the highly chaotic efforts of the individual states under their police powers, and support any collective efforts the states may attempt. Much of the authority necessary for production control now exists only in the police powers of the states. Since the Supreme Court decision, Washington is now struggling with the problem of finding authority for any national control. On the outcome of this major issue of federal versus state rights will depend largely the success of any effective program of conservation.

(4) Federal control of interstate shipments of minerals shipped in excess of quotas set by the state police powers.

(5) Possible abolition of ad valorem taxes in favor of taxes of one kind or another on current production.

(6) The use of tariffs for the surplus group which will protect any domestic economy built up in the interest of conservation, which may result in some further sacrifice of our already dwindling export trade because of the necessary maintenance of domestic prices above the world level.

(7) For the deficient group of minerals derived in part or in whole from foreign sources, to desist from a tariff program which merely hastens the exhaustion of our limited high-grade supplies and to substitute direct expenditure by the government on the problem of finding additional supplies.

In the last analysis, the practical basis for mineral conservation is voluntary cooperative effort under permissive legislation, which will carry safeguards against its misuse. The natural evolution of the industry, under the driving power of self-interest, has been in the direction of larger commercial units and cooperation. The relatively few large sources of mineral supply create a situation which lends itself to concentration of commercial control and even monopolies for some of our minerals. As the units of the industry, commercial or cooperative, grow in size and power, there is an inevitable growth of public interest and concern. Cooperation and public supervision are complementary and parallel developments which are not in conflict unless one or the other proceeds too fast. It is the hope and belief of our Planning Committee, based on the history of the few cooperative efforts thus far tried, that in the long run enlightened self-interest of the industries and the public interest may be made to coincide in a common program, which will avoid, on the one hand, the extreme of nationalization now gaining so generally in other countries, and on the other, the extreme of unregulated competition which is proving so disastrous both to the industries and to national welfare.

We recognize the fact that private industry has successfully developed the minerals of the United States to an extent never before approximated in the world; that the job on the whole has been done efficiently and without greater wastes or mistakes than were more or less inevitable under existing conditions of enforced competition and widely scattered ownership of the resources; that the record of the mineral industry in the United States warrants the presumption that it should continue to develop so far as possible under private initiative. However, we also believe that our mineral heritage is vested with a public interest in those specific conditions which are distinctly detrimental both to the public and to the industries themselves and which seem beyond the power of the industries themselves to remedy. To be frank, some of us do not think that the brains exist which are competent to produce a fool-proof plan broad enough to cover all the shifting variables of the problem, but, on the other hand, we are not content with a defeatist or drifting attitude, and hope that cooperative planning will produce some if not all of the desired results. Rugged individualism, with all its merits, seems ill-adapted to realize, unaided, the present political and economic requirements of conservation.

OBITUARY

CHARLES ROBERTSON

CHARLES ROBERTSON is a well-known name in ecological and entomological circles. He was born at Carlinville, Ill., on June 12, 1858, and died on June 17, 1935. He was the son of the community doctor and after a selective course of study at various institutions began an intensive study of the flower and insect relations in an area twenty miles on a side around the city of Carlinville. This study was carried on intensively through a period of forty years and is perhaps the most detailed of any work of the kind ever done. It involved a minute study of the flowering plants and of their insect visitors together with the climatic conditions which govern their growth. In order that this might be done Robertson was called upon to describe some plants and many species of hymenoptera, diptera and lepidoptera. His collections are models of neatness and completeness. His type species are still within his collection. The results of his work are mainly presented in a series of articles entitled "Flowers and Insects," which appeared at irregular intervals for a period of thirty years, being printed in the *Botanical Gazette,* Transactions of the St. Louis Academy of Science and *Ecology.* His numerous descrip-

tions of many species of insects were published in the *Canadian Entomologist*, Transactions of the St. Louis Academy of Science, Transactions of the Philadelphia Academy of Science and other entomological publications. His bibliography contains one hundred and fifty-two titles. His last large publication was a book entitled "Flowers and Insects," which contains a summary of all his work. This volume came from the Science Press some four years ago. He was a member of the American Association for the Advancement of Science for a large number of years and he belonged to many of the learned societies of America and Europe. Robertson divided his time between the overseeing of a large number of farms which belonged to the family and his ecological work. He spent his winters in western Florida, where he owned considerable property and maintained a wildlife preserve. He was a life member of the St. Louis Academy of Science and was very intimately connected with Barnes, of Bloomington, Ill., and Trelease, of the University of Illinois. In entomological lines Robertson will long be remembered because of the great number of species of hymenoptera which bear his name and which because of the accuracy of his work will always bear the same name. Robertson probably did more to establish the study of ecology in the United States than any other one man.

H. B. PARKS

SAN ANTONIO, TEXAS

MARION DORSET

WITH the death of Dr. Marion Dorset on July 14, at his home in Washington, D. C., workers in the biological sciences lost an able colleague and friend. Dr. Dorset was widely known not only for his brilliant achievements but also for his generous recognition of work by others. His counsel on research problems was sought widely, and he was active in both administrative and laboratory work until a few days before his death, the immediate cause of which was coronary thrombosis.

Dr. Dorset was known especially for his investigations of hog cholera, during which he discovered an effective preventive-serum treatment now widely used. Other discoveries included research on the biochemistry of the tubercle bacillus, keeping qualities of meats, the development and testing of dips and disinfectants and extensive related work. Dr. Dorset is credited with being one of the first scientists to make chemical analyses of the tubercle bacillus. He also introduced, in April, 1934, a new tuberculin now used in official tuberculosis-eradication work conducted by the U. S. Department of Agriculture and cooperating states. His production of an effective and harmless fluid for marking federally inspected meats has saved the United States Government millions of dollars because of the greater economy of this method over the former practice of using tags.

As chief of the Biochemic Division, Bureau of Animal Industry, U. S. Department of Agriculture, Dr. Dorset likewise proposed many investigations which his coworkers carried out with results beneficial to agriculture and public welfare. One of these studies resulted in a rapid method of detecting pullorum disease in chickens, a discovery now widely used by poultrymen and a boon to the poultry industry. Dr. Dorset organized the system of federal inspection in establishments licensed by the government to manufacture serums, viruses, toxins and related veterinary biological products. He formulated also the laboratory procedures in the administration of the federal meat-inspection act. He was active also in the organization of the Federal Insecticide and Fungicide Board. He was a member of many scientific bodies and frequently presented papers at national and international meetings.

Born in Columbia, Tenn., in 1872, Dr. Dorset received the customary elementary education, after which he attended the University of Tennessee, from which he graduated in 1893 with the degree of bachelor of science. He then attended the Medical Department of the University of Pennsylvania for a year, after which he entered the U. S. Department of Agriculture as assistant chemist. One of his associates was the late Dr. E. A. de Schweinitz. Dr. Dorset meanwhile continued his scientific education at George Washington University, Medical Department, from which, in 1896, he received the degree of doctor of medicine. In 1904 he became chief of the Biochemic Division of the Bureau of Animal Industry, a position which he held until his death. Dr. Dorset was also awarded the honorary degree of doctor of veterinary medicine by Iowa State College. His scientific contributions had many applications in the livestock, meat and dairy industries and in public health. He devoted his life almost entirely to public service. After discovering anti-hog-cholera serum, he had the opportunity to acquire wealth through the manufacture and sale of this biological product, for which a large demand soon developed. But after receiving a patent on the discovery, he presented it to the government and to the public so that any person in the United States might use the method without payment of royalty. This act was typical of his generous nature and his desire that the results of his talents and labors should be widely useful.

J. R. MOHLER,

Chief, Bureau of Animal Industry