

tect's drawing of a wrought-iron lock in Beddington Manor House. Both were made for the purpose of record; the differences are surprising, and the superiority of the photograph is obvious at a glance, and still more so on a detailed examination.

Those who have not considered the matter would be surprised at the variety of subjects that are dealt with. The following is a table of the "main classes" given, each of which is to be interpreted very broadly:—Topography, art, literature, geology, palæontology, zoology, botany, horticulture and agriculture, architecture, antiquities, meteorology, passing events; and space is left for other classes.

Although the work is as yet only in its early stages, about fifty thousand photographs have been deposited and catalogued for reference in various public libraries and museums. The authors give as complete details as they have been able to obtain of the extent of the work which has already been done and is now going forward, with the methods adopted in various places for classifying and storing the records, and many valuable suggestions as to ways of popularising the work (for so far it has been done almost entirely by amateurs as a labour of love). They treat also of those little differences in manipulation that add much to the value of the record and little, if anything, to the trouble of making it, such as the indication of the scale of the photograph, the time of day, etc.

We recommend a study of the volume not only to those who are already interested in record work, but to photographers in general, whether professional or amateur.

C. J.

OUR BOOKSHELF.

Fertilizers. By the late Prof. E. B. Voorhees. Revised edition by Prof. J. H. Voorhees. Pp. xv+365. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1916.) Price 6s. 6d. net.

THE first edition of this book was issued in 1898; since then it has been reprinted no fewer than sixteen times, and now it is revised by Prof. J. H. Voorhees and re-issued. The second edition is rather larger than the first, but not much, the subject-matter having been left very much as it was before, with a few additions to bring the book up to date. Thus, some illustrations have been added which increase the interest of the book, and a new chapter has been put in on farmyard manure and green manuring.

The treatment is general rather than special, and only few references to original papers or bulletins are given. We think this ought to be remedied; even an elementary student ought to be put into touch with the sources from which the information presented to him is derived. Modern books show an increasing tendency in this direction, which, of course, is wholly good.

Some of the newer work is not dealt with as one would like, the treatment of the new synthetic nitrogenous fertilisers, calcium cyanamide

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and calcium nitrate, being very brief. Further, the only mineral phosphates described are those of the United States; no mention is made of such important substances as Gafsa phosphate or Algerian phosphate. In the chapter on farmyard manure, also, we note that gypsum, rock phosphate, kainit, and acid phosphate are all recommended as conserving agents, although many experiments have shown that their action is very small.

One other point ought to be remedied: the factors for converting nitrogen into ammonia, etc., are given to four places of decimals; two are usually sufficient, and more than three are never wanted.

The book retains its distinguishing features and will no doubt prove helpful to the type of student who used the previous edition.

Australia. By Prof. J. W. Gregory. Pp. 156. (Cambridge: At the University Press, 1916.) Price 1s. 3d. net.

AUSTRALIA is sometimes represented as a fringe of inhabitable land round a useless desert, with a stagnant population, an easily exhausted soil, a national debt of more than 60l. a head—in sum, as a country tending to inevitable bankruptcy under the incompetent rule of envious demagogues. Such is the view of Australia which Prof. J. W. Gregory has found little difficulty in proving untenable in this small book. Within its limited compass he has provided considerable information; for example, in the case of Western Australia he shows that the rainier half of that State has already been settled by pastoralists, and contains a rich cattle-breeding country; again, in a convincing chapter on the Government of Australia, he shows that the Labour Party in Australia is misunderstood in Britain, and is led by capable statesmen. With reference to the policy of "White Australia," it is demonstrated that the employment of white labour to displace the Kanakas—one of the most daring of all Australian industrial experiments—has resulted in considerable progress in the cultivation of sugar-canes in Queensland.

LETTERS TO THE EDITOR.

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The Aurora, Magnetic Storm, and Sun-spot of January 4.

THE Aurora Borealis of January 4, 1917, described by Mr. Denning and Dr. Rambaut in NATURE of January 18, was also observed by Mr. Alfred Noël Neate, at Carlisle. He has kindly sent me the following description of the display:—"I observed a very great display of aurora on Thursday evening, January 4. The principal display was observed by me at about 10.45 p.m., but I had seen a lesser one at 5.45 p.m. Notwithstanding the advanced phase of the moon, the whole northern half of the hemisphere