

Short Notices

General Astronomy. By Dr. H. Spencer Jones. Second edition. Pp. viii+437+28 plates. (London: Edward Arnold and Co., 1934.) 12s. 6d. net.

SINCE the year 1922, when the first edition of the Astronomer Royal's "General Astronomy" was published, the progress of the science has been truly remarkable. Naturally this cannot be said of all that broad field where advance has been slowly and laboriously consolidated by centuries of patient observation. There is a very wide region where methods and ideas are static. They retain their importance, but descriptions of them once given do not call for constant revision. There is, on the other hand, a part of the science, chiefly in stellar astronomy, where the application of modern physical theory has changed the scene, and ideas are in a state of flux.

The second edition of the Astronomer Royal's work preserves an account of those parts of the subject which may be regarded as standard, but it also includes a new treatment of that domain where progress has been most rapid. The author has succeeded in conveying a remarkably comprehensive view of the present state of the science. It is, of course, a trustworthy picture, perhaps a little overcrowded with detail, but on the whole well proportioned. It must be felt that the work in its new form approaches the limit of what can be reasonably compressed within the bounds of a single volume.

An excellent account of the ideas associated with an expanding universe is included. Here no hesitation is shown in accepting the crude Doppler interpretation of the nebular recession. The difficulty presented by the evolutionary time-scale is clearly stated (§ 276). But no mention is made of such possible ways of escape as that suggested by Prof. W. D. MacMillan in his letter in *NATURE* of January 16, 1932, p. 93. Can it be that the abstruse is now preferred for its own sake to the simple?

Biomathematics: being the Principles of Mathematics for Students of Biological Science. By Dr. W. M. Feldman. Second edition, reset and enlarged. Pp. xviii+480. (London: Charles Griffin and Co., Ltd., 1935.) 25s. net.

THE first edition of Dr. Feldman's book appeared in 1923 and filled a serious gap in mathematical literature. It has now been out of print for some years, and a new edition is to be warmly welcomed, there being still no other book covering the same field. The new edition has been extensively revised and many errors have been eliminated. New chapters, on nomography and on the estimation of errors, have been added. The chapter on biometry has been enlarged, and now forms perhaps the best introduction to this important subject for the biologist with only a small knowledge of mathematics.

Dr. Feldman's choice of matter is good, his

exposition is clear, and many of his biological examples are excellent. But it is sincerely to be regretted that he has not sought the criticism of a competent mathematician with regard to the details of his work. Incomplete and misleading statements are not uncommon, and most of them could be eliminated without adding to the difficulties of the reader. The definition of a convergent series on p. 73 is false, as is the statement on p. 124 that the graphs of all cubic functions are S-shaped. Examples of such errors could be multiplied. It is to be hoped that a third edition will at some time be called for and that Dr. Feldman will remove these blemishes from his valuable book.

The Journal of the Institute of Metals. Vol. 55. (No. 2, 1934.) Edited by G. Shaw Scott. Pp. 304+17 plates. (London: Institute of Metals, 1934.) 31s. 6d. net.

THIS volume contains eighteen papers presented at the autumn meeting of the Institute of Metals held in Manchester, together with the thirteenth Autumn Lecture. The latter, delivered by Dr. J. L. Haughton, took the form of a memorial tribute to the late Dr. Walter Rosenhain, and gave an outline of Rosenhain's outstanding contribution to physical metallurgy during his long tenure of office as superintendent of the Metallurgy Department of the National Physical Laboratory.

The most outstanding contribution to metallurgical knowledge contained in this volume comes from the recently founded International Tin Research and Development Council. Mr. D. J. Macnaughtan, the director of research, contributes a paper on "The Improvement of White Bearing Metals for Severe Service", while three other papers sponsored by the same body deal with the behaviour of these alloys under various deformation tests, and present some valuable fundamental data. The very full discussion on these four contributions makes this volume particularly valuable as a work of reference on an important group of alloys.

Bergtechnisches Taschenwörterbuch. Teil I: *Englisch-Deutsch.* Von Prof. W. Schulz, Prof. H. Louis und Bergassessor Goethe. Pp. 90. (Essen: Verlag Gluckauf G.m.b.H., 1934.) 4.20 gold marks.

THIS is a highly specialised glossary of technical terms used in mining, mining engineering and mining geology. It includes, in addition to technical and scientific terms in general use, special terms peculiar to particular localities. This feature should make it particularly useful to German-speaking individuals who wish to read English mining literature, even though the glossary is not free from inaccuracy and lacks some terms which ought to have been included. The complementary German-English part of this handy pocket glossary is promised.