

eries; the former with general axiomatic foundations. The activity of investigation in hyperspace geometry, especially in Italy, is put in concrete evidence by the fact that the section devoted to this subject is the longest in the appendix.

E. KASNER.

*Führer durch die mathematische Literatur mit besonderer Berücksichtigung der historisch wichtigen Schriften.* Von FELIX MÜLLER. Leipzig und Berlin, Teubner, 1909. x + 252 pp.

IN the preface we are told that the present work aims to be a reliable guide through the mathematical literature for all those who may seek self-instruction in any domain of the science. It seems especially suited for those students who desire to complete their lecture notes by means of references to the literature and the history of the subject. In view of the size and the scope of the work it is evident that the specialist will, in general, make little use of it along the line of his specialty, but he will find in it much general information in a convenient form. It has been made generally and permanently accessible by its appearance in the *Abhandlungen zur Geschichte der mathematischen Wissenschaften*, Heft XXVII.

In general, each chapter begins with a brief statement of the main features of the subject to which the chapter is devoted and some historical notes relating to the origin of the subject. This is followed, in order, by a selection of classic works, newer textbooks, fundamental memoirs, and articles devoted to special parts of the subject. Great care has been exercised as regards the exact titles and references, but the number of these is so large as to make errors almost unavoidable. Some of them have been corrected on the five pages of *Nachträge und Verbesserungen*. Among those which have escaped we may mention W. J. Stringham on page 219 in place of W. I. Stringham, J. J. Hutchinson on pages 124 and 242 in place of J. I. Hutchinson, two incorrect numbers (7, 518) following Blichfeldt on page 236, and two (205, 218) following Halsted on page 241. The latter numbers should have been entered under Halphen.

The first forty-seven pages are devoted to the history of mathematics, biography, collected works, periodicals, bibliography, and encyclopedias. For many readers this will doubtless prove the most valuable part of the volume, since it contains a large amount of information which cannot be easily gathered