It is difficult, from a perusal of the first two parts, to criticise a work of this kind fairly; but, as a whole, the dictionary includes most of the words one is likely to want. There are, however, a few mistakes and lacunæ, to which we should like to direct attention. Under the heading "air," or "airless," one would naturally expect to find the modern expressions "airless injection oil engine"; "air, blast" (that is, the blast air used in large Diesel engines); or to find the term usually employed in German for "(ventilation) air duct," namely, *Lutte*; but one is disappointed. Again "air capacity, free," that is, the free-air capacity—the usual rating for a compressor—might have been given under *air* as well as under *free*. Then there is a tendency to use the Latinised equivalent, instead of the purely Teutonic word in German; for example, "amplitude of swing" is given as *Schwingungsumplitude*, where the more common forms *Schwingungsweite* or *Schwingungshöhe* are preferable. In their endeavours to use the native word, the Germans are now even using *Vomhundertzahl* or *Vomhundertsatz* in place of the Latin-German *Prozentsatz*. Similarly with the motor expression *Fussakzelerator* for accelerator, instead of the less clumsy *Beschleunigungspedal*. *Schraubenbefestigung* for "screwed-on attachment" is scarcely correct, the appropriate word being *angeschraubter Anschluss*.

In an introduction dealing with the technical translator's art, some valuable hints are given for the user of the dictionary and some of the pitfalls explained. When, however, the compiler states that the "velocity of a falling body" cannot be translated literally into French with pleasing effect, and he suggests instead *vitesse de chute d'un grave*, he departs from the strictly scientific. Physicists in their text-books actually do use *vitesse d'un corps tombant* or *qui tombe*. Referring to the difficulties attending the translation of the word "standard," it should be noted that the Germans use the prefix *Normal-*. . . . (*Normalmasstabe*—standard rule, *Normallehre*—standard gauge; *Normalelement*—standard cell), and that standards in German are *Normen* (cf. *Normenausschuss für die deutsche Industrie* = German Engineering Standards Committee).

These few criticisms apart, the work covers extremely well the ground it sets out to cover, and the inclusion of the Portuguese equivalents will be of real value to those who have occasion to make technical translations for Portugal, Brazil, or Portuguese East Africa.

E. S. HODGSON.

Our Bookshelf.

Die Bahnbestimmung der Himmelskörper. Von Julius Bauschinger. Zweite Auflage. Pp. xv + 671. (Leipzig: Wilhelm Engelmann, 1928.) 59 gold marks.

THE outstanding literature of a comprehensive and practical nature on the subject of the determination of orbits of celestial bodies is contained in five books—Gauss's "*Theoria Motus*" (1809), translated from Latin into English by Admiral Davis in 1857, Watson's "*Theoretical Astronomy*" (1868), Oppolzer's celebrated "*Lehrbuch*" in two volumes (1870 and 1880), Klinkerfues's "*Theoretische Astronomie*" (1871), and finally, the first edition, in 1906, of the volume now before us. All of these were out-of-print, but it is gratifying to note that the most recent has reached a second edition.

Bauschinger's treatment of the subject is a model of simplicity and orderly design, the needs of the practical computer being kept constantly in view. In the early chapters a thorough foundation of spherical and dynamical astronomy is laid. A third of the book is devoted to the laying down of the principles that are to be employed in the actual determination of orbits. The development of the principal subject is clear, concise, and well illustrated by examples. The determination of definitive orbits and of special perturbations also finds a place.

What is perhaps most disappointing is to find so little revision in a work that has enjoyed a deservedly high reputation as the most up-to-date on its subject. Developments of the past twenty years have been dismissed in a few lines each, and some not even mentioned. We should have expected a description of the perturbation method of Cowell and Crommelin, which was used so successfully for the prediction of the return of Halley's Comet, and earned the award of the *Astronomische Gesellschaft* prize; it is not even mentioned, although that of Noumerov, which is merely a modification of Cowell's, is quoted as a "*méthode nouvelle*." The work of the American school under Leuschner is merely cited in a reference. No attempt has been made to describe the simplifications that are rendered possible by the use of calculating machines. The author, in his preface, states that this course has been adopted deliberately, and is careful to point out that it is not due to ignorance of the new methods that have been so summarily excluded.

In view of the non-existence in the English language of any suitable text-book on this subject, translation of the work would be most welcome.

L. J. COMRIE.

Science and Ethics: Conway Memorial Lecture delivered at Essex Hall, Essex Street, Strand, W.C., on April 18, 1928. By J. B. S. Haldane. Pp. 46. (London: Watts and Co., 1928.) 2s. net.

THE number of professional scientific men who realise vividly the importance for ethics of the work they are doing is probably not large; we