

compounds" being formed. He properly disclaims any wide validity of so-called "laws" of enzyme concentration and action (such as the Schütz-Borissow law). "Neither the linear nor the exponential law can be practically applied except when direct experiments with corresponding relative concentrations of enzyme and substrate have shown what law holds." The reversibility of enzyme reaction and its presumable bearing on synthetic action in living organisms are advocated within the limits of our meager experimental data.

Among the other topics briefly noted are: general methods of enzyme preparation and investigation; co-enzymes and anti-enzymes; zymogens; oxidation processes and certain complex systems. The monograph (with a bibliography of nearly 200 titles appended) will form a desirable supplement to current text-books.

LAFAYETTE B. MENDEL.

*Untersuchungen Ueber Kohlenhydrate und Fermente.* By EMIL FISCHER. Berlin: Julius Springer. 1909. pp. iv + 912. Price (bound), 24 M.

In this volume are brought together the articles published by Fischer and his students describing their researches on the carbohydrates and related products, carried on from 1884 to 1908. One paper only ("Synthese des *d*-Glucosamins") is omitted from the list, this having been published previously in Fischer's "Untersuchungen über Aminosäuren."

The book contains five general discussions or reviews of the subject and 104 papers. Of the five discussions, three have been published in chemical journals and one in the form of a monograph. The remaining one was written especially for the book. Of the 104 papers, 92 have been published in the "*Berichte der deutschen chemischen Gesellschaft*," 10 in "*Liebigs Annalen der Chemie*," and 2 in other journals. The articles are practically exact reproductions of the original papers, the only significant change being the substitution of the mark "dl" for "i" in the designation of racemic compounds. The only additional matter is in the form of an occasional foot-note.

It is entirely superfluous for one to comment on the character of the research since it has taken its place as one of the classical investigations in the field of organic chemistry. It is certainly significant that the original papers can be reprinted to-day practically unchallenged either in regard to the experimental details or conclusions drawn.

Chemists everywhere will regret that the author probably will be unable to continue his investigations on the polysaccharides because of his extreme sensitiveness to the evil physiological effects of phenylhydrazine and its related compounds.

WILLIAM MCPHERSON.

*Practical Physiological Chemistry.* By P. B. HAWK. 2nd Edition, Blakiston's Son & Co. Philadelphia. Price \$2.50, reduced from \$4.

This is another of the many laboratory manuals of physiological chemistry, but this is decidedly better than most of them. It is perhaps the