calculations are liberally interspersed throughout this 240-page book. A seven-page subject index helps the reader to locate topics of special interest.

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New Instrumental Methods in Electrochemistry. Theory, instrumentation, and applications to analytical and physical chemistry. Paul Delahay. Interscience, New York–London, 1954. 454 pp. Illus. $11.50.

Everyone who has followed the rapidly increasing interest in the development of electrochemical methods, which are of interest to both analytical and physical chemists, will welcome this textbook written by one who himself has contributed extensively to these new developments. The theoretical fundamentals and critical examination of the new methods are presented in sufficient detail, along with some data from typical experiments. In the mathematical derivations, after the problem is set up and the assumptions are clearly presented, the details are omitted. However, the solution of each diffusion problem is discussed fully.

Part I begins with a chapter that reviews the newer electrochemical methods. This is followed by 9 chapters that discuss subjects such as electrode potentials and the kinetics of electrochemical reactions, also voltammetry and polarography at constant potentials for reversible, irreversible, kinetic, and catalytic processes. Here is presented the work that has been done in the field of irreversible waves and kinetic currents by such pioneers as Brdicka, Wiesner, Koutecky, and not least by the author himself. Throughout the entire book numerous references are given to the original literature. There are chapters dealing with polarography using continuously or periodically changing potential, or voltammetry at controlled current in stirred solutions or with moving electrodes. There is even a chapter on the use of polarized electrodes in potentiometric titrations. More than half of the text is devoted to Part I.

Coulometry and electrolytic separations are presented in Part II. Here one can find, for example, a description of recently introduced methods of coulometry at controlled potentials or coulometric titrations, or even methods for determining the thickness of metallic coatings and corrosion films.

The chapter in Part III on the use of high-frequency circuits, written by Charles N. Reilley, presents a well-written mathematical analysis of both the condenser and coil types of circuits, together with applications and instrumentation. The discussion outlines the possibilities of this new analytic tool not yet fully explored in the laboratory.

In Part IV descriptions are found of the instruments and circuits that are required and have been designed for these newer techniques. Here are diagrams of various types of electrodes for electrolysis, circuits for electric integration or differentiation, or various kinds of coulometers.

In the appendix there is a brief presentation of the Laplace transformation, which the author uses extensively for the solution of the partial differential equations that are developed at numerous places in the text. This indicates the thoroughness with which the author has presented his subject.

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Water Supply and Waste-Water Disposal. Gordon Maskew Fair and John Charles Geyer. With a chapter (on water chemistry) by John Carrell Morris. Wiley, New York; Chapman & Hall, London, 1954. xii + 973 pp. Illus. $15.

The first half of this work deals with the collection and distribution of water and the collection and removal of waste water. The second half deals with the treatment of water and waste water. Among the topics presented with accompanying examples are analysis of hydrologic data, collection of surface and ground water, water supply and drainage of buildings, flow in sewers and their appurtenances, biology of water and waste water, and industrial water supply and waste-water disposal.

This book sets forth many of the important advances that reduce water sanitation to an orderly process of calculation. In order to emphasize fundamentals, the authors have classified the subject matter according to principles. "Principles rather than practice, methodology rather than method, and rationality rather than rule of thumb" are stressed. To give emphasis to principles, a structural rather than a functional treatment of subject matter has been chosen. "This has made for an integrated discussion of water supply and waste-water disposal." Such a presentation in my experience and in that of some other teachers in the field has not been found successful below the second year of postgraduate study.

This is not a handbook on engineering practice (descriptions of materials, methods, equipment, and structures have been kept to a necessary minimum). It is intended however as a reference for practicing engineers. An appendix includes useful tables and a diagram that facilitates the solution of the Williams-Hazen formula for the flow of water in pipes.

Especially commendable features are the chapter, "Statistical analysis of quantitative information"; the chapters, "Ground water" and "Collection of ground water," which include much-needed discussions of the hydrologic and hydraulic aspects of the problem of evaluating ground-water resources; the chapter, "Physical properties of water"; the treatment of acid-base equilibria and oxidation potentials in the chapter, "Elements of water chemistry"; and the extensive coverage of the literature.

It is unfortunate that the two chapters on ground water are separated by the chapter, "Surface water collection." The omission of reference to Dorsey's