shows marks of such a duality: it is very strict in certain aspects; in others, the formulas are merely taken over without any attempts being made to derive them rationally (e.g. Stokes' law of sedimentation, the Debye-Hückel limiting laws, and the whole chapter on the chemical bond and resonance).

The 30 chapters cover the following topics: limiting laws; review of certain indispensable conventions; the standard chemical balance; measurements of volume; density and some of its clinical uses; sedimentation in gravitational and centrifugal fields; limiting laws of gases; colligative properties of solutions; distribution between phases; diffusion; impressionistic sketches of phenomena associated with semipermeable membranes; mass action law; rates of reaction; equilibrium in systems containing hemoglobin; conductance; proton exchange, pH; certain properties of protein solutions; equilibrium of blood electrolytes; thermochemistry; free energy; oxidation-reduction; glass electrode; polarography; a picture of atomic structure; isotopes; refraction and polarization of light; stereoisomerism; emission and absorption spectra; luminescence; and a few topics of colloid chemistry. There are several appendices. Each of the 30 chapters is seasoned by a motto, a quotation from authors ranging from an ancient emperor of Hindustan to the heroes of modern science.

It will indeed be a good investment of leisure hours for a medical student, not only while at medical school but even more so thereafter, to study this book chapter by chapter—for study, he must; it is no easy reading matter. He will learn something both from those chapters which try to inculcate the fundamentals and from those representing just impressionistic sketches, and he will find the satisfaction, from his standpoint as a medical man, that at all times the application of the particular topic to physiological and clinical problems is emphasized.

L. MICHAELIS

The Rockefeller Institute for Medical Research

Selected values of properties of hydrocarbons. Frederick D. Rossini, *et al.* (Circular of the National Bureau of Standards C461; prepared as part of the work of the American Petroleum Institute Research Project 44.) Washington, D. C.: U. S. Government Printing Office, 1947. Pp. xiii + 483. $2.75.

Twenty years ago no one was particularly concerned with the physical properties of hydrocarbons. At that time, with the exception of aromatics, the hydrocarbons were used mainly as a convenient starting basis for the study of organic chemistry. Since then, the widespread use of hydrocarbons in production of high-octane motor fuel, synthetic rubber, and chemicals has necessitated a critical evaluation of their physical properties. This book is therefore extremely appropriate and timely, representing, as it does, a fundamental study of this fundamental subject.

This volume is the result of a special project sponsored by the government and enthusiastically supported by the American Petroleum Institute and the petroleum industry as a whole. A special staff, under the expert direction of noted specialists, devoted their entire work of at least *six* years to collection, selection, critical evaluation, and calculation of numerous properties of hydrocarbons. With such an approach to the subject, naturally the most valuable and successful results were obtained.

To illustrate the completeness and thoroughness of this project, it is sufficient to enumerate the basic properties presented in the volume: boiling point and its relation to pressure, refractive index, density, freezing point, molecular volume, molecular refraction, specific refraction, refractivity intercept, specific dispersion, viscosity (absolute and kinematic), heat of vaporization, entropy of vaporization, heat of combustion, heat of formation, free energy of formation, entropy, heat content, heat capacity, and heat of fusion.

Most of the properties are given for all classes of hydrocarbons up to compounds containing 10 carbon atoms in the molecule. Viscosity and thermodynamic data are prescribed for hydrocarbons up to compounds containing 20 carbon atoms in the molecule.

Every worker in the field of hydrocarbons, chemist and engineer alike, will be elated to have at last these valuable data collected in one volume.

Some criticism can be made on the appearance of the book and particularly on the cumbersome method employed in indexing the table of contents. Such a valuable book merits also a better paper and print.

V. I. KOMAREWSKY

Illinois Institute of Technology

The systematic identification of organic compounds: a laboratory manual. (3rd ed.) Ralph L. Shriner and Reynold C. Fuson. New York: John Wiley; London: Chapman & Hall, 1948. Pp. ix + 370. (Illustrated.) $4.00.

"In this edition," according to the author, "recognition is given to the fact that the primary feature of the student's assignment and the wellspring of his interest is the identification of unknown compounds. He is no longer directed to perform numerous practice experiments on solubility and in the use of classification reagents but is advised to carry out such control and practice experiments as are needed, in view of his previous training."

Additional classification reagents are introduced as well as additional procedures for the preparation of derivatives. The melting points of solids and the boiling points of liquid have been included, in parenthesis, in the index, thus saving a considerable amount of time on the part of the student.

The chapter headings are: "Introduction," "The Identification of Unknowns," "Preliminary Examination," "The Determination of Physical Properties," "Qualitative Analysis for the Elements," "The Solubility Classes," "Application of Classification Tests," "The Preparation of Derivatives," "Tables of Derivatives," "The Separation of Mixtures," "The Interpretation of Experimental Data," and "Problems."

The chapters have been both enlarged and rearranged