Exercices d'Analyse. By Gaston Julia. Paris, Gauthier-Villars. Vol. 2, 1932,
   iv+344 pp.; Vol. 3, 1933, iv+287 pp.

These two additional volumes of exercises in analysis continue in the same
spirit as that of the first volume which was reviewed by E. Hille in this Bulle-
tin, vol. 35, p. 739. Indeed the method adopted for all three books is the same,
namely that of treating (solving) each of a relatively small number of prob-
lems in several very distinct ways and of comparing the different methods em-
ployed in these solutions. The volumes constitute a set of varied exercises
which figure in the programme of certification of the differential and integral
calculus at the École Normale Supérieure, the Sorbonne, and other schools.
They in no sense replace the material of Goursat's *Cours d'Analyse*, but are,
rather, companion volumes designed primarily for those students preparing for
the examinations of the *licence* and the *aggrégation*. Some of the exercises are
new while others have been taken from past examinations. In volume 2 (analy-
sis), Chapters 2 and 4 and parts of Chapters 1 and 5, being descriptive in char-
acter, are more like the standard text-book. The third volume (differential
equations) is given over wholly to the 45 problems contained therein.

Most of the problems have at least two solutions, some have as many as
four. The results as well as the methods employed are made use of in applica-
tions which accompany the solutions; and there are such applications or re-
marks associated with almost every exercise. The tables of contents themselves
number 12 pages and 17 pages, respectively. It would not be feasible, therefore,
to consider here and in detail the variety of topics discussed; but the chapter
headings of the two volumes will give some indication of the scope of the works.
These are, in condensed form: vol. 2, (1) *Analytic functions*, (2) *Development in
series*, (3) *Residues*, (4) *Analytic transformations*, (5) *Conformal mapping*;
vol. 3, (1) *Methods of integration* (in which are treated integration by quadra-
tures, Riccati's equation, etc.), (2) *Linear equations* (with special reference
to singular points, transformations, etc.), (3) *Singular integrals*.

It is evident that the high standards of achievement required of the French
student of mathematics can be matched by no such requirements even in the
very best of our American universities.

C. O. OAKLEY

Lehrbuch der höheren Mathematik für Universitäten und Technische Hochschulen.
   By Gerhard Kowalewski. Berlin and Leipzig, Walter de Gruyter, 1933.
   Vol. I, 208 pp., Vol. II, 240 pp.

These two volumes will be followed by a third; the three volumes were
prepared by Professor Kowalewski (Dresden) after nearly thirty years teach-
ing experience. Beginning with analytic geometry he develops a wide variety
of mathematical topics following an order of arrangement and methods of
presentation which are not customary to American texts. In the first volume,
Vektorrechnung und Analytische Geometrie, after defining vectors, vector opera-
tions, and vector properties, he uses vector notions to develop the theory and
use of homogeneous coordinates for the points of a plane and of a line, the
transformation of coordinates, principal properties of determinants, some
geometric properties of triangles and quadrilaterals, homogeneous and non-