extraction) are for the pre-war flour. The U. S. Food Administration during the time of the shortage of wheat required approximately a 75 per cent. extraction. It is necessary to keep in mind this difference in the pre-war and the war standard milling basis in making comparisons. The tables show that when 100 pounds of wheat are milled into 73 pounds of flour (pre-war basis) and 27 pounds of feed, the flour being used as human food and the feed part for pork production, the pork in turn being used as human food, a total of 78 per cent. of the original therms of the wheat are utilized as human food. When, however, the calculations are made on the war standard milling (75 per cent. extraction) and the bran is converted into milk, and finally the cow into beef, while the middlings part of the wheat by-product is fed to pigs, which is the common practise in the use of wheat by-products, a return of over 80 per cent. of the therms of the original wheat is secured, which is somewhat more than is obtained when the wheat is milled and utilized as whole-wheat flour.

Even without the use of substitutes the Food Administration flour of 75 per cent. extraction, with a limit as to the amount of flour used per capita, would have been a better conservation measure than whole-wheat flour, because the therms from the milk, pork and small amount of beef are more valuable than the therms derived by man from the direct consumption of bran in whole-wheat flour bread. The quality of the therms as well as the quantity must be considered.

But the greatest conservation of wheat resulted when "substitutes" were used and a review of all the facts shows that the U. S. Food Administration could not have made the wheat supply "go farther" by milling it as whole-wheat flour. It would have gone no farther and the consumer would have had poor bread. The old adage aptly applies to this case—"Go farther and fare worse." The U. S. Food Administration's flour milling and bread-making plans accomplished results in the most efficient and satisfactory way possible.

Harry Snyder

EDWARD COWLES

Dr. Edward Cowles, who died at Plymouth, Mass., on July 25, at the age of eighty-two, was in many respects a remarkable man and had a remarkable career. He graduated from Dartmouth in 1859, where he received his M.D. two years later. He entered the Union Army, retaining his connection with it until 1872, when he became resident physician and superintendent of the Boston City Hospital, and in 1879 of the McLean Hospital for the Insane at Somerville. He directed its removal to Waverley and supervised the erection of perhaps what was then the finest hospital of its character in the world. This superintendency he resigned in 1892 because of ill health. The institution is to-day very largely a monument to his efficiency and foresight.

He was also a pioneer in the professional training of nurses for the care of the insane, but most important of all was the fact that he was the first in this country to conceive and carry out the system of scientific study of the insane within the institution itself with proper laboratory equipment and a corps of experts. It was due to his initiative that men like Dr. Adolf Meyer and Dr. Hoch were brought to this country and that other men now prominent were started on their careers. It is generally understood that his enthusiasm for the development of this scientific side of hospital work was one cause of his retirement.

He was professor of mental diseases at Dartmouth and instructor at Harvard Medical School until 1914, and for sixteen years was non-resident lecturer at Clark University, where he was one of the original trustees.

He was a member of the Alpha Delta Phi, Phi Beta Kappa, and Loyal Legion, and belonged to the St. Botolph Club of Boston, besides being a member of many scientific societies.

In his later years Dr. Cowles followed with intense interest the rise and decline of Kraepelin's views, with which his sympathy was limited. He was also interested in psychoanalysis, though not convinced of the extreme views of Freud. The list of his sci-

entific publications, though not large, constitutes an important contribution to American psychiatry, and two or three of them are hardly less than classic.

Personally he was one of the most attractive and charming of men because of his sympathy, unfailing flow of good humor, and his broad judicial mind.

G. STANLEY HALL

July 28, 1919

SCIENTIFIC EVENTS

GAME CONSERVATION IN CANADA

A STATEMENT made by the Dominion Parks Branch, Department of the Interior, relating to the North-West Game Act, shows the efficacy of the act, in placing the fur trapping and trading industry under control, in the interest of game conservation. Organization in connection with the new Northwest Game Act passed in 1917 has taken place under the present government. The most notable and important feature in this connection is the fact that for the first time in the history of the Northland the fur trapping and trading industry has been placed under adequate control. Under the new act all white trappers and traders are under license.

In connection with the northern hinterland the government has also taken a very important step by the organization of a commission for the purpose of first, ascertaining the feasibility of the development of reindeer herds for the purpose of providing a meat supply for the Dominion, and, second, ascertaining the feasibility of the domestication of musk-ox in the north not only for the purpose of a meat supply but also for the purpose of a wool supply.

With respect to both these matters the situation is as follows: It is estimated that there is an area of about one million square miles in the north eminently suitable for the development of reindeer and musk-ox herds. Throughout the world there is a constant invasion of the areas used for cattle grazing through the lands being taken up for the production of fruits and cereals and the meat situation of the world is therefore gradually becoming more and more acute. Northern Canada is not suitable for the production of ordinary farm products but from the fact that millions of Barren land caribou, which physiologically are practically identical with domestic caribou, are known to thrive there at present; and from the fact that musk-oxen also thrive in the north there appears to be good reason for the expectation that with the development of reindeer and musk-ox herds the north may take the place of the more southerly portions of Canada in the matter of meat production.

While the migratory birds treaty was prior to the Union Government, organization has taken place since. This treaty with the United States provides for the protection both in the United States and Canada of practically all the beneficial migratory birds. Arrangements have been made with most of the provinces by which they have amended their game laws to harmonize with the terms of the treaty and by which the provincial game authorities enforce these laws. While the provincial laws have not all been satisfactorily amended, *e. g.* (maritime provinces) a staff of wardens has been appointed in these provinces and active steps have been carried on not only for the enforcement of law but for the education of the public as to the necessity of adequate protection of beneficial bird life.

In furtherance of the policy of bird conservation some twenty-eight suggested locations in the west for breeding sanctuaries have been inspected. In addition the Dominion has created Point Pelee, the most important bird area in Ontario, into a Dominion Park in order that it may be maintained as a sanctuary. The Dominion has also established as bird sanctuaries Bird Rocks, Bonaventure and Pierce Rock (all in Quebec), under the terms of the treaty and at the request of the Dominion the province of Quebec has passed provincial legislation on similar lines.

In addition the department has been issuing special bulletins and otherwise carrying on an educational campaign throughout Canada with the object of enlisting the sympathetic support of the public for bird protection.

Through the Advisory Board on Wild Life