

THURSDAY, JANUARY 27, 1910.

AN AMERICAN AGRICULTURAL  
CYCLOPEDIA.

*Cyclopedia of American Agriculture. A Popular Survey of Agricultural Conditions, Practices, and Ideals in the United States and Canada.* Edited by L. H. Bailey. Vol. IV. Farm and Community. Pp. xiv + 650. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1909.) Price 21s. net.

DR. BAILEY is surely the most energetic of the agricultural editors of to-day. Besides writing a dozen or more books himself, he has edited a long series of text-books, a great *Cyclopedia of American Horticulture*, and has now completed the companion *Cyclopedia of American Agriculture*. So much has he found this task to his liking that he tells us he

"would like to make another. It is much satisfaction to assemble the opinions of the best men and women in a particular field, and to work them out into a harmonious arrangement."

The subject-matter is not set out under headings in alphabetical order, but is grouped in four great divisions; the first volume dealt with the laying out and organisation of a farm, the second with the crops, the third with the animal products, and in this fourth and last volume we come to

"the larger question of the relation of the farmer to his fellow men, and of the farm to the other assets of the commonwealth."

This volume, reviewing as it does all those economic, social, and political aspects of rural life which are of never-failing interest, will therefore appeal to a much larger circle of readers than did the others. Most people will be surprised at the magnitude of agricultural industries in the United States. They employ more capital than do all the manufactures put together, and more than one-third of the entire working population, as compared with one-fourteenth in Great Britain. The agricultural exports are larger than any others, whilst the imports form nearly one-half the total imports. Maize is the most important crop, exceeding in annual value any other two combined; further, it is the largest single American product of any kind, agricultural, mineral, or manufactured. A considerable section of the volume is devoted to the history of North American agriculture from Indian times to the present day. Maize has always been the chief cultivated food plant. Jacques Cartier found large fields of it growing in 1534 where Montreal now stands. Champlain in 1604 found it cultivated almost everywhere from Nova Scotia to points far up the Ottawa river. Much was eaten green, generally after it had been roasted or boiled; indeed we may trace not a few of the characteristic American and Canadian dishes to an Indian origin. Beans, pumpkins, squashes, and tobacco were raised by the Indians; fruit was preserved in wild honey; sugar was made from the juice of the maple. An account of this operation can be found in the *Philosophical Transactions* of the Royal Society for

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1684-5 (p. 156), while the Indian maize culture is described in the preceding volume, p. 466. This paper is, as usual, overlooked, probably because it was somehow omitted from the index to the volume. The Indians kept meat in cold storage, *i.e.* in snow; they cured tobacco by heat, they practised irrigation in the dry districts, they cultivated cotton, preserved fruit berries and vegetables by sun and air drying, and they preserved vegetables from rotting by burying them in the ground—the idea of the modern silo.

Coming to historic times, five main periods can be noticed. In the colonial period, 1607-1783, the settlers were adapting and improving on the Indian methods. Next follows the time of the western expansion. From 1830 an enormous change arose in consequence of the introduction of railroads, the repeal of the English corn laws, and the wars and other events in Europe which created a demand for American food products. Lastly, American agriculture has been largely reorganised since 1887, when the Experiment Station Act (Hatch Act) was passed by Congress. Since this time there has been developed that wonderful system of experiment stations and agricultural colleges that is without equal in the whole world. Irrigation and drainage are also attracting attention. It is estimated that there are still eighty million acres of swamp land, not only practically valueless, but a hindrance to travel and a menace to health, which, if properly drained and cultivated, could probably support a population of 10,000,000 people. Various chapters in these historic movements are worked out in considerable detail; we have, for instance, what has probably never been attempted before, a chapter on historic farm animals. Much space is devoted to the present position of agriculture. Various means of checking the rural exodus are suggested, among others that the country schools should teach the love of country life and train for life in the country. Mr. Booker Washington brings out the interesting point that while negroes constitute less than one-twelfth of the population of the United States, they conduct 13 per cent. of the farms, and raise 5·4 per cent. of the total farm products.

Natural resources, especially forestry, receive a good deal of attention. It is shown, too, that the agricultural labourer is very efficient; 9,000,000 hands in the United States raise nearly half as much grain as 66,000,000 in Europe, where, however, far fewer horses are employed. Business organisation, book-keeping, costs, cooperation, and credit are next discussed, while a section is given to the amenities of rural life, the church, travelling libraries and travelling pictures, social organisations, the rural landscape, and "the farm beautiful."

Dr. Bailey himself writes on agricultural education. We notice that the American colleges are subjected to criticism just as are our own, because many of their best students do not become farmers. The answer is, of course, obvious; they are needed to provide the enormous staff of experts maintained by the colleges and experiment stations. The American educational system is more complete than ours in that it aims at giving systematic instruction to the men actually farming. The means adopted include courses at the col-

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leges, reading circles at home, and farmers' institutes. Full details of the working of these schemes are given.

Legislature relating to agriculture is then dealt with, and the somewhat varying laws of the different States are summarised. Lastly, we have a number of biographies of persons who were prominent in developing "agriculture and wholesome country living, and in starting new movements of national consequence."

The volume can be cordially recommended to all who are interested in the remarkable progress of agriculture in the United States. The story is wonderfully interesting, even when told in the rather disjointed manner that is a necessary consequence of a number of authors and an encyclopædia. Problems are arising in parts of the British Empire not unlike those that have arisen in the United States. The methods by which they were dealt with there, which are so well set out in the present volume, cannot fail to afford valuable and suggestive material to agricultural workers and administrators elsewhere.

E. J. RUSSELL.

#### SIR JOSEPH BANKS.

*Sir Joseph Banks, the "Father of Australia."* By J. H. Maiden. Pp. xxiv+244. (Sydney: William Applegate Gullick; London: Kegan Paul and Co., Ltd., 1909.) Price 6s. net.

IN an old gazetteer we read that Botany Bay was discovered in 1770 by Captain Cook, who so named it from the great quantity of herbs which he found on its shores. This statement is true, of course, as to the main fact, but it is otherwise inaccurate and incomplete, for no doubt the name was suggested by Sir Joseph Banks's report on the vegetation of the country around their first landing-place in Australia and the very rich botanical collections obtained. After circumnavigating New Zealand the question arose whether the *Endeavour* should sail in search of the supposed southern continent or make for the coast of New Holland, and the latter course was determined upon because the condition of the ship was not considered equal to encounter the stormy southern seas. The expedition arrived in the bay on April 28 and left on May 6, and an entry in Banks's journal, dated May 3, runs as follows:

"Our collection of plants was now grown so immensely large that it was necessary that some extraordinary care should be taken of them lest they should spoil in the books."

This note referred to the collections previously made in New Zealand, as well as the Australian plants, of which, by the way, only a small proportion were herbs.

In commemoration of this notable and important event an obelisk was erected in 1870, the centenary of the landing of Cook and Banks, but it has long been felt in Sydney that Banks's services in the exploration and colonisation of Australia have not been adequately recognised. As Mr. Maiden states in the book before us:—"His journal of the voyage was made over to Hawkesworth, who so arranged the narrative that Banks did not receive due credit." The recent publication of Banks's journal, edited by the

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venerable Sir Joseph Hooker, has brought to light the prominent part Banks took in the expedition, and the publication now of a portion of his correspondence shows that he was more or less actively engaged during the remaining fifty years of his life in promoting the interests of the young colony and the exploration of the surrounding country. A committee has been constituted in Sydney to collect a fund for the purpose of providing a memorial to Banks. Mr. Maiden has joined the movement, and the book he now offers the public has been compiled with the double object of disseminating information concerning "Australia's greatest early friend" and of procuring a handsome contribution to the memorial fund. It has been printed at the expense of the State of New South Wales, and the whole of the proceeds of the sale will be devoted to the object in question.

That a botanist should have undertaken this task is appropriate, and a botanist living on the spot where Australia's colonisation began, because Banks himself, though a man of universal sympathies, was essentially a botanist and horticulturist. Mr. Maiden has not written a biography of Banks, though he chronicles the leading events of his whole career. Following this he has strung together a chronological narrative of events connected with the early history of Australia, in which many important personages figure besides Banks. The whole is a highly interesting record of facts, gleaned from a variety of sources and selected for the purpose of establishing, or rather vindicating, Banks's claim to the gratitude of both the old and the new countries for the leading part he took in what has proved a most momentous movement in the population of the Antipodes. The book is fully and suitably illustrated, including portraits, early views, and reproductions of Cook's charts of Botany Bay and the entrance to the Endeavour River, on which the modern Cooktown is situated. It is a book, too, that everybody interested in Australia should read, and thereby derive much pleasure, and directly or indirectly assist the author in his patriotic effort. Short extracts from two of Banks's characteristic letters, dated 1797 and 1799, and addressed to Governor Hunter, may close this notice:—

"The climate and soil are in my opinion superior to most which have yet been settled by Europeans. . . . I see the future prospect of empire and dominion which now cannot be disappointed. Who knows but England may revive in New South Wales when it has sunk in Europe? Your colony is already a most valuable appendage to Great Britain, and I flatter myself we shall before it is long see her Ministers made sensible of its real value." W. B. HEMSLEY.

#### THE ESSENTIALS OF THE COMPARATIVE ANATOMY OF VERTEBRATES.

*Vergleichende Anatomie der Wirbeltiere.* By Dr. Robert Wiedersheim. Siebente Auflage. Pp. xx+936; 476 text-figures, and one lithographic plate. (Jena: Gustav Fischer, 1909.) Price 21 marks.

THE seventh edition of this well-known text-book is much more than a mere reprint of the 1906 edition, the work in its present form having experienced both a thorough revision and a considerable