

exposition of the problem and his gallant attempt to solve it will, we hope, stimulate other biologists to follow in his footsteps and carry on the work to which his life was devoted, *i.e.* experimental embryology.
E. W. M.

OUR BOOKSHELF.

The Heat Treatment of Tool Steel. By H. Brearley. Second edition. Pp. xv+223. (London: Longmans, Green and Co., 1916.) Price 10s. 6d. net.

THE fact that a demand has arisen for a second edition of this book within four years from its first appearance is the strongest evidence of its practical value. The author states in the preface that he is now less restrained than formerly, and is free to describe in greater detail the different methods of treating steel, and this has enabled him to deal with the subject much more completely than in the first edition.

For some time past, and especially during the stress of the last two years, it has been more fully realised than ever that the life of a tool will depend as much on the manner in which it is worked into the finished shape and on the heat treatment it receives as on the material from which it is made, and a record of the practical experience of the author will be of great value to all directly interested in procuring the best working results from the various steels used in the manufacture of tools.

For efficient handling, the subject demands an adequate knowledge of the science bearing on it, and familiarity with the results of recent research, together with a wide experience in workshop practice. The author possesses these qualifications to a high degree, and although the book deals more particularly with the practical than with the scientific aspect, it can be strongly recommended to all interested in this important subject either from the practical or from the more purely scientific point of view.

Alloy steels, and high-speed steels in particular, are more fully dealt with than was the case in the first edition, and the chapter on case-hardening has been omitted, as it has been made the subject of a separate volume.

The whole subject is well handled, and the book can be strongly recommended as a clear and comprehensive treatise on this important branch of technology.
F. W. HARBORD.

Laboratory Manual in General Microbiology. Pp. xvi+418. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1916.) Price 10s. 6d. net.

THIS book is planned to serve as a manual of instruction in practical microbiology. To a large extent it represents the course given in this subject at the Michigan Agricultural College, and it therefore deals mostly with agricultural microbiology, and the disease-producing organisms, with two or three exceptions, are omitted.

The course is divided into 126 lessons or exercises, of which 53 are devoted to general laboratory methods and to the general morphology of micro-organisms, 33 to the physiology of micro-organisms, 15 to air, water, sewage, and soil, 11 to dairy and plant microbiology, and 14 to animal diseases and immunity.

Each lesson is detailed under a definite plan—the apparatus required, the cultures necessary, and the method of carrying out the exercise. At the end of each lesson questions are asked regarding the particular results that may be obtained and their significance.

The details given for each lesson are sufficiently full to enable the student to work independently of a teacher, and anyone who were to follow them out would possess a good practical knowledge of the subjects dealt with.

Formulae for stains and special culture media, tables of the coliform organisms, metric and other tables, and a list of works of reference are given in an appendix, and the text is illustrated with a number of plates and figures.

The work should be of considerable value as a laboratory handbook to both teacher and student, and we can cordially recommend it for this purpose.
R. T. HEWLETT.

LETTERS TO THE EDITOR.

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Pre-Columbian Use of the Money-Cowrie in America.

THE letter entitled "Pre-Columbian Use of the Money-Cowrie in America," by Mr. J. Wilfrid Jackson (NATURE, September 21, p. 48), offers a discouraging instance of superficial reading of carefully observed and recorded data.

In 1915 Mr. Clarence B. Moore unearthed, in the Roden Mound in northern Alabama, five cowries (*Cypraea moneta*). These shells, which came from a burial in the body of the mound, had been pierced for stringing, and showed evidence of considerable age. They were the only evidence found at this site of contact with the Old World (C. B. Moore, "Aboriginal Sites on Tennessee River," in Journ. Acad. Nat. Sci., Philadelphia, second series, xvi., p. 293). In all Mr. Moore's more than twenty years of most careful and painstaking exploration of mounds, cemeteries, and dwelling sites of the southern United States, from the Atlantic coast to Texas, and from the Ohio River to the Gulf of Mexico, no previous instance of the finding of *C. moneta* had been noted by him, nor has it ever been recorded as occurring with American pre-Columbian remains. The logical conclusion from the mass of this negative evidence is that the Roden Mounds were, in part, early post-Columbian, and that any other evidence of contact they may have contained was of a perishable nature. To assume, on the basis of this string of shells, the pre-Columbian use of the cowrie in America is no more justified than to claim for iron working a pre-Columbian age in the western hemisphere on the evidence of the iron celts found by the same Tennessee River expedition in Citico Mound, where absolutely nothing else save four glass beads from a superficial burial suggested the white trader and his wares. In each instance the presence