Hessian curves, least squares, line coordinates, potential, and the like, all of which when used are accompanied by explanations of their nature sufficient for the purpose of the problems.

While the author in the preface would give the impression that the fields of geometry, physics, and engineering are equally represented in the collection, yet even a casual glance reveals that the geometric side of the calculus is emphasized more than the other two, and an abundance of interesting geometric properties of curves and surfaces is brought out. Problems involving numerical calculations and the use of tables are brought in frequently, a procedure calling for definite results, and well worth while.

Instructors of the calculus will find in the collection much material to supplement any course given where new problems are welcome; while authors of text-books on the subject might easily receive many valuable suggestions from a perusal of its pages.

The volume is in every way typographically, both in print and figures, up to the high standard of the Sammlung Teubner; in its specific field it fills a practical need, and because of the excellence of the first part the volume on the integral calculus is eagerly awaited.

ERNEST W. PONZER.

Differential and Integral Calculus. By PROFESSOR DANIEL A. MURRAY. New York, Longmans, Green and Company, 1908. xviii + 491 pp.

THE aim of the author of this text-book has been (to quote from the preface) "to describe and emphasize the fundamental principles of the subject in such a way that, as much as may reasonably be expected, they may be clearly understood, firmly grasped, and intelligently applied by young students"; and again, "the aim has been to write a book that will be found helpful by those who begin the study of calculus without the guidance and aid of a teacher." This is by no means a simple undertaking in view of the inherent and essential difficulties of the subject. The notion of a limit is fundamental; and while students readily acquire more or less vague ideas on this subject, it seems to be difficult for most of them to get a clear and accurate conception of it. This difficulty must be squarely faced; fundamental definitions and principles must be set forth in language that is accurate and therefore necessarily technical.