explosives which are potentially available from gasoline are all present within the shores of the U.S.A. and for many years to come.

In the world war now going on, difficulty will be experienced in obtaining natural rubber for our own needs. It is reported that the United States has but a three months' supply of natural rubber. Some suggestion has been made to plant rubber trees in a South American country such as Brazil. It would require at least ten years to obtain rubber in this way. Benzene and ethylene through alkylation and dehydrogenation yield styrene, a starting hydrocarbon for synthetic rubber manufacture. Butadiene is another hydrocarbon which can be readily produced and converted into synthetic rubber or may be copolymerized with styrene. This latter type of synthetic rubber has about 30 per cent. greater wear quality and strength in tires than natural rubber. The United States has potentially available enormous quantities of these hydrocarbons and other substances which can be converted into synthetic rubbers. In 1939 about 1,100,000,000 pounds of natural rubber were used in this country. Over 200,000,000,000 pounds of synthetic rubber could be produced from ethylene from the cracking process, benzene from cyclization, and butadiene from the dehydrogenation of butane. A unit to produce 10,000 pounds a day of synthetic rubber from butadiene derived from petroleum is being installed.

The U.S.A. can be more than self-sustaining in synthetic rubber from its own vast hydrocarbon resources.

The U.S.A. is more than self-sustaining in motor fuels and aviation gasoline of 100 octane and above. The U.S.A. can produce billions of pounds of explosives for any necessity that may arise and still have more than sufficient gasoline for any form of transportation on land, air, or sea.

OBITUARY

WILFRED THOMAS DAWSON

WILFRED THOMAS DAWSON, late professor of pharmacology at the Medical Branch of The University of Texas, was born in Windsor, Nova Scotia, on October 3, 1895. He was the son of John Leard Dawson and Florence Lockhart Dawson. He died suddenly on September 19, 1939, at Galveston, Texas.

He was married to Miss Margaret Bishop on September 11, 1926. Their son, Wilfred Thomas, Jr., was born on September 14, 1928. In addition to his widow and son he is survived by two brothers, Kenneth Leard Dawson of Halifax, N. S., and John Chesley Dawson of Quebec.

In 1914 he was graduated from Mount Allison College and the following year received his A.M. in chemistry from that institution. He taught mathematics at the Prince of Wales College during 1915–16. In 1916 he was appointed a Rhodes Scholar at Exeter College, Oxford University. The scholarship was deferred on account of the war.

He enlisted as a private in the heavy artillery of the Canadian Expeditionary Forces and served with distinction through the war. He was discharged in 1919 as a lieutenant.

After the Armistice, he was one of the organizers and professor of chemistry of the Khaki University of the Canadian Expeditionary Forces in England.

In 1919 he took up his Rhodes Scholarship at Oxford and worked there from 1919–1922. He was especially interested in physiology, pharmacology and allied subjects. He received his A.B. in 1923 and in 1927 an A.M. in physiology.

During 1922–1923 he was connected with the physiology department, University of Pennsylvania, and from 1923–1925 was acting professor of physiology and pharmacology at the Women's Medical College of Pennsylvania.

In 1925 he came to the medical branch of the University of Texas as associate professor of physiology and the next year became associate professor of pharmacology. In 1927 he was appointed professor of pharmacology and pharmacologist at the John Sealy Hospital. He filled both positions with distinction.

During the summers he was associated with the division of biological sciences of the University of Chicago, the department of pure research of the Mellon Institute and attended meetings of the Cowles Commission for Research in Economics.

He was a member of the National Malaria Committee, the American Association for the Advancement of Science, the American Physiological Society, the American Society for Pharmacology and Experimental Therapeutics, the Society for Experimental Biology and Medicine, the Society for Tropical Medicine, Oxford Society and the American Association for Rhodes Scholars.

His research interests were varied, including congenital heart disease, carbon monoxide poisoning, chemical structure and physiological activity. He published many papers on the cinchona alkaloids, treatment of malaria, the action of barbiturates as strychnine antidotes and cardiac glucosides. He was very much interested in biological statistics, especially as related to problems of dosage and toxicity.

Professor Dawson was an inspiring teacher. He possessed an unusual command of English and made his points with great clarity. He had a catholicity of taste in reading that is seldom found in a scientific

man. He was familiar with the classics and kept abreast of modern literature. He was fond of discussing what he had read and it was a real treat to hear him tell of some book he had especially enjoyed.

The students looked to him for assistance in both their personal and professional problems and were greatly helped by his guidance.

He will be sorely missed by his colleagues at the Medical Branch of the University of Texas as well as by his many friends here and abroad, not only for his brilliant scientific ability but for his many friendly personal traits.

Truly one of his charity and tolerance can ill be spared in these days of trouble and stress.

CHARLES H. TAFT, JR.

THE UNIVERSITY OF TEXAS

RECENT DEATHS

DR. FREDERICK JAMES EUGÉNE WOODBRIDGE, Johnsonian professor emeritus of philosophy at Columbia University and until 1929 dean of the graduate faculties, died on June 1. He was seventy-three years old.

DR. WILLIS STANLEY BLATCHLEY, who was state geologist of Indiana from 1894 to 1911 and who was known for his work on the Orthoptera, Heteroptera and Coleoptera of the Eastern United States and Canada, died on May 28 at the age of eighty years.

DR. WILLIAM FREDERICK BOOK, emeritus professor of psychology at Indiana University, died on May 22 at the age of sixty-six years.

DR. GEORGE GIBBS, consulting engineer to railroads in the United States and England, died on May 19 at the age of seventy-nine years.

THE death is announced at the age of seventy-five years of Paul Mellen Chamberlain, consulting mechanical engineer, of Newark, N. J., who was from 1896 to 1906 professor of mechanical engineering at Lewis Institute, Chicago.

CHARLES SUMNER TAINTER, physicist and inventor, of San Diego, died on April 20 at the age of eighty-six years.

DR. RAYMOND E. DOUGLAS, professor of zoology at Houghton College, New York, died on May 18 in his forty-fourth year.

DR. RALPH VORIS, since 1928 professor of biology at Southwest Missouri State Teachers College, died on May 9 in his thirty-eighth year.

DR. CLARENCE JEROME ELMORE, head of the department of biology of William Jewell College, died on May 19 at the age of seventy years. He is best known for a monograph on the Diatoms of Nebraska.

SCIENTIFIC EVENTS

A SYMPOSIUM ON HYDROBIOLOGY AT THE UNIVERSITY OF WISCONSIN

A SYMPOSIUM ON HYDROBIOLOGY will be held at the University of Wisconsin from September 4 to 6, the general program for which has been completed and will soon be distributed. It comprises a series of papers and round-table discussions dealing with the various phases of hydrobiology. From an environmental standpoint, consideration is given to some of the allied sciences as well as to purely biological subjects.

In geology the chief topics of discussion are the sediments of both natural and artificial lakes and the factors which affect their character and extent. The chief topic in physics centers around the penetration of solar radiation into natural waters and the consequent changes in intensity and spectral composition with depth; the biological implications of these problems are also listed for discussion. Chemistry is represented by a paper on dissolved oxygen and lake typology.

The biological part of the program deals with such problems as the photosynthesis of bacteria and algae and the rôle of bacteria, fungi and large aquatic plants in the biology of natural waters. The ichthyological topics include the rate of growth and the speciation of fish as affected by environmental factors, problems in physiology and reproduction, the fish production of lakes and streams and pond fish farming. The social and economic implications of inland lakes will be discussed at an evening session.

The sanitary science section will consider various problems relating to inland waters and public health, including such subjects as pollution and its prevention, water supplies, control of malaria and schistosome dermatitis (swimmer's itch) and the chemical control of algal growths in lakes.

The afternoon session on September 5 will consist of fifteen-minute volunteer papers, and hydrobiologists are cordially invited to participate in this part of the program.

On Thursday evening a dinner will be held in honor of President Emeritus Edward A. Birge, who began his hydrobiological investigations in Wisconsin in 1875 and is still actively engaged in such studies.

THE SEVENTY-FIRST ANNUAL REPORT OF THE AMERICAN MUSEUM OF NATURAL HISTORY

THE annual report of the American Museum of Natural History of New York City has been issued. It