constellation of Orion, and the Crab nebula—the latter taken in crimson light, which reveals structures not visible to normal vision.

Included in the portfolio is a booklet, *Using Your Camera in Science* (31 pages), by Jerry A. Schur, head of the photography department at Stuyvesant High School in New York. This pamphlet is too brief to be of much use to any but the veriest tyro in photography.

MORRIS C. LEIKIND
Armed Forces Institute of Pathology, Washington, D.C.

Einführung in Theorie und Anwendung der Laplace-Transformation. Ein Lehrbuch für Studierende der Mathematik, Physik und Ingenieurwissenschaft. Gustav Doetsch. Birkhäuser, Basel, Switzerland, 1958. 301 pp. Illus. F. 39.40.

Many books, most of them designed primarily for engineers, have been written on the Laplace transform—for example, the various books under such titles as "Operational Calculus," "The Mathematics of Circuit Analysis," and so forth. In many cases the authors have made haste to make applications to differential equations, with the result that the essential mathematical theory has been either largely omitted or only carelessly handled, and the conditions under which the theorems used are valid have often not been properly stated. Proofs, if given at all, have seldom been adequate. In contrast, the mathematical treatises on the subject have been extensive. To fill this gap between theoretical treatises and typical engineering texts, Doetsch has written this excellent book.

After a brief mathematical and physical introduction to the Laplace integral, the theory is systematically developed. Questions of convergence and uniqueness are immediately faced. Chapters follow on the Laplace transform as an analytical function and on the transform under integration, differentiation, and convolution. The theory is then applied to initial value problems in ordinary differential (and difference) equations. The physical illustrations are well chosen. Next, there are developed the theory of the complex inversion formula, the Fourier transform and integral theorems, the bilateral Laplace transform, deformation of path of integration, residual theorems, expansion theorems, Parseval's equation, asymptotic behavior of the subsidiary and original functions. Chapters on differential equations with polynomial coefficients, partial differential equations, and integral equations are given.

The book is clearly written. Great care has been taken to prove each theorem in detail, particularly in the forms required for applications. A wealth of examples to illustrate theory and the mathematical and physical applications are worked out carefully and completely. Throughout, the logical procedure which underlies the entire field can be clearly discerned.

A basic familiarity with the elements of real and complex analysis is assumed. Those working in fields utilizing transform theory will find this volume extremely useful.

RICHARD S. BURINGTON
Bureau of Ordnance, U.S. Navy Department

Frontiers in Cytology. Sanford L. Palay, Ed., Yale University Press, New Haven, 1958. xii + 529 pp. Plates. $9.75.

This volume, dedicated to the memory of the late Henry Bunting of Yale University, includes a biography of Bunting (by W. S. Albrink) and a bibliography of his writings, together with 16 reviews written by distinguished authors and covering research frontiers in the field of cytology. The reviews and their contributors are as follows: "Henry Bunting," W. S. Albrink; "Current concepts of cellular structures," E. W. Dempsey; "Structural specializations of the cell surface," D. W. Fawcett; "Chromosomes: Their constitution and function," A. R. T. Denues; "Studies on mitosis in purine-treated tissue cultures," J. J. Biesele; "Changes in the desoxyribonucleoprotein complex during the cell cycle," D. P. Bloch; "Pentosenucleic acids in relation to nuclear and cytoplasmic functions," J. I. Nurnberger and M. W. Gordon; "Intracellular Lipides: Their detection and significance," H. W. Deane; "Some aspects of protein histochemistry, with special reference to protein hormones," R. J. Barrnett; "A small particulate component of the cytoplasm," G. E. Palade; "The morphology of secretion," S. L. Palay; "The cytology of striped muscle," H. S. Bennett; "Cell transformation and differentiation in regenerating striated muscle," G. C. Godman; "Pathological swelling and vacuolization of cells," E. E. Manuelidis; "Cellular reaction during virus infections," W. H. Gaylord, Jr.; "The dermal ground substance of the mesenchyme as an element of natural resistance against infection and cancer," F. Duran-Reynals; and "Collagen and reticulin," W. G. Banfield.

These reviews, delivered as lectures in the winter of 1955, collected by the editor (S. L. Palay) during 1956, and in many instances brought up to date in the spring of 1957, cover a wide range of topics of contemporary interest in modern cytology. The material is well organized, the reviews are written in a concise, clear style, and the content is fully substantiated by frequent reference to the world's scientific literature. For example, more than 2000 original publications are cited in this work. The illustrations, 253 in all, are collected as plates at the end of the volume and are of good quality. The index slightly exceeds eight pages and completes this fine volume, which can be recommended to all who are interested in the achievements of modern cytology.

ROBERT C. MELLORS
Sloan-Kettering Division, Cornell University Medical College

New Books

Library of Medicinal Plants. Collected by Henry G. de Laszlo. Heffer, Cambridge, England, 1958. 56 pp. 10s. 6d. List of more than 1500 books and pamphlets (published since 1700) on phytotherapy, by author, title, place, and date of publication.

Logic Machines and Diagrams. Martin Gardner. McGraw-Hill, New York, 1958. 166 pp. $5.

Magic and Religion. Their psychological nature, origin, and function. George B. Vetter. Philosophical Library, New York, 1958. 555 pp. $6.

Men, Molds, and History. Felix Marti-Ibanez. MD Publications, New York, 1958. 114 pp. $3.

Metamorphic Reactions and Metamorphic Facies. Memoir 73. W. S. Fyfe, F. J. Turner, J. Verhoogen. Geological Soc. of America, New York, 1958. 271 pp.

Microsomal Particles and Protein Synthesis. Papers presented at the first symposium of the Biophysical Society, at the Massachusetts Institute of Technology, Cambridge, Massachusetts, 5, 6, and 8 February 1958. Richard B. Roberts, Ed. Pergamon, New York and London, 1958. 178 pp. $5.

Mineralogy and Geology of Radioactive Raw Materials. E. Wm. Heinrich. McGraw-Hill, New York, 1958. 668 pp. $14.50.

Nomenclature of Plants. A text for the application by the case method of the International Code of Botanical Nomenclature. Harold St. John. Ronald, New York, 1958. 164 pp. $2.50.

Nuclear Reactors for Power Generation. E. Openshaw Taylor. Philosophical Library, New York, 1958. 151 pp. $7.50.

Perkin Centenary, London. 100 years of synthetic dyestuffs. Pergamon, London, 1958. 148 pp. $7.50. This volume contains the four lectures delivered at the Royal Institution, London, as one of the events of the Perkin centenary celebrations. The lectures were "The life and work of Perkin" by John Read, "The development of the dyestuffs industry" by Clifford Paine, "The tinctorial arts today" by John Gwynant Evans, and "The development of organic chemistry since Perkin's discovery" by Alexander Todd.