*Geschichte der Mathematik.* By H. Wieleitner. I. *Von den ältesten Zeiten bis zur Wende des* 17. *Jahrhunderts.* Berlin, Vereinigung Wissenschaftlicher Verleger, 1922. 136 pp.

The author of this remarkable little compendium has distinguished himself by numerous valuable contributions to the history of mathematics. This work justifies the expectation of excellence inspired by the demonstrated ability of the writer. Particularly valuable is the summary on Arabic achievements (pp. 44–55) and equally valuable the discussion of the Latin Middle-Ages, commonly neglected.

Up to the time of printing the material is treated by countries; the modern period is subdivided into the development of the older mathematics and the birth of modern mathematics. The first of these sections is discussed under the four topics: the spread of mathematical interest, the development of algebra, of geometry, and of trigonometry. The second section takes up the following topics: the ideas culminating in the infinitesimal calculus, the discovery of differential and integral calculus, the origin of analytic geometry, the beginning of projective geometry, the algebra of modern times, and further development of trigonometry.

Highly commendable is the wise selection and the equitable distribution of the material. The only serious criticism which can be brought is a tendency to minimize the Hindu achievements, giving credit to hypothetical Greek works not yet discovered.

For a rapid survey of the history of mathematics there is no better little treatise than this modest volume, priced at 25 cents, bound.

L. C. KARPINSKI

*Introduction à la Géométrie Non-Euclidienne.* By A. MacLeod. Paris, J. Hermann, 1922. 433 pp.

The plan of this elementary book is similar to that of the first seven chapters of J. L. Coolidge's text (*The Elements of Non-Euclidean Geometry*, Oxford, 1909). The author has followed that text rather closely in some places, but in other places he disagrees with the proofs and substitutes his own. He presents his material in a much less condensed form and adds a chapter on $n$-dimensional geometry (a subject which J. L. Coolidge had purposely omitted).

The book is gratefully dedicated to Professor G. Mittag-Leffler on the occasion of his seventy-fifth anniversary.

E. B. COWLEY

*Nichteuklidische Geometrie.* By Heinrich Liebmann. Dritte, neubearbeitete Auflage. Berlin and Leipzig, Walter de Gruyter, 1923. 150 pp.

The first edition of this book was reviewed in this BULLETIN (vol. 13 (1906–7), pp. 511–12). In this third edition the general plan of the earlier editions has been retained but the material has been further developed, new drawings have been made, and references have been added to books which have been published more recently. Thus the valuable little book has been brought up to date.

E. B. COWLEY