Bessel Functions for Engineers. By N. W. McLachlan. Oxford, Clarendon Press, 1934. xi+192 pp.

This is the fourth volume of the Oxford Engineering Science Series. The purpose of the book is to provide engineers and engineering students with a course on Bessel functions and their practical applications. In conformity with this purpose the book is mainly concerned with expansions, formulas, and properties of the functions which are found useful in applications. The mathematical discussions are straightforward and formal with occasional use of the expression "it can be shown." The applications are mainly mechanical and electrical with particular attention to loud-speaker horns—a subject in which the author is particularly interested. The book contains about 600 examples (with answers) to be solved by the reader. At the end there is a rather extensive collection of formulas and brief tables of the principal functions.

H. B. PHILLIPS

Theorie den Konvexen Körper. By T. Bonnesen and W. Fenchel. Berlin, Springer, 1934. vii+164 pp.

This monograph is the first part of the third volume of the excellent series, Ergebnisse der Mathematik und ihrer Grenzgebiete, published by the Zentralblatt für Mathematik. It contains an exhaustive exposition of the theory of convex bodies in n-dimensional spaces, in all its ramifications and connections with differential geometry. Even a superficial perusal of the book will give the reader a clear idea of the importance and interest of this subject which unfortunately is not as widely known as it should be. A more attentive reading will reveal a multitude of results of a perfect beauty and will urge him to turn to a serious study of this fascinating field.

The monograph starts with exposition of fundamental notions of convex sets and bodies, of convex hulls, planes of support, centers of gravity, and classification of boundary points of a convex body (§§1–3). The relationship with the theory of convex functions and their applications to the problem of representation of convex bodies are shown next (§4). The following articles, §§5–6, treat of linear combinations of convex bodies, of linear and concave families of convex bodies, of convergent sequences of convex bodies, and of approximation of convex bodies by means of polyhedra and of analytic convex surfaces. Various important quantities and figures connected with convex bodies are discussed in §§7–8. Such are volume and mixed volume, cross sections, surface area, width, diameter, thickness, and the like. Special attention is given to the integral formulas for volumes and mixed volumes in terms of point coordinates and of functions of support (Stützfunktionen). Next, §§9-10 contain extensions of the methods of symmetrizing which were first introduced by Steiner in his classical investigations on the isoperimetric properties of a circle. Various extension problems and inequalities naturally belong here. Various proofs of the important theorem of Brunn-Minkowski and its numerous applications are treated in §§11-12. Next, §13 deals with the problem of determination of a convex body by means of its curvature functions, including uniqueness and existence theorems. Various special cases of convex bodies (such as convex bodies possessing a center, bodies of constant width, convex