

trations of apparatus are shown, as well as tables needed for the estimation of alcohol, sugar, and "extract."

For the benefit of local authorities and others in this country who are inclined to begrudge their analyst his fees, it may be remarked that the French prescriptions for the analysis of wine involve no fewer than nineteen separate experiments or determinations, whilst the German regulations require twelve for an ordinary full analysis and twenty-six in special cases.

Having carefully obtained his analytical results in any instance, how is the operator going to interpret them? Some data for this purpose are given in the text, but they are meagre, and might usefully be supplemented. Even to the experienced, a record of maximum and minimum values yielded with given methods by genuine wine of different types would often be of service.

One rather humiliating reflection is suggested on looking over the various modes of examining wine. The liquor "which maketh glad the heart of man" holds yet some secrets which elude his skill as a chemist. Much as chemistry has advanced since the days when Pasteur carried out his "*Etudes sur le vin*," the palate is still an indispensable aid to such studies. Just as the chemistry of the living plant transcends in delicacy that of the laboratory, so the senses of smell and taste can discern, and in some sort evaluate, differences far too subtle for demonstration by balance, test-tube, or polarimeter. Not only for the finer distinctions between vintage wines, but even sometimes for detecting relatively gross adulteration, the organoleptic test of bouquet and aroma remains the best or the only criterion.

As regards beer, there is little described that would be new to a well-trained brewers' chemist. The section, however, gives a concise account of the operations necessary for the chemical control of brewery procedure, including the examination of water, barley, malt, hops, and wort, as well as the finished beer.

The various distilled spirits and the liqueurs are dealt with in an important division, which includes also an account of pressed yeast—now a notable by-product of alcohol distillation. Cider, perry, vinegar, acetic acid, and methyl alcohol are other subjects treated in the volume.

C. SIMMONDS.

PRACTICAL PATHOLOGY.

Practical Pathology. A Manual for Students and Practitioners. By Prof. G. Sims Woodhead. Fourth edition. Pp. xxii+798. (London: Henry Frowde and Hodder and Stoughton, 1910.) Price 31s. 6d. net.

THE practical pathology of to-day is very different from the practical pathology of twelve or fifteen years ago, when the third edition of this book was published. Nevertheless, the present edition, as regards the scope embraced by it, remains much as it was, viz., it is a guide for the post-mortem room and a manual of practical morbid anatomy and histology; general pathology, with the exception of inflammation, is almost untreated. Prof. Woodhead has, however, deliberately chosen this course, and in the preface

explains that in its present form "Practical Pathology" has been found helpful to the medical student in his class and ward work, and to the practitioner who desires readily accessible data on the methods and information which it contains.

The first 150 pages are devoted to post-mortem examinations, and the methods of preparing tissues for microscopical investigation. A judicious selection has been made of the multitudinous methods for fixing, hardening, and staining that have been devised, and this part of the book should be most useful.

After this the phenomena occurring in inflammation are discussed, and then the morbid changes met with in the various tissues and organs are dealt with. This method, while having the advantage of taking the student through the principal alterations which occur in a particular organ when diseased, has the disadvantage that descriptions of processes which are very similar in the various organs, e.g. tuberculosis, are repeated again and again, with a consumption of space which might perhaps have been better utilised for other subjects which have been omitted.

On the whole, the descriptions of the histological appearances of morbid tissues are ample and accurate, and all the commoner conditions are dealt with. We fail to find any reference to endotheliomatous tumours, which of late have assumed some importance, and no mention is made of the differentiation of ovarian cystomata into two varieties, nor of the fact that the pseudo-mucinous cystadenoma on rupture frequently gives rise to metastatic growths of the peritoneum, which may become carcinomatous.

Nearly two pages are devoted to a description of the so-called parasites of cancer, but the student is not warned that the parasitic hypothesis of the genesis of cancer is now largely discredited, and that these so-called parasites may be peculiar forms of cell degeneration. Nor is any mention made of modern work on the cytology of malignant growths or of the apparent transformation of carcinoma into sarcoma by a metamorphosis and overgrowth of the connective-tissue stroma.

With a little amplification on these and other points by the teacher, the work should prove a most useful class book on practical morbid histology. The beautiful coloured drawings by Mr. Richard Muir and others are much to be commended, though occasionally (e.g. Fig. 265, Tertian malaria) more is depicted than will ever be found in any one specimen.

SYLVESTER'S MATHEMATICAL PAPERS.

The Collected Mathematical Papers of James Joseph Sylvester, F.R.S., &c. Vol. iii. (1870-83). Pp. xvi+688. (Cambridge: University Press, 1909.) Price 18s. net.

THE greater part of this volume consists of papers on the theory of algebraic forms, and their substance is now so familiar that it is needless to analyse them. But the reader who turns back to these classical memoirs is charmed, as ever, by the genius they display, and the extraordinary vivacity with which they are written. Moreover, Sylvester's habit of publishing in haste, while the hot fit was on