

who have used this system of notation in other branches of their education may find it an assistance. In conclusion, the book may be recommended to anybody who practises navigation and wishes to keep up to date.

OUR BOOK SHELF.

Birds in their Seasons. By J. A. Owen. Pp. vi+145; plates. (London: G. Routledge and Sons, Ltd., 1904.) Price 2s. 6d. net.

COMPLETE originality in mode of treatment, perfection in literary style, absolute fidelity to nature in the illustrations, coupled with immaculate accuracy in regard to nomenclature and other technical matters, would appear to be the only possible justifications for adding a new one to the long list of popular works on British birds. If it be asked whether the volume before us fulfils these conditions, there will be no great difficulty in framing a reply. In the first place, the mode of treatment is by no means original; while the following sentence from p. 53, "When talking to Lady Farren, of Bealings House, Suffolk, she told me that her family had had remarkable intimacies with wild birds," can scarcely be regarded either as a sample of elegance in diction or of accuracy in grammar. As specimens of what illustrations, so far as regards colour, ought not to be, we may cite the figure of the bee-eater in the plate facing p. 16, and that of the kingfisher on the one opposite p. 32. As instances of technical inaccuracy, for which there is no excuse, we may quote the following (among other) misspellings of scientific names, viz., (p. 20) *Matacilla* for *Motacilla*, (p. 29) *Musicapa* for *Muscicapa*, (p. 54) *Cocothraustes* for *Coccothraustes*, (p. 104) *Dafilia* for *Dafila*, and (p. 129) *Acanthus* for *Acanthis*, the latter error being the more inexcusable from the fact that the name is correctly spelt on an earlier page. If further reference to inaccuracies were required, we may contrast the statement on p. 140, to the effect that in the index the various species are assigned to their respective orders and families, with the index itself, where in many cases the sub-family, in place of the family, is given.

If cheapness and (to the uninitiated) attractive illustrations were the sole qualifications for a good bird-book, the present volume might perhaps be worthy of commendation; as it is, naturalists at any rate still consider accuracy a *sine qua non* in works of this nature, while the British public will, we venture to think, demand something strikingly original before it accords extensive patronage to a new history of British Birds.

R. L.

The Cultivation of Man. By C. A. Witchell. Pp. xv+168. (London: W. Stewart, 1904.) Price 3s. 6d.

THE author of this book is very much in earnest. He condemns modern civilisation in strong terms for its many vices, especially for its worship of money and the mammonite marriages that result from it, and urges that men should apply to their own species the methods of the breeder of cattle. He recommends polygamy, apparently in all seriousness, and not as a mere counsel of perfection. It would, of course, destroy the family, but to this Mr. Witchell has no objection. He would have the child that is born "with every sign of some inherent disease of a serious character painlessly destroyed." Certainly he speaks out fearlessly, and that is no small merit. But it is to be regretted that he did not study his

subject more before writing. "Natural selection," he says, "is sometimes operative, chiefly among the poor." Considering that in England nearly fifty per cent. of the population die before the average age of marriage, this is a wonderful understatement. If we bear the facts in mind, we can hardly agree with Mr. Witchell that the business man is "the surviving type," i.e. apparently the type that is to survive to the exclusion of others. Business men are not a separate species. There is a continual upward movement of able men from the great underlying social stratum, and from this stratum directly or indirectly our successful men, as we call them, have emerged. In the underlying *couche sociale* there is but little accumulation of capital and comparatively little marrying for money. As to style, Mr. Witchell uses his terms vaguely. We hear of the cultivation of the young (i.e. by education), and of cultivation by marriage (i.e. by selection). But in spite of its defects the book is, much of it, interesting. It dwells upon things which seem to be entirely unknown to Royal Commissions on degeneracy, and to the many people who write letters to the papers and articles in the magazines on the subject.

Richard Meyer's Jahrbuch der Chemie für 1903. Pp. xii+600. (Brunswick: Vieweg und Sohn, 1904.) Price 15 marks.

THE year-book for 1902 has already been reviewed in these pages, and what was then stated applies with little modification to the new volume. Meyer's year-book presents an excellent, though necessarily brief, *résumé* of the year's researches in pure and applied chemistry. Possibly in other hands a slightly different selection might be made, and the weight of emphasis otherwise distributed, but in the rather wide range of subjects which have to be dealt with the question of choice must naturally vary with the taste of the individual reviewer.

Although, as was previously remarked, the small proportion of contributions of English authors does not accurately represent the relative strength of English chemistry either in quantity or quality, it is only too true that our output in chemical research and chemical literature is below what it should be. That this is due to lack of interest or poverty of ideas no one could admit, but it is to be attributed to the want of proper facilities in the way of public encouragement and State assistance.

Meyer's year-book has now reached its thirteenth year, and its success, which is assured, must be placed to the credit of its excellent staff of reviewers.

Perhaps its one shortcoming, if one may so express it, is that it is so long in coming, and many of the researches which are catalogued have assumed a new phase before the year-book appears. J. B. C.

Astronomischer Jahresbericht. By Walter F. Wislicenus. Vol. v. Containing the Literature of the Year 1903. Pp. xxxiv+660. (Berlin: George Reimer, 1904.) Price 20 marks.

It was thought that the publication of the volumes on astronomy, a part of the "International Catalogue of Scientific Literature," might affect and possibly put an end to this most useful and valuable German publication, but the appearance of this, the fifth yearly issue, renders such an idea untenable. The volume before us is full of vitality and vigour, and the compiler and his co-workers are to be congratulated both on the high standard they maintain throughout such a laborious task and on the great value of the publication to all astronomical workers. To have not only references, but brief summaries of the contents of all, or practically all, astronomical literature published