His epoch-making discoveries in the theory of elliptic functions when only twenty-three years of age excited the admiration of all Europe, while his many and profound researches rapidly rendered him one of the most celebrated mathematicians of his day. But Germany had had great mathematicians before; Leibniz, Euler, the Bernoullis, not to mention later ones. What distinguishes Jacobi from his predecessors is the fact that he was a great teacher. In this respect he was the very opposite of his great contemporary Gauss, who disliked to teach, and who was anything but inspiring. Jacobi's lectures were models of clearness; the enthusiasm of the teacher kindled a like enthusiasm in his pupils. He took the unprecedented step of making his more gifted students acquainted with his own unfinished investigations and stimulated them to attack problems suggested by these researches. The results were most gratifying, for ere long we see his pupils, Hesse, Goepel, Rosenhain, Richelot, and others, publishing important memoirs.

It is not our intention, however, to write a sketch of Jacobi's life, but rather to call attention to the interest and the lessons which it has for us. We feel sure that no reader will regret perusing Professor Königsberger's biography, which is obviously a labor of love and the result of long and patient research. A feature of the work deserves especial commendation, and is most unusual. All of Jacobi's principal papers are carefully analyzed and the growth and filiation of his mathematical ideas stand forth in bold relief. It has no doubt cost his biographer months of patient study to do this; but the results here given will prove of utmost service to future generations of mathematicians who seek a rapid orientation of the leading facts in any part of Jacobi's multitudinous and varied publications.

JAMES PIERPONT.

Uebungsbuch zum Studium der höheren Analysis. VON OSKAR SCHLÖMILCH. Erster Theil: *Aufgaben aus der Differentialrechnung.* Fifth edition, prepared by Dr. E. NAETSCH. Leipzig, B. G. Teubner, 1904. 8vo. viii + 372 pp.

THIS work whose first edition appeared more than thirty years ago has enjoyed a well-merited popularity, both on account of the variety and careful choice of its problems and also the elegance and instructiveness often exhibited in their solutions. Numerous additions have been made in this, the fifth edition, giving fresh interest to the work. The problems

relating to curves and surfaces, maxima and minima, limits and infinite series, are especially praiseworthy.

JAMES PIERPONT.

A Course in Mathematical Analysis, by EDOUARD GOURSAT, Professor of Mathematics in the University of Paris; translated by EARLE RAYMOND HEDRICK, Professor of Mathematics in the University of Missouri. Volume I. Ginn and Company, Boston, 1905. 8vo. viii + 548 pp.

THE French edition of this work was published in 1902, and it was reviewed in the BULLETIN.* While it is true that advanced students of mathematics recognize the necessity of learning to read mathematical French and German, and equip themselves duly in this respect, the undergraduate finds the additional difficulty of a foreign language a serious handicap in the use of a mathematical text-book. And yet it is precisely for the undergraduate, the student in the second course in calculus and the first course in the theory of functions, who is perhaps preparing to specialize in applied mathematics and will not carry his study of analysis beyond the undergraduate courses, that Professor Goursat's book contains so much which is important but at present is not to be found in English text-books. Professor Hedrick has prepared the translation with great care and has made it a worthy reproduction of this standard work. In his preface he says: "Few alterations have been made from the French text. Slight changes of notation have been introduced occasionally for convenience, and several changes and additions have been made at the suggestion of Professor Goursat, who has very kindly interested himself in the work of translation." To the publishers is due much credit for the excellent typography of the book. Niceties of spacing and arrangement of the formulas, which hitherto have usually been neglected by American and English printers, here contribute to make the page extremely attractive.

WM. F. OSGOOD.

Elementary Modern Geometry. Part I.: *Experimental and Theoretical, Triangles and Parallels.* By H. G. WILLIS. Oxford, Clarendon Press, 1905. v + 236 pp.

THE order of sequence of the adjectives in the above title might lead to a misunderstanding; the subjects treated are those

* Cf. BULLETIN, ser. 2, vol. 9 (1902–03), p. 547.