Electrolyte Theory. An Elementary Introduction to a Microscopic Approach. By PIERRE M. V. RÉSIBOIS, Université Libre de Bruxelles. Harper and Row, 49 East 33D St., New York, N. Y. 1968. x + 166 pp. 16 × 24 cm. $11.25.

Changes in the most effective way to teach subjects like electrochemistry are often motivated by continuing progress in the statistical-mechanical theory of liquids. This book nicely illustrates such trends. Professor Résibois offers here a short introduction to some of the fundamental concepts of electrochemical theory in a distinctly modern manner. The text has grown out of a lecture series given by the author to advanced undergraduates, but it seems to be a potentially valuable guide not only to graduate students polarized toward theoretical work, but also to more mature electrochemists who wisely choose to stay abreast of current theoretical thinking.

The book's objective is relatively modest. The author sets out primarily to derive and explain the low-concentration limiting laws for both electrolyte thermodynamic behavior and linear transport properties. He accomplishes this task with erudition, but not arrogance. Although molecular distribution function theory provides the prevalent language, the approximations are honestly displayed and given clear motivation. Furthermore, simple intuitive explanations for the existence of the limiting laws are offered.

A substantial portion of the book is devoted to the theory of Brownian motion. This material is a valuable exposition in its own right, quite apart from electrochemical applications.

The reader might well be warned that the emphasis is on the physical (rather than chemical) aspects of electrochemistry. Nevertheless, it should become clear to anyone who studies this book carefully exactly where in the general theory the distinctively chemical differences between various salts and solvents would have to enter.

One important phenomenon which was not mentioned, but whose inclusion would be pedagogically consistent with the material offered, is ionic retardation due to solvent dielectric relaxation. Unfortunately, this effect (associated over several decades with the

names Born, Fuoss, Boyd, and Zwanzig) seems to be totally unreported in textbooks of electrochemical principles.

The book seems to contain a rather large number of small errors and misprints, considering its size. The publisher could henceforth show concern for its reading public by inserting an Erratum sheet with further copies offered for sale.

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