how Pluecker, Cayley, Klein, and others, using analytic methods freely, still further extended this palace of pure reason. Non-euclidean geometry and n-dimensional geometry, quaternions, and Lie's and Grassmann's theories, are shown in their setting.

Chapters 39, 40, and 41 are inserted between the first and second parts of the discussion of modern geometry (which does not imply that this order is necessarily to be criticized, as *some* regard must surely be paid to chronology). They take up respectively German mathematics, culminating with Gauss; the beginnings of modern analysis under Bolzano, Cauchy, Abel, and Jacobi, and mathematical physics, with Fourier, Ampère, Poisson (why not Laplace, who seems to be missing from this chapter?), Green, Stokes, Maxwell, Kelvin, and Helmholtz, to mention only the most outstanding names.

Chapter 44 is devoted to the later 19th century's contributions to analysis, and probably comes too near our own times to enable one to make a very just estimate of the relative value of extensive additions and improvements that have been introduced, and which Professor Loria indicates in about fifty pages. The final chapter, Chapter 45, deals with the historians of mathematics, in fifteen pages.

The three-volume history of Loria's must be regarded as not only the most recent but one of the most valuable of the general histories of mathematics; and it would seem eminently desirable that an English version should be published and made available to every student of our science who has any interest in the study of its growth and development.

R. B. McClenon

Les Corps Algébriques et La Théorie des Idéaux. By O. Ore. (Mémorial des Sciences Mathématiques, Fascicule LXIV.) Paris, Gauthier-Villars, 1934. 71 pp.

This book contains a clear and concise development of the fundamentals of the theory of algebraic numbers and the theory of ideals in algebraic fields. The author begins with an account of rational approximation and criteria for algebraic numbers. The second chapter contains an exposition of the fundamental properties of algebraic fields, their integral bases and discriminants. Minkowski's theorem on linear forms is stated without proof. Chapter 3 is an account of the theory of ideals. The author gives a simple proof for the theorem of unique prime ideal decomposition based on ideas of Krull and van der Waerden. The treatment of residue classes and congruences for ideal moduli is complete and concise in Chapter 4. In Chapter 5 the author gives a new proof of the Dirichlet theorem on units based on a neat generalization of the Kronecker theorem identifying as roots of unity all integers whose conjugates lie sufficiently near the unit circle.

Although the book does not pretend to be exhaustive and subjects such as the relation between the defining equation and the arithmetic of the field or the ideal structure of the discriminant divisors are not included, the author has been very successful in making clear many outstanding problems in the subject. An extensive bibliography is appended. The book will be extremely valuable for beginning students.

H. T. Engstrom