

of the phenomena. It is at this point that thermodynamical relations become important, since the mechanism of the processes can then be neglected; but with the obvious drawback that these relations throw very little light on the mechanism, and are therefore more satisfying to the physicist than to the chemist.

It is, indeed, not unusual in France for physical chemistry to be studied and taught by a physicist, instead of by chemists only, and this difference may account for a rather refreshing variation in the author's method of treatment; but this is counterbalanced by his complete lack of interest in the chemical characteristics of the materials studied. Thus all his phase-rule diagrams are anonymous, and in this way lose the interest that comes from studying facts instead of theories; and he attributed to cyanobenzene, "another organic compound," as he explains to his readers, an asymmetric quality which this simple and symmetrical substance could not possibly possess, and was actually detected in the case of amyl *p*-cyanobenzylideneaminocinnamate. Such an error would be impossible in the case of a chemist with even a modest knowledge of organic chemistry.

This view of the author's own limitations is confirmed by the fact that the chapter on physical properties and chemical constitution contains no reference to optical activity, by his classification of the fats as "glucosides" of the fatty acids, and by his statement that oleic can be converted into stearic acid by "adding to its molecule an atom of hydrogen." The book may, however, be heartily commended to chemical students who have already mastered this side of their subject, since they can be quite sure that there will be no duplication, and that they will find the author's method of treatment both novel and stimulating.

Chemistry for Dental Students. By Prof. H. Carlton Smith and Rachel M. Smith. Fourth edition, revised and enlarged. Vol. 1: *Qualitative Analysis and Dental Metallurgy*. Pp. vii+186. 12s. 6d. net. Vol. 2: *Organic and Physiological Dental Chemistry*. Pp. v+320. 17s. 6d. net. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1923.)

THESE volumes, comprising the fourth edition, are intended to provide for courses in chemistry, dental metallurgy, dental materia medica and physiological chemistry for dental students, and have been written primarily to meet the requirements of American students. Nevertheless the methods adopted are sufficiently general to appeal to wider interests. The sections on microchemical analysis and physiological chemistry are to be noted specially, particularly Chap. xviii. on saliva. The subject matter for these sections has been selected with special reference to dental problems, and is quite likely, from the method adopted, to stimulate a desire on the part of the student to learn more of the subject generally. The chapter on tooth decay, being a readable summary of the present state of knowledge of the subject, may be recommended to others besides dental students.

The plates are good and give an adequate idea of the appearance of the substances as seen in the microscope. References are given to original work and to special

text-books, mostly to American works. It would be an advantage to British students if references to corresponding British text-books and original work were furnished.

The authors' intention appears to be to induce students to continue their study of dental chemistry, and in this they may fairly claim to have been successful.
J. J. F.

Collective Index of the Journal of the Institute of Brewing, 1911 to 1923. Compiled by W. H. Bird. Pp. iv+330. (London: Harrison and Sons, Ltd., 1924.) n.p.

THE production of indexes is a laborious and often a thankless task, yet to their compilers the scientific world owes a deep debt of gratitude. The work before us is carried out consistently upon a recognised principle, and is presented in a clear and workmanlike manner. In adopting the principle of the "Inverted Title" as the basis for the construction of his Index of Subjects, Mr. Bird is probably following the style of an earlier index to the Journal of the Institute. Our criticism, at any rate, is directed to show the defects of indexes prepared on this principle. Such indexes are, of course, in reality "Title Indexes"; they serve as subject indexes only by the accident of the language of their titles. As the following illustration will show, such indexes are cumbersome, owing to the repetition of the titles, inconvenient for study, and costly to produce. For example, "Cold: beer towards—, and the Wallerstein process; sensitiveness of. P. Petit. 1916. 468." This entry, suitably modified, appears four times in the Index—occupying eight lines. In the modern type of index one entry would suffice, with a reference from the Wallerstein Process. Moreover, the modern index would bring together matter which in the above Index is distributed under "Chilling," "Cooling," "Refrigeration," "Temperature," etc. The "Inverted Title" index still survives in the book trade, but it has long been discarded from library practice. It is, in our opinion, wholly unsuited for the purposes of Collective Indexes to the papers of learned societies.
E. W. H.

Infection and Resistance: an Exposition of the Biological Phenomena underlying the Occurrence of Infection and the Recovery of the Animal Body from Infectious Disease; with a Consideration of the Principles underlying Specific Diagnosis and Therapeutic Measures. By Prof. Hans Zinsser. Third edition. Pp. xvi+666. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1923.) 24s. net.

PERHAPS no medical or biological subject has expanded to such an extent as that of immunity, when one remembers that its origin dates back only to the late 'eighties of last century. Its doctrines have, however, revolutionised the medical outlook on the questions of infection and resistance and are now bearing practical fruit in the prophylaxis and treatment of infective disease. It is scarcely possible for one man unaided to deal adequately with the whole subject. All that he can do is by extensive and intensive study to give a critical estimate of the general trend and scope of the subject. This, Dr.