His touch with foreign scientific men and organizations is indicated by the fact that he was a corresponding member of the Geological Society of Stockholm; the Academy of Sciences of Kristiania; the Academy of Oslo; the Geological Society of Belgium, and the Geological Society of London. He was a familiar figure at international congresses.

Professor Kemp was a prolific writer. Most of his effort was given to economic geology or studies in the geology of ore deposits. But he also contributed much to structural and regional geology, especially of pre-Cambrian areas, and to the application of geology to engineering problems. He was the author of "Ore Deposits of the United States and Canada," issued in 1893, a standard text and reference book which passed through many subsequent editions. In 1895, the "Handbook of Rocks" was issued and soon became the leading guide in both laboratory and field, a place which it still maintains. Many bulletins and papers on special subjects may be found in the formal reports of the United States Geological Survey and of the New York State Survey. He was one of the founders and associate editors of *Economic Geology*. The complete bibliographic list is long and shows a wide range of interest as well as a facile pen.

In his scientific work simplicity of presentation, avoidance of speculation and a positive genius for application in a field not until recently recognized as an applied science were outstanding qualities. He had a peculiar competence in interpretation. His early engineering training gave him an especially good background for such service and he had the fortune to fit into a ripe time. So his fine training, coupled with a practical mind, made him an important influence in the field of mining geology, where his writing and advisory services have contributed greatly toward a better standing for geologists in the engineering field.

Those who know the history of geological thought in the last quarter of a century will recall that he was not readily swept off his feet. Old ideas were not abandoned without first finding something better. He was nevertheless a champion of progress and aided materially in the attainment of the present-day respect for the science to which he devoted his life. As a student of ore deposits none has surpassed him in zeal or understanding. One of the finest tributes that can be paid to his scientific work is that it is increasingly regarded as sound. It was never spectacular or speculative, but always calculated to a better practical understanding.

His advice was sought in many important projects and enterprises. As a recognized authority on ore deposits, he was often called on as an expert in litigation in the ownership of ore bodies by mining companies, and was still more frequently called into consultation by large interests on matters relating to development and future possibilities. The evident honesty of the man, the absolute certainty that he would do his best, and the conviction, in cases of contest, that his findings were to him the essential truth, were of inestimable value. There was never any doubt, even in the minds of opponents, about his sincerity or his fairness. This, coupled with his broad experience and extensive knowledge, left nothing more to be desired.

Not often could he be drawn into controversy. If, however, he felt obliged to present an opposing view, he was particularly considerate. He never took advantage by understatement of his opponent's position, and he never stooped to abuse or belittling comment. He took evident pride in formulating sometimes a more intelligible statement of his adversary's position than he himself had made. He seldom made even a temporary enemy.

Professor Kemp was a many-sided man. He was a man of firm faith as well as kindly deeds; a man of science who had not forgotten the religion of his youth; an engineer who had the imagination of a poet; a man of broad culture who was at the same time as simple wonder-minded as a child. His presence always created an atmosphere that was helpful. For so many years this influence has pervaded the work of his department at Columbia that gentleness has become a tradition. Those of us who know these things look on his passing with dismay. His work will go on, but his place can never be filled. His name also will soon become a tradition, one, I am sure, that will be endlessly helpful because of the leaven that is embodied in it. No institution can fail to reap lasting benefit from the service of such a man, and to him it is a fitting reward that his life should be crowned with so full measure of loyalty and devotion.

CHARLES P. BERKEY
COLUMBIA UNIVERSITY

SCIENTIFIC EVENTS

THE APPROPRIATION BILL OF THE DEPARTMENT OF AGRICULTURE

THE budget of the U. S. Department of Agriculture for the year ending June 30, 1928, reported to the House on December 13, includes the following items under the Bureau of Chemistry, the Bureau of Plant Industry and the Biological Survey:

Bureau of Chemistry

Biological investigation of food and drug products, etc., including investigations of the physiological effects

of such products on the human organism and to cooperate with associations and scientific societies in the development of methods of analysis, $195,947.

For investigation and experiment in the utilization, for coloring, medicinal and technical purposes, of raw materials grown or produced in the United States, in cooperation with private interests as may be necessary, including building matters on the Arlington farm, $72,921.

For investigation and development of methods for the manufacture of table sirup and sugar and of methods for the manufacture of sweet sirups by use of new agricultural sources, $35,234.

For investigation and development of methods of manufacturing insecticides and fungicides and for investigating chemical problems relating to their composition, action and application, $34,800.

Investigation and development of methods for prevention of farm fires and of grain-dust, smut-dust and other plant-dust explosions and resulting fires, including fires in cotton gins and cotton-oil mills, $42,743.

Investigation and demonstration of improved methods or processes of preparing naval stores, etc., $10,000.

Chemical investigations of soil types, compositions and minerals, soil solution, solubility of soil formation, soil texture and soil productivity, $26,720.

Physical investigations of the important properties of soil which determine productivity, such as moisture relations, aerations, heat conductivity, texture and other physical investigations of the various soil classes and soil types, $17,225.

Investigations within the United States of fertilizers and other soil amendments and their suitability for agricultural use, $278,940.

Investigation of soils in cooperation with other government offices and mapping such investigations, $237,515.

Soil bacteriology investigations, $40,840.

Soil fertility investigations, $71,200.

Plant Industry

Pathological laboratory, $108,440; orchard diseases, including pecan diseases, $142,705; citrus canker investigations, $45,000; forest pathology, $131,160; blister-rust control, $471,520; crop physiology, $150,570; plant nutrition, $16,780; crop acclimatization, $200,800; crop technology, $54,340; investigation of plants yielding drugs, spices, poisons, oils, etc., $58,200.

Seed-testing laboratories, $64,538; cereal investigations, $737,200, including $375,000 to destroy barberry bushes, etc.; tobacco investigations, $58,740; alkali and drought-resistant crops, $23,900; sugar-plant investigations, $171,255; investigations and use of wild plants, grazing and weed control, $45,380.

Dry-land agriculture, $208,050; Western irrigation agriculture, $109,095; nut culture, $29,040; experimental gardens and grounds at Washington, D. C., $89,500; horticulture, $115,000; nursery stock investigations, $21,800.

Department of Agriculture farm at Arlington, Va., $57,000; foreign seed and plant introduction, $182,300; forage crop investigations, $120,500; biophysical investigations, $35,812.

Biological Survey

For maintenance of the Montana National Bison Range and other game reservations, $54,000.

Investigation of "the food habits of North American birds and other animals," including rearing fur-bearing animals, cooperation in destroying mountain lions, wolves, bob cats, coyotes, prairie dogs, gophers, ground squirrels, jack rabbits and animals injurious to agriculture and to protect stock by suppression of rabies in predatory wild animals, $568,000.

For acquisition of land and water for the Upper Mississippi River Wild Life and Fish Refuge, $30,000, being part of $1,500,000 authorized under previous laws. The bill authorizes the secretary of agriculture to incur obligations and contract for lands within the $1,500,000 total limitation.

RESULTS OF THE SUBARCTIC EXPEDITION OF THE FIELD MUSEUM

A REPRESENTATVE collection of natural history specimens of the subarctic, including a wide variety of zoological material, ranging from small worms weighing a few grains to a 1,500 pound walrus, was secured by the Rawson-MacMillan Subarctic Expedition of the Field Museum for 1926, according to an announcement by D. C. Davies, director of the institution. It was the first Field Museum expedition to the subarctic, and was led by Commander Donald B. MacMillan.

There are approximately 3,000 zoological, ethnological, geological and botanical specimens in the collection, which, added to the Pacific Eskimo material already on exhibition, gives the museum a more adequate representation of the natural history and ethnology of the subarctic.

The zoological collection includes some 650 fishes taken off of the coasts of Labrador and Greenland, as well as from lakes and ponds; worms, jelly fish, sea urchins, star fish, insects of all sorts and many small mammals, ranging from deer mice to lemmings, and a red fox.

Subarctic birds brought back to the museum include pigeon hawks, gyrfalcons, gulls, loons, ducks, geese, ravens, jaegers, arctic terns and other birds.

The ethnological collection in large part is from the Greenland Eskimo, with a smaller collection from the Labrador and Baffinland Eskimo. The material from the Greenland Eskimo, chiefly of the northwest coast, contains many beautiful feather mats and a large blanket of the type made for the royal family of Denmark, composed of vari-colored skins of many sea birds. Another outstanding acquisition is a completely outfitted Greenland kayak, some sixteen feet long, equipped with bone-tipped paddle, harpoon, throwing-stick, killing-lance, sealskin float and bone sack for harpoon line.