In a paper on color centers in alkali halides, it appears that an original contribution was made, but no outstandingly new discoveries are presented. In this work, the photoelectric and optical absorption of silver chloride and silver bromide were studied as functions of wavelength and heat treatment. It was concluded that in the silver halides F-centers analogous to those already found in alkali halides are formed under the action of ultraviolet light, x-rays, or heat. The conclusions are of interest in connection with the theory of the latent photographic image.

It should also be pointed out that, although the publication date of the book is 1953, all the papers presented in this translation had previously appeared in Soviet journals during 1950 and 1951. For those who are interested in the subjects included in this volume, and who read German but not Russian, perusal of the book may be worth while.

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Modern Aspects of pH. With special reference to plants and soils. James Small. Van Nostrand, New York, 1954. xi + 247 pp. Illus. $5.

The technologic importance of *p*H measurements stems largely from the use of *p*H numbers to characterize the acidic and basic properties of a wide variety of materials—suspensions, solutions in nonaqueous media, and even soft solids. It is clear that these numbers have little or no significance in terms of hydrogen-ion concentrations, and none is usually needed. The operational definition of the "practical" experimental *p*H places these diverse measurements on a sound, reproducible basis and also clarifies the meaning of the *p*H in the rare instance where a fundamental interpretation is justifiable. Within the past 5 years, this approach has received the endorsement of the A.S.T.M., the National Bureau of Standards, and the British Standards Institution.

It is these "modern aspects" to which the title of this book refers. If the true *p*H factor is linked too closely to hydrogen-ion concentrations, the *p*H of a plant sap, for example, is not likely to be accurately determined. Within the compass of the new definition, however, the *p*H of plant sap is a number obtained by a prescribed experimental procedure. The earlier equivocations of concentration, activity, and liquid-junction potentials enter the picture only when the fundamental meaning of this experimental value is examined. Hence, the author's view that "the new empiricism" allows only first-decimal accuracy in *p*H values seems unjustified.

To counter a misleading title, the author, professor of botany at Queen's University, Belfast, has chosen the subtitle "With special reference to plants and soils." The work, an outgrowth of his earlier volume *pH and Plants,* is a readable and informative presentation of the role of *p*H in controlling the growth and color of plants and the activity of enzymes and plant hormones. The significance of *p*H in agriculture and ecology is also treated, and there is a short chapter on industrial applications. Attractive features of the book are the convincing arguments for the utility of buffer index values and the discussion of the base avidities of surfaces and the "suspension effect." Both subjects have failed heretofore to receive the attention they deserve. The book will be of particular interest to botanists and agronomists. The paper and binding are of fair quality.

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New Books

Two Years in the Antarctic. E. W. Kevin Walton. Philosophical Library, New York, 1955. 194 pp. $4.75.

Experimental Cookery from the Chemical and Physical Standpoint. Belle Lowe. Wiley, New York; Chapman & Hall, London, ed. 4, 1955. 573 pp. $7.50.

Animal Life in Deserts. A study of the fauna in relation to the environment. P. A. Buxton. St Martin's Press, New York, ed. 2, 1955. 176 pp. $4.25.

Traité de Zoologie: Anatomie, Systématique, Biologie. vol. XII, *Vertébrés.* Pierre P. Grasse, Ed. Masson, Paris, 1954. 1145 pp. F. 10,550.

Let's Have a Better World. A program for progress and survival. Daniel Wolford La Rue. Exposition Press, New York, 1955. 240 pp. $4.

Catalogue of the Type Specimens of* Microlepidoptera *in the British Museum (Natural History) described by Edward Meyrick. vol. I. J. F. Gates Clarke. British Museum Natural History, London, 1955. 332 pp. £3.

Diseases of the Nervous System. Described for practitioners and students. F. M. R. Walshe. Williams & Wilkins, Baltimore, ed. 8, 1955. 357 pp. $7.

Grain Crops. Harold K. Wilson. McGraw-Hill, New York–London, ed. 2., 1955. 396 pp. $6.50.

Antibiotics Annual 1954–1955. Proceedings of the 2nd annual symposium on antibiotics. Henry Welch and Felix Marti-Ibanez, Eds. Medical Encyclopedia, New York, 1955. 1154 pp.

Experiments in Organic Chemistry. Louis F. Fieser. Heath, Boston, ed. 3, 1955. 359 pp. $5.25.

Flight Handbook. A complete introduction to aviation. Maurice A. Smith, Ed. Philosophical Library, New York and Iliffe, London, ed. 5, 1954. 282 pp. $6.

An Introduction to Stochastic Processes with Special Reference to Methods and Applications. M. S. Bartlett. Cambridge Univ. Press, New York, 1955. 312 pp. $6.50.

Introductory Applied Physics. Norman C. Harris and Edwin M. Hemmerling, McGraw-Hill, New York–London, 1955. 729 pp. $6.75.

Electrons, Atoms, Metals and Alloys. William Hume-Rothery. Philosophical Library, New York and Iliffe, London, ed. 2, 1955. 387 pp. $10.

Mathematical Foundations of Quantum Mechanics. John Von Neumann. Trans. by Robert T. Beyer. Princeton Univ. Press, Princeton, 1955. 445 pp. $6.

The Nitrogen Metabolism of Micro-organisms. B. A. Fry. Wiley, New York; Methuen, London, 1955. 166 pp. $2.

Fundamentals of Plant Science. A laboratory manual. G. W. Prescott and J. C. Elliott. Burgess, Minneapolis, 1955. 271 pp. $4.