

*Les Rayons  $\alpha$ ,  $\beta$ ,  $\gamma$  des Corps Radioactifs en Relation avec la Structure Nucléaire.*

By Madame P. Curie. (Actualités Scientifiques et Industrielles, No. 62.)

Paris, Hermann, 1933. 40 pp.

In this monograph, which is quite non-mathematical, the famous discoverer of radium, whose recent death was a great loss to science, discusses the recent attempts to obtain information about the nature of the nuclei of atoms from a study of the inhomogeneities present in their radiations. Reference is made to the complexities introduced by the recent conceptions of neutrons and positrons. The experimental evidence seems to support Gamow's hypothesis that the nucleus, like Bohr's atom, possesses energy levels,  $\alpha$ -particles playing the role of electrons.

F. D. MURNAGHAN

*Vorlesungen über Projektive Geometrie.* By C. Juel. Berlin, Springer, 1934. xi+287 pp.

C. Juel, who is professor emeritus at the Technical High School of Copenhagen, has written a book on projective geometry with special consideration of von Staudt's theory of imaginaries.

He assumes a knowledge of ordinary real projective geometry as for example contained in F. Enriques' *Vorlesungen über projektive Geometrie*. Professor Juel has succeeded in giving as clear a treatment as possible of an otherwise cumbersome and somewhat obsolete method. At the present time one is inclined to make use of the much more effective and elegant analytic-geometric method with its great time-saving factor.

Among the particular features of the book may be mentioned chapters on the plane cubic curve and the quadratic transformation.

ARNOLD EMCH

*Theorie der Funktionen Mehrerer Komplexen Veränderlichen.* By H. Behnke und

P. Thullen. Ergebnisse der Mathematik und ihrer Grenzgebiete, Volume 3.

Berlin, J. Springer, 1934. 115 pp.

This little book surveys in a compact and scholarly fashion the present status of some basic questions in the yet immature but rapidly developing subject of functions of several complex variables. The authors acknowledge their initial indebtedness to Osgood's *Lehrbuch der Funktionentheorie*, II, 1: *Grundlagen der allgemeinen Theorie der Funktionen Mehrerer Komplexen Größen*, 1924, comparison with which gives evidence of the progress achieved during the last decade.

The chapter headings suggest the scope of this work: I. Domains over the extended space. II. Geometrical foundations. III. Representation of regular functions by elementary series. IV. Singular manifolds. V. Distribution of zeros and of nonessential singularities. VI. Theory of domains of regularity and of shells of regularity (Regularitätshüllen). VII. Transformation theory. Much of this work is of necessity occupied with extending familiar concepts in an obvious way either from one variable to  $n$ , or from real geometry to complex. The authors contrast two traditional types of  $n$ -space, one called by Osgood the "space of analysis," and having  $n$  hyperplanes at infinity, and the other the projective space having a single hyperplane at infinity. Instead of