these points. It will be disappointing to many, as it is to the reviewer, that Fowler has not included a critical discussion of the fundamental postulates of statistical mechanics, especially since the whole subject is approached from a quantum mechanical viewpoint. To be sure, an exposition of the work of von Neumann in this connection would be "somewhat lengthy and would form a portion necessarily out of tune with the rest of this monograph," but the more elementary treatments instigated by Jordan and Pauli would seem to be well worthy of inclusion.

The book itself is a veritable mine of information, the theoretical treatment and the discussion of experimental data being well mixed throughout the work. The author has also ventured somewhat outside the field of statistical mechanics to present the theory of those non-equilibrium flow problems in which many of the results of equilibrium theory can be applied as a good approximation.

In view of the tremendous scope of the book it seems appropriate to outline the contents. After an introductory chapter stating the fundamental assumptions of the theory, the next three chapters are concerned with the equilibria of perfect gases, crystals, and any general system obeying classical laws. Chapter V discusses problems of dissociation and evaporation and Chapter VI treats the connections between statistical mechanics and thermodynamics in detail, merging into the material of the next chapter which presents the Nernst heat theorem and chemical constants. The three following chapters extend the theory of imperfect gases, equations of state, and a survey of intermolecular forces as derived from imperfect gas equations and allied crystal data. Chapter XI covers the field of thermionics and the simpler aspects of conduction of electricity and allied effects in metals, and this is followed by a chapter on magnetic and dielectric properties of matter in bulk, including ferromagnetism. Chapter XIII attempts to develop the theory of liquids. The next three chapters contain the theory as applied to the high temperatures inside and outside the stars, whereas the next three contain detailed studies of the laws to which the mechanisms of interactions must conform in order to preserve the equilibrium laws. The next chapter is devoted to fluctuation phenomena, and the final chapter summarizes some recent work, principally along the lines of cooperative phenomena.

The book has been produced in the superlative style of the University Press and stands as an invaluable contribution to the literature on statistical mechanics.

N. H. FRANK

Généralités sur les Probabilités. Variables Aléatoires. By M. Fréchet. Paris Gauthier Villars, 1937. xvi+308 pp.

This book belongs to the series bearing the general title *Traité du calcul des probabilités et de ses applications*, edited by E. Borel. It is the first book of Fascicule III of Tome I of this series. Tome I is entitled: *Les principes de la théorie des probabilités*, Fascicule III: *Recherches théoriques modernes sur la théorie des probabilités*. This Fascicule III is divided into two books. The first book, which we have here under consideration, is mainly devoted to the