

## REVIEWS.

CHURCH'S LABORATORY GUIDE. Revised by EDWARD KINCH. 9th Edition. Gurney and Jackson. London. Price 6s. 6d. net.

The demand for a new edition of this well-known work, five years after publication of the eighth, bears testimony to its popularity among those for whom it is written. The division into three parts, dealing with Chemical Manipulation, Qualitative Analysis, and Quantitative Analysis, respectively, is maintained, and is to be highly commended, the exercises comprised in the first part being so selected as to encourage the student, early in his course, to realise that the pursuit of chemistry will assist him to a better understanding of agricultural products and processes. The section which gives individuality to the book and which calls for most praise is that devoted to Quantitative Analysis, as it contains much information to which an elementary student has not ready access, and deals in a comprehensive manner with manures, soils, waters, and foods.

It is to be regretted, however, that an otherwise useful manual should be marred by some obvious blemishes of style and treatment. The violent fluctuations in mood and tense throughout the opening pages of Part I. set a poor example for the student to follow in his own notes. The expression to "syringe out" a solid from one vessel to another is so unfamiliar that one automatically searches for a syringe in the list of apparatus required for the experiment. Such barbarities as "arseniosum," "arsenicum," "antimoniosum" and "stannicum," jostling copper without a word of explanation, can only mystify a beginner, whilst the unvarnished empiricism of the "sugar test" is deplorable. Although the "sugar test" is used on pp. 53, 54, 55, 59, 292, 295, and 301, instructions for its preparation being given on p. 86, the name Fehling is first encountered in small print on p. 303, and the only index reference to Fehling's solution is p. 86, where the name does not occur, and its connection with the "sugar test" is consequently lost.

M. O. FORSTER.

HUILES ET GRAISSES VÉGÉTALES COMESTIBLES. Par G. HALPHEN. Librairie Polytechnique Ch. Béranger. Paris et Liège. 1912. Price 8s. net.

Concerning this book (which forms one of a series of practical manuals of chemical analysis published under the direction of MM. Bordas and Roux) one can have nothing to add but praise, and, in fact, the expectations raised by the name of such a well-known investigator as Halphen are fully realised.

Ostensibly the book deals with seven vegetable oils which are most commonly met with—namely, olive, arachis, cotton, poppy-seed, walnut, sesame, and cocoanut oils—but, on account of the minute details of the various possible adulterants of these oils, a very wide field dealing with the characteristics and properties of many other oils is covered. The method of treatment of the subject, and particularly the details of official methods, are different in many ways to those

with which the English analyst is likely to be familiar ; but this is only to be expected in a book written particularly for those engaged in the subject as it presents itself in the country of publication. In spite of this, the work is full of suggestions to the analyst, and there are a number of methods detailed and discussed to which many will be quite strangers.

One of the leading features of the book is the stress laid by the author on the use of colour tests in the detection of adulteration, and he defends himself both ably and convincingly against the attacks which have often been made upon his position.

The only possible exception that can be taken to the manner of treatment is, after all, an exception which really redounds to the credit and knowledge of the author, and that is to the somewhat full treatment of the various subjects which might possibly leave the casual investigator in a rather undecided state of mind, but which to the expert will be a source of advantage and assistance. This is exemplified by the fact that, out of about 450 pages, nearly 230 are taken up with the discussion and description of the method of determination of the various constants, etc. The book requires close reading, as in quite an incidental manner most useful hints with regard to technical manipulation, such as, in particular, the method given for incinerating fats, on p. 38, and for the estimation of total foreign matter, on p. 34, and many others are inserted, and the author has again brought to the front and supported with all the weight of his authority several useful tests which have, on account of adverse criticism, been allowed to lapse into an obscurity which was certainly not deserved.

Though the work abounds in tables of figures, it is extremely free from manifest errors, and, in fact, the only one which has been noticed of sufficient seriousness to lead the analyst astray is the transposition of the words "cholestérine" and "phytostérine" throughout an entire section on p. 221.

The author has also included a useful and sensible section on the production of rancidity.

The last section of the book contains an appendix dealing with the regulations in force in the different countries, together with copies of the various circulars issued to the official chemists by the French Minister of Agriculture, as well as some definitions of oils as set forth in the findings of the First International Congress for the Suppression of Adulteration, Geneva, 1908.

In conclusion, it may be said that this book is well worthy of the attention of those engaged in the examination of edible oils and fats.

E. RICHARDS BOLTON.