been overlooking what appears to be a most promising possibility.

Our vast reserves of carbon dioxide should be put to work in increasing our crop production. In properly constructed greenhouses we could not only raise our materials in water fed with the appropriate salts, as has been done in California, but we could also feed the leaves with carbon dioxide from our gas wells. Conducting the gas over the fields is not as easy nor as economical as in enclosed places. However, since the density of the gas is greater than air, it tends to hang close to the soil where it is most needed, so that even a moderate amount let loose near the ground has a very beneficial effect. Most natural gas coming from deep wells requires no purification. The natural pressure will carry it long distances, requiring only the laying of pipe lines. Some day we shall no doubt wonder why it took so long for us to awaken to this important use of a natural resource which had been permitted to go to waste.

The Southwest is blessed with much sunshine and natural carbon dioxide; soil and water conservation projects are everywhere under way. With these assets of water, sunshine and carbon dioxide, the finest fruit and vegetable crops can be grown. When to this we add that the vast store of natural carbon dioxide may also be converted to a refrigerant, it is obvious that not only can the finest products be raised, but they may be shipped in prime condition to the nation's markets from the Atlantic to the Pacific. The history of some of the gas wells which have been permitted to blow off into the atmosphere uncontrolled leads us to believe that the life of these wells will be long. Moreover, experience has shown as a rule that the deeper we drill, the higher gas pressure we encounter. We may well ponder over these facts and ask ourselves if we do not have here the nucleus which may some day lead to an enterprise more profitable than mining has ever been. We may confidently anticipate that in the not distant future, capital looking for a good place to go to work may seize upon this project as one giving great promise of ultimate reward.

OBITUARY

WILLIAM PENN BROOKS

AT its sixty-second commencement exercises, in 1932, Massachusetts State College conferred upon a member, who had received his first degree as a member of its fifth class, the honorary degree of doctor of agriculture. Never was the degree of doctor with all the ideals and knowledge which that word should signify—never was this title more fittingly bestowed than it was upon Dr. William Penn Brooks. In the death of this man science has lost a worker who devoted forty years of constant application to studying, improving and teaching agriculture. His death occurred on March 8 at the age of 86.

Starting life on a Massachusetts farm, he took a natural interest in agriculture, an interest which he first pursued in the newly incorporated land-grant college of that state. He graduated from Massachusetts Agricultural College with its fifth class and spent two succeeding years there in graduate study of botany and chemistry. Still not firmly enough grounded for his satisfaction, Dr. Brooks traveled to Halle, Germany, where for his year's work in agriculture, botany and philosophy the Friedrichs Universität awarded him the Ph.D. degree.

From the first Dr. Brooks had shown his remarkable talent for organizing and teaching. Before his first year in college he had already taught secondary schools for two terms. In college he helped to found the national fraternity of Phi Sigma Kappa. Yet it is worthy of notice that this young scholar was called directly from Halle halfway around the globe to the Island of Sapporo, Japan, in order that he might aid in the establishment upon a sound, scientific basis of the Imperial College of Agriculture. For eleven years he fostered the growth and welfare of that institution, acting as president for some time and earning for himself the honorary degree Nogaka Hakushi, and later the decoration of the Fourth Order of the Rising Sun.

After this productive eleven-year sojourn in the Orient, Dr. Brooks returned to his Alma Mater, where he taught agriculture as professor and lecturer from 1889 to 1918. Twice he was president *ad interim* of that college, and from 1906 to 1918 he was director of the Massachusetts Agricultural Experiment Station. During the whole period of his thirty years of active work at Amherst, he was associated with this station and was a leader both in experiment and organization. The results of his research and scholarly efforts he published in numerous reports to the bulletins of the experiment station, the state board of agriculture and to the Massachusetts Horticultural Society. He was also the author of the annual reports of the experiment station for twelve years. He published a three-volume text, entitled "Agriculture," which treated of soils, manure and crops and animal husbandry. All these works, together with his several writings for the Imperial College of Agriculture, in Japan, were constant sources of contemporary reference and had a profound influence upon the trend of agricultural instruction in all the land-grant colleges of the United States.

It was only under the compulsion of a Massachusetts law that the venerable Dr. Brooks retired in 1921 at the age of 70. Keen and progressive to the end (his death was the result of a fall), Dr. Brooks flew across

the continent to California in his eighty-fourth year, alone, to visit his son. Besides that son, Dr. Sumner P. Brooks, of the University of California, he is survived by his second wife (Grace L. Holden); his daughter, Mrs. George Drew; three grandchildren; and three great-grandchildren.

Dr. William Penn Brooks was not a "nationally known and advertised" figure, none of his achievements sky-rocketed him to fame; but he was a patient and methodical researcher, a thorough and discerning organizer and a sincere and significant teacher. Science honors his memory.

F.S.

RECENT DEATHS AND MEMORIALS

DR. HERBERT W. MUMFORD, dean of the College of Agriculture of the University of Illinois, died on May 31 as the result of an injury suffered in an automobile accident on May 14. He was sixty-seven years old.

DR. A. E. BOYCOTT, professor emeritus of pathology at the University of London, died on May 12 at the age of sixty-one years.

MRS. MARGIE A. SMITH, widow of the late Edgar Fahs Smith, formerly professor of chemistry and provost of the University of Pennsylvania, has added $5,500 to the endowment of the Edgar Fahs Smith Memorial Library of Chemistry at the university following earlier contributions of more than $50,000 for the same purpose. The income will be used for the purchase of books, journals and prints. Since 1931 the library has been housed in specially constructed rooms in the Harrison Laboratory of Chemistry and it now embraces nearly 10,000 items.

"MOSQUITO DAY" was observed at the London School of Hygiene and Tropical Medicine by a gathering representative of scientific and medical interests and professional, industrial and colonial life who met to commemorate the work of Sir Patrick Manson and Sir Ronald Ross.

SCIENTIFIC EVENTS

THE CHEMISTRY ADVISORY COUNCIL

THE Chemistry Advisory Council, 300 Madison Avenue, New York, N. Y., as successor to the Committee on Unemployment and Relief for Chemists and Chemical Engineers (also known as the Chemists' Unemployment Committee), according to a report in *Industrial and Engineering Chemistry,* is endeavoring to study the question of unemployment of members of the chemical profession. Unemployed chemists are encouraged to register with the council and, in turn, the council will render assistance in several directions, be it advice or more tangible relief where the urgency of the case demands the latter course.

The council plans, as soon as conditions permit and the finances are available, to establish a bureau of employment to bring together employers and applicants. Meantime it maintains a registration of unemployed chemists, with rather complete case history.

In the first four months of 1938, the council has registered 97 unemployed chemists or chemical engineers, all of whom qualify under one of the three groups: registrants having a B.S. degree with two or more years' industrial experience; registrants having an M.A. degree with more than one year's industrial experience; registrants having a Ph.D. degree. The ages of these registrants fall into the following groups: 45 and above, 12; 35 to 44, 30; below 35, 47; unknown, 8. The classification according to education: Ph.D., 15; M.A. or M.S., 25; B.S., 57. The classification according to industrial experience: less than 5 years, 31; 6 to 10 years, 19; 11 to 20 years, 30; over 20 years, 17.

Four non-graduates having more than five years of industrial experience sufficient to qualify them as chemists or chemical engineers have registered. These men have all attended one or more institutions of higher education but do not possess chemical degrees.

Ninety-five persons have registered possessing: B.S. degree or its equivalent, but less than 2 years' industrial experience; master's degree with less than one year's experience; foreign degrees where the educational status can not be exactly classified.

The total registration for the four months amounts to 196, and has increased much more rapidly during the second quarter than during the first quarter.

THE SECOND EASTERN PACIFIC ZACA EXPEDITION OF THE NEW YORK ZOOLOGICAL SOCIETY

FOR a second time Templeton Crocker placed his yacht *Zaca* at the disposal of the Tropical Research Department of the New York Zoological Society. The resulting expedition, which was the twenty-sixth undertaken by the department under the direction of Dr. William Beebe, left San Diego on November 6, 1937, and remained five months in the field.

Mr. Crocker accompanied the expedition together with Maurice Willows. The physician was Dr. Eric Liljencrantz, of Stanford University. The scientific personnel, as on the first *Zaca* expedition, consisted of Dr. Beebe, *director;* John Tee-Van, *general associate;* Miss Jocelyn Crane, *technical associate,* and George Swanson, *artist;* Toshio Asaeda, *photographer and preparateur.*