

and densities, relation of the primary and higher amines, typical analytical and physical constants of oils, fats, waxes, etc., were noted at random among the numerous data readily available.

The subject matter is entirely up-to-date including even technical terms only very recently introduced into scientific terminology such as Vitamines and Insulin.

Aspirin is quoted as an intestinal antiseptic, which therapeutic description does not correspond to prevailing American practice.

Numerous industrial proprietaries of American sources are listed.

Summarily considered, the intrinsic value of this *Encyclopedia* can best be ascertained by inspection or reference.

The book can be readily appreciated as a valuable supplementary reference work in any technical library. In itself, as a compact digest of voluminous technical material, it can very well supersede any number of descriptive texts relating to the various subjects that are treated.

SIMON MENDELSON.

Systematic Course in Qualitative Analysis of inorganic and organic substances: with explanatory notes. By Henry W. Schimpf, Ph.G., M.D. Fourth Edition. Revised by Alfred I. Cone, Ph.G., Phar.D. John Wiley & Sons Co., New York, 1924. IX + 201 pp. 6 x 9 Cloth \$1.75.

This volume was originally devised and written to meet the initial requirements of the student of Pharmacy. The text represents those essentials of qualitative analytical procedure pertinent to the usual materials of pharmaceutical importance and interest.

Certain abbreviated or "short cut" analytical methods have been deleted from this revision in preference to the classic or theoretical procedures.

Considerable of the omitted data have been replaced by preliminary discussions including Ionization, Law of Mass Action, Bunsen flame reactions, etc.

A chapter is devoted to definitions and general considerations representing a brief review of fundamental principles directly concerned in the scope of the material involved. Group separations are presented in both tabular form and the usual step charts.

This feature is readily commendable for the facilities afforded for any desired reference to the properties of substances subject to separa-

tory manipulations preceding their final separation and subsequent identification.

Occasional instances of reversed grammatical syntax are noted. On page 133, section 153 on citrates, this sentence occurs "Upon heating citrates char." The fact could be better expressed, in the form "citrates char on heating."

The chapter on mass action is briefly but well defined; while nevertheless inadequately demonstrated mathematically.

The equations as given are confusing since certain designated constants represented by K and K^I are simultaneously employed as variables.

For example two constants being K and K^I we find that the ratio of K/K^I is given to be K^I which should have been designated by K^C or any other sign to differentiate it as a third constant.

Physical constants such as the optical rotation or melting points are not included for the differentiation of certain of the carbohydrates or in connection with the identification of stereoptens respectively.

The omission of these factors may, however, be in conformity with the original intentions of the author to restrict the text to essentials only.

On page 149, under the caption "starches" we note the statement, ". . . . insoluble in cold water but on boiling form a mucilage, which gives a blue color with Iodine." This statement may be erroneously interpreted to indicate that the Iodine reaction is characteristic only to the mucilaginous form of starch.

Analytical schemes for the *identification of iron scale salts, detection of poisons and uranalysis* are included. The notes on microscopic examination of urinary sediments could be rendered more valuable by the addition of a few illustrations showing examples of epithelium, crystalline matter, blood discs, casts, etc.

The last chapter consists of numerous formulae for the preparation of reagents. The index is efficiently arranged.

The text is surrounded by liberal margins suggestive of the addition of supplementary notations by the student.

This volume, despite its limited scope, forms a valuable manual of analytical material and represents an excellent contribution to pharmaceutical literature; its characteristic features warrant it a place in every working technical library.

SIMON MENDELSON.