the author's intention to follow this paper with four or five contributions, for which sufficient data were rapidly accumulating. These records are now in the possession of the laboratory, and it is hoped that they may be built up into at least one or two additional manuscripts and published under Dr. Morishita's name.

Dr. Morishita was particularly well qualified as an investigator in the field of scientific dental research. He was brilliant in the conception and execution of his complex problem. He was ceaseless in his devotion to his work, and had attained a degree of success in his chosen field which promised a bright future.

LEO F. RETTGER

YALE UNIVERSITY

RECENT DEATHS

DR. EDWIN W. ALLEN, chief of the office of experimental stations of the U. S. Department of Agriculture, died from heart disease on November 11. Dr. Allen was in Chicago to attend the meeting of the Association of Land Grant Colleges and Universities. He was to have given a memorial address on his predecessor, the late Dr. Alfred C. True. Dr. Allen, who was born in 1864, entered the service of the Department of Agriculture in 1890 and was assistant director of the office of experiment stations from 1893 to 1915, when he became chief of the office.

JAMES WALKER MCCOLLOCH, professor of entomology, Kansas State Agricultural College, died on November 11. Professor R. L. Parker writes: "Professor McColloch was born in Anthony, Kansas, April 14, 1889. In 1912 he received the B.S. degree from the Kansas State Agricultural College, and in 1923 received the M.S. degree from the same institution. He began work as an assistant entomologist at the Kansas State Agricultural College in 1910, was associate entomologist of the Kansas Agricultural Experiment Station in 1918 and was raised to the rank of professor in 1925. In his passing, entomologists are mourning the loss of one of the outstanding workers in that science. Through the publication of papers, bulletins and circulars, he became known as an authority on the chinch bug, Hessian fly, wireworms, white grubs and other subterranean insects. He was a member of several scientific organizations; namely, the American Association for the Advancement of Science, the American Association of Economic Entomologists, the Entomological Society of America, the Ecological Society of America, the Kansas Academy of Science, the Kansas Entomological Society, Phi Kappa Phi, Gamma Sigma Delta, Alpha Zeta and Sigma Xi. At the time of his death he was editor of the *Journal* of the Kansas Entomological Society and one of the sectional editors of *Biological Abstracts.*"

A CORRESPONDENT writes: "Dr. Frederick Tuckerman died at Amherst, Massachusetts, November 8 at the age of seventy-two years. He was graduated from the Massachusetts Agricultural College in 1878, received the degree of M.D. from Harvard University in 1882, studied in London, Berlin and Heidelberg, receiving the degree of Ph.D. from the latter institution in 1894. He was a lecturer on anatomy and physiology, a writer on scientific and historical subjects, a member of many scientific and other societies, and a gentleman of culture and learning."

THE death is announced of Professor Carlo Francioni, director of the pediatric clinic of the University of Bologna, at the age of fifty-two years.

SCIENTIFIC EVENTS

THE CAMBRIDGE LOW TEMPERATURE RESEARCH STATION

A RECENT gift from the British Empire Marketing Board has substantially extended the low temperature research station at Cambridge which, under the Department of Scientific and Industrial Research, is carrying on work of importance to the future of trade in food supplies. Sir William Hardy, the director of the station, recently made a statement in regard to its work to a special correspondent of the London *Times*, according to which the older part of the building has been in use for about eight years. The site was given by the University of Cambridge, which is actively assisting the work in other ways through its own physiological, botanical and chemical laboratories. The work of the low temperature station is now concerned exclusively with meat and fruit. Formerly it dealt also with fish, but an inland station can not do such work satisfactorily, and the Empire Marketing Board is therefore helping to establish a station for the purpose at Aberdeen.

The function of the station here is delimited in another direction also. It may be called upon to decide what conditions of temperature and so forth are needed in the shipment of supplies from oversea countries, but, these conditions having been theoretically determined in the Cambridge laboratories, the provision of them on board ship becomes an engineering problem, and this side of the task devolves on the National Physical Laboratory at Teddington.

The Low Temperature Station is lavishly equipped with cold-storage plant and other apparatus, in which products under examination may be kept at any required temperature and under closely regulated conditions in other respects. Any temperature can be produced between minus 30 deg. Centigrade and plus 40 deg., and kept constant to a hundredth of a degree. Sir William Hardy explained that it takes some months in the first instance to extract all the heat from the installation and get the conditions steady. The refrigerating engines are kept continuously at work. They had been running without a pause for eight years until this summer, when they were stopped to allow the new installation to be linked up with the older plant.

On two occasions members of the staff have been sent out to Australia to return with cargoes and conduct investigations during the voyage. A survey is starting at present of conditions in ships bringing foodstuffs from New Zealand, and a similar survey has been in progress for the last two years on British trawlers. Municipal authorities and private fruit dealers also may bring their problems to the station. A dealer may write to ask why all his pears are turning rotten this year. In such a case the director will send one of his staff to make an investigation on the spot. The station has also a small canning plant of its own for research into the separate problems of this growing industry.

LAND FOR FOREST RESERVATIONS

THE acquisition by the federal government of a total of 85,195 acres of land for national forest purposes was approved recently by the National Forest