

Book Reviews

The Fundamentals of Electric Log Interpretation.

M. R. J. Wyllie. Academic Press, 1954. x + 126 pp. Illus. \$3.60.

Electric well logging is a method that measures the naturally occurring potentials set up at varying depths in the drilling mud of a bore-hole and the electric resistivities of the rock formations penetrated. Because these quantities depend on the permeability, porosity, and interstitial fluid content of the subsurface formations, the electric log has become one of the chief tools of the petroleum geologist and engineer. Qualitatively, the log may be employed for the identification of sedimentary strata and their correlation from one well to the next and, in simple cases, for an evaluation of whether specific beds may contain oil or gas or water. Quantitative interpretation is, however, necessary for more complex situations and for determining more precisely the effective porosity of a rock and the nature and percentage of the fluids filling the pore spaces.

The small book under review presents in simple and clear language the basic principles underlying the quantitative aspects of the electric log. Part 1, "The theory of quantitative log interpretation," is a singularly clear exposition of the physics of the materials involved and of the basic equations used to obtain the data desired from electric logs. Part 2, "The practice of quantitative log interpretation," has an especially fine discussion of the spontaneous-potential curve.

Because he considers that the interpretation of conventional resistivity logs is well covered by the widely known Schlumberger Documents Nos. 3 and 4, the author's chapter on these logs is incomplete. This is to be regretted as the one weakness in what would otherwise be a well-nigh perfect elementary textbook.

Brief but adequate treatment is given to the newer logging techniques that employ current-focusing and contact devices and induction.

This book is highly recommended to all nonspecialists who use the electric log.

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Los Trigos de la Ceres Hispánica de Lagasca y Clemente. Ricardo Tellez Molina and Manuel Alonso Peña. Instituto Nacional de Investigaciones Agronómicas, Madrid, 1952. xii + 516 pp. Illus. + plates.

The basis for this study is the collection of 1800 herbarium specimens of the genus *Triticum* made early in the 19th century by two Spanish botanists, Lagasca and Clemente. Through analysis and revision, Molina and Peña have reduced the original 30 species and as many "races" to the modern concept of eight species and varieties according to Korniche's system.

The taxonomic treatment in Part Two (354 pp.)

comprises the major portion of this work and contains related data, transcriptions of the annotations, and locality notes. It is in effect a catalog of all the materials earlier developed by Lagasca and Clemente as the *Ceres española*.

The text is beautifully illustrated with 56 colored plates, drawn under the direction of Lagasca, and further documented with 96 photographs of the more controversial species and varieties. Part One and the appendixes provide a rich background of biographic information, pertinent not only to the lives of Lagasca and Clemente, but to their period and contemporaries. Much of this is scattered throughout the quarto volume as a series of 148 footnotes referring to botanists and other collaborators honored in new species or "races." Facsimile reproductions and photographs of historical implication are included.

This is a remarkably complete work and contains many of Lagasca's and Clemente's unpublished notes. The taxonomic effort and skill displayed by Molina and Peña are clearly indicated in the index of 35 pages to both synonymy and common names of the wheats of Spain. The appealing physical features are demonstrated in the clean topography, clear-cut font, and well-balanced format. The keys to species and varieties will make it useful to those interested in the genealogy of wheat. But the present emphasis on the origins of agricultural plants gives this volume added significance as a worth-while source of reference in the study of both economic and historical botany.

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Progress in Metal Physics. vol. 5. Bruce Chalmers and R. King, Eds. Interscience, New York; Pergamon, London, 1954. vii + 324 pp. Illus. \$9.50.

The earlier volumes of *Progress in Metal Physics* will be familiar to all physical metallurgists. The subject matter covered by the series is broader than the title would suggest; it is doubtful whether any of the five articles in the present volume fall strictly within the domain of metal physics. However, I would certainly not register any complaint on this score.

The outstanding and longest contribution (135 pp.) to this fifth volume is the "Report on precipitation" by H. K. Hardy and T. J. Heal. The rival nucleation and fluctuation theories are critically reviewed, and their predictions are compared with the experimental data for some 10 different age-hardening alloys. The authors are to be congratulated on a lucid exposition of a notoriously involved subject.

Welcome additions are two articles dealing with the deformation of metals—a topic hitherto neglected in this series. Within the limits imposed by the title, "Geometrical aspects of the plastic deformation of