merely the original place of publication of the theorems cited; there are
no supplementary remarks. The enlarged list of literature over that given
in the first edition testifies to the growing interest in the subject of aggre-
gate theory—an interest which the appearance of the *Grundzüge* did much
to arouse and foster. The index is remarkably complete, and is an improve-
ment over that of the first edition in that it contains also references to
authors. Another improvement is the consecutive numbering of sections.
The work of the publishers is excellent. We have discovered only a few
unimportant misprints.

It is not within our province to criticize the author's choice of material.
The book aims to be a textbook and not a report on the subject of aggregate
theory, and therefore many topics have had to be omitted altogether, and
in the case of those topics which have been included a choice of theorems
has had to be made. Under such circumstances, the only criterion for the
goodness of the author's choice is the taste of the individual reader.

The *Grundzüge* has been out of print for the past four years and we
therefore heartily welcome the appearance of this new edition. We wish to
state without qualification that this is an indispensable book for all those
interested in the theory of aggregates and the allied branches of real variable
theory and analysis situs. If we have seemed critical of some phases of the
book, it is only because this excellent book is not better.

H. M. GEHMAN

GENERAL MATHEMATICS IN EUROPE

Leçons de Mathématiques générales. By L. Zoretti. With preface by P.
    Appell. Second edition. Paris, Gauthier-Villars, 1925. 16+788 pp.

Nouveau Traité de Mathématiques générales. By C. Fabry. Fourth edition.
    Vol. 2. Paris, Hermann, 1925. 276 pp.

Einführung in die Elemente der höheren Mathematik. By H. Hahn and
    H. Tietze. Leipzig, Hirzel, 1925. 12+331 pp.

Cours Complet de Mathématiques Spéciales. By J. Haag. Vol. 1, *Algèbre et
    Analyse.* 1914. 6+402 pp. Vol. 2, *Géométrie.* 1921. 7+662 pp.
    Vol. 3, *Mécanique.* 1922. 8+192 pp. Paris, Gauthier-Villars.

In the United States the term "general mathematics" has been used
recently to denote a course for high school students. Such a course may
have many advantages but it presents a troublesome problem to educa-
tional authorities when a pupil seeks entrance to college. It is difficult
to determine whether certain definite entrance requirements have been
met and it is sometimes equally puzzling to know whether the student is
qualified to take certain courses in the college curriculum. General mathe-
matics in a high school may consist of a mixture of arithmetic, algebra,
geometry, and trigonometry in all sorts of proportions. The purpose usually
is to prepare the pupils for practical living and college preparation is not
the chief aim of the course.

On the continent of Europe the term "general mathematics" has been
used to denote a course corresponding more nearly to those given in

American colleges. The course consists of a mixture of analysis, geometry, and mechanics, the emphasis on different topics varying considerably with the authors. The purpose is to furnish the mathematical equipment required by physicists, chemists, engineers, and other scientists and the training of mathematicians is not the chief aim of the course.

The first edition of the book by Zoretti was well reviewed by Professor J. B. Shaw in this Bulletin (April, 1918, p. 355). The second edition differs from the first only in a few details, notably in an increase of the use of graphical methods and in the omission of the chapter on elliptic functions.

The book by Fabry, of which only the second volume is at hand, is now in its fourth edition, from which we may infer that the book has been successful in meeting the need for which it was designed. This volume includes analysis, mechanics, and theory of errors.

The book by Hahn and Tietze covers much less ground than the others and the point of view is that of the pure mathematician. The four parts into which the book is divided are: 1. Numbers; 2. Functions; 3. Differential Calculus; 4. Integral Calculus. The first two parts give an exposition of the elements of the theory of functions of real variables, furnishing a firm foundation for the introduction to the calculus which follows.

The work by Haag is more extensive than any of the others. It is based on a course given by the author preparing students for entrance to the École Polytechnique and the École Normale Supérieure, but has been extended considerably beyond this course with the idea of giving adequate preparation for advanced work in mathematics. Apparently this accounts for the title "special mathematics." A student of the so-called general mathematics would be expected to omit certain parts.

The complete work consists of four volumes. In addition to the three listed above, volume 4 has been announced with the title "Géométrie descriptive. Trigonométrie." Each volume of text is accompanied by a separate volume of exercises, some of which are worked out while others are left to the student. The author lays great stress upon the exercises as necessary for a complete understanding of the subject matter and has provided a very generous collection. Any student who would follow the author's advice and work through the volumes of exercises after studying the corresponding text, could not fail to be well grounded in the mathematics usually covered in America through the first year of the graduate school.

W. R. LONGLEY