

Surplus gas to the extent of 84,356,000,000 cubic feet, valued at \$3,625,000, was sold or used. Of that quantity 17,196,000,000 feet was used as illuminating gas, 27,591,000,000 feet as domestic fuel, and 39,569,000,000 feet as fuel for steam raising, open-hearth furnaces, gas engines, and other industrial purposes. These by-products, which had a total value of \$29,824,579, were obtained by the carbonization of 19,500,000 tons of coal, from which was also obtained 14,000,000 tons of coke, valued at \$48,500,000. The total value of the coke and by-products was more than \$78,300,000.

THE production of bituminous coal and anthracite in the United States in 1915 amounted to 531,619,487 short tons, valued at \$686,691,186, an increase, compared with 1914, of 18,094,010 tons or 3.5 per cent., in quantity, and of \$5,200,543, or 0.8 per cent., in value, according to C. E. Leshner, of the United States Geological Survey. Of this total output, 442,624,426 short tons, valued at \$502,037,688, was bituminous coal and lignite, and 88,995,061 tons, valued at \$184,653,498, was Pennsylvania anthracite. Pennsylvania, with an output of 157,955,137 tons of bituminous coal and 88,995,061 short tons of anthracite, ranks first among the coal-producing states. West Virginia, with a production of 77,184,069 tons; Illinois, with 58,829,576 tons; Ohio, with 22,434,691 tons, and Kentucky, with 21,361,674 tons, follow in order of production. Thirty states and the territory of Alaska contributed to the total, of which number 13 states and Alaska had increased production, and 17 had decreased production, compared with 1914. To produce this coal, 734,008 men were employed for an average of 209 days.

THE second Interstate Cereal Conference will be held at the University of Minnesota, University Farm, St. Paul, July 11, 12 and 13. At this conference there will be a discussion of the various phases of cereal research relating to the region of which St. Paul may be considered the center. The program will include papers on problems of wheat, oats, barley and flax production in the Northwest; the grading of barley and corn; breeding winter wheats for Minnesota; ergot of rye;

methods for the eradication of bunt or stinking smut; problems in flax diseases, and a symposium on milling and baking. Two days will be devoted to the presentation and discussion of papers. The third day will be used in an inspection of the plant work of the Minnesota Agricultural Experiment Station and of one of the local flour mills.

RECEIPTS from national forests for the fiscal year 1916 reached the high-water mark of approximately \$2,820,000, according to figures just compiled. This is \$341,000 above the 1915 total, which in turn exceeded any previous year. Officials say that the gain was due to increased demand for all classes of forest products. There was a decided growth in the revenue from all sources, the largest being that of \$203,000 in timber sales. Grazing fees showed a gain of \$77,000. Receipts for water power development were over \$12,000 more than for 1915. Sales of turpentine privileges and charges for special uses were both considerably in excess of the previous year. The National forests are important factors in the prosperity of the regions in which they are located, on account of the large amounts of timber, range and other resources which they hold available for use as needed. Business conditions are reflected in the receipts of the forests. Consequently the showing for the past year is regarded as an index of increased business activity throughout the sections where the national forests are found.

#### UNIVERSITY AND EDUCATIONAL NEWS

COLUMBIA UNIVERSITY has received \$100,000 from Mr. James N. Jarvie, the banker, for the new dental school, plans for which were announced last spring.

THE Municipal University of Akron is about to erect an engineering laboratory at the cost of \$50,000, provided by a bond issue of the city. The new library building, erected at a cost of \$40,000, is now open for use.

PRINCETON UNIVERSITY announces that October 26 has been set aside as the day for the laying of the corner stone of the handsome new student dining halls, now being erected at the corner of Nassau Street and University

Place. The dining quarters and the kitchens will be far enough advanced to accommodate the number of undergraduates who formerly took their meals at "Commons," comprising about one thousand students.

DR. WALTER A. JESSUP, dean of the college of education at the State University of Iowa, has been elected president of the university, to succeed Dr. Thomas H. Machride, the botanist, who retires at the age of sixty-eight years.

HOWARD C. PARMALEE, of Denver, has been elected president of the Colorado State School of Mines at Golden.

At Dartmouth College, Charles N. Haskins has been promoted to be professor of mathematics on the Chandler foundation, Norman E. Gilbert has been promoted to be associate professor of physics and Arthur B. Meservey to be assistant professor of physics. Carl C. Forsaith has been appointed instructor in biology.

W. S. MILLER, of the department of anatomy, at the University of Wisconsin, has been promoted from associate professor to professor of anatomy.

STANLEY C. BALL, Ph.D. (Yale, '15) has been appointed instructor in zoology in the Massachusetts Agricultural College. Frank N. Blanchard (Tufts, '13) has resigned from the department in order to enter the graduate school of the University of Michigan.

DR. T. G. MOORHEAD has been elected professor of the practise of medicine in the School of the Royal College of Surgeons in Ireland, in the place of Sir John Moore, who has retired.

## DISCUSSION AND CORRESPONDENCE

### NORTH AMERICAN FAUNAL AREAS

A VERY interesting discussion of the geographical distribution of the fresh-water faunas of North America<sup>1</sup> has recently been published by Mr. Louis Germain. This author

<sup>1</sup> "L'Origine et la Distribution Géographique des Faunas d'eau Douce de L'Amérique du Nord," *Annales de Géographie*, No. 32, XXIII-XXIV. année, pp. 394-406, 1915.

reviews the works on this subject by American authors in a very able manner and the paper is a valuable contribution to the literature of this subject. There are several statements, however, which probably will not be accepted by all American zoologists. Germain accepts Simpson's<sup>2</sup> division of the continent into the Pacific, Atlantic and Mississippian regions as representing the best and only natural division into faunistic areas. The subdivisions by Dall<sup>3</sup> and Baker<sup>4</sup> are believed to be too complex; and the latter author is criticized for establishing so complex a subdivision of the territory based on the data supplied (apparently) by a single small division of animals. But the facts are that the map on page 57 of the *Lymnæa* monograph was made not only from data furnished by the *Lymnæas*, but also by all of the families of basommatophorous mollusks, *Planorbis*, *Physa*, etc., the data for which was secured while working upon the *Lymnæid* monograph. Not only, however, do the families of *Basommatophora* fit into this detailed scheme, but it is quite possible that all of the fresh-water mollusks, gastropods as well as pelecypods, may be included. The *Amnicolidæ*, *Pleuroceridæ* and *Viviparidæ*, as well as the great *Unionidæ* family, have many groups of species which are confined to some one of the divisions indicated by the map in question.

As the writer has already stated in the *Lymnæa* monograph, the distribution of fresh-water mollusks, or for that matter of any fresh-water group of animals, can be understood only by a study of the river systems, past and present. It is more frequently the natural divides separating river drainages that form the boundaries of faunal areas rather than the presence of mountain chains, which indeed do not always afford a barrier, but a means of communication, as, for example, Two Ocean Pass in Wyoming, at the summit of the continental divide, where the head waters of the

<sup>2</sup> C. T. Simpson, "Synopsis of Naiades," p. 505.

<sup>3</sup> W. H. Dall, "Land and Fresh-water Mollusks of Alaska," p. 1.

<sup>4</sup> F. C. Baker, "*Lymnæidæ* of North and Middle America," p. 56.