BOOK REVIEWS

Les méthodes modernes du calcul des probabilités et leur application au problème de la turbulence. By J. Bass. (Groupement français pour le développement des Recherches Aéronautiques, rapport technique no. 28.) Paris, 1946, 241 pp.

This is a technical report on methods of probability theory and their application to the problem of turbulence. It completely fulfills its purpose which is to give to the physicists a thorough picture of the theories involved as they stood in 1944. It contains also indications of the contributions of the author and of other French mathematicians in 1945 but nothing about the contributions of Kolmogoroff and his school, unknown in France at the date of publication (1946). The author does not intend to give complete and rigorous proofs but mostly indicates the lines along which such proofs have been obtained.

The first part deals with probability theory. In the first four chapters the author treats stochastic processes with independent increments and Markoff chains. Chaps. V to VIII are concerned with random functions: stochastic differentiation and integration, and the stationary case.

The second part deals with the statistical theories of turbulence. It starts with the Navier equations and the Reynolds theory, examines the Taylor theory, then the Dedebant and Wehrlé theory, and finishes with the spectrum and the levels of perturbation.

M. LOÈVE

Rings and ideals. By N. H. McCoy. (Carus Mathematical Monographs, no. 8.) Buffalo, Mathematical Association of America, 1948. 12+216 pp.

A ring is a set of elements which forms an abelian group under addition and is closed under multiplication which is associative and distributive. Postulates for a ring differing only slightly from the above were given by Fraenkel in 1914.

The modern theory of linear associative algebras dates from Wedderburn's thesis of 1907. A linear associative algebra is a ring which is specialized by possessing a finite basis relative to a field. This basis plays an essential part in Wedderburn's treatment and in most of the work which has followed it. Several attempts have been made, one by Wedderburn himself, to extend the theory to algebras with an infinite basis. Probably the most successful generalization was made by Artin in 1927 by ignoring the basis and extending the main