

against a too exact phylogenetic interpretation of embryological facts." While admitting the correctness of the first of these statements, from the point of view of the student seeking an outline of the principles of Chordate development one may question the pedagogical propriety of adding a number of more or less irrelevant facts for the purpose of enforcing a conclusion which may be deduced with even greater clearness from the more pertinent embryological phenomena of the higher chordates.

Following the account of the frog, the early development and organogeny of the chick is considered, and the book ends with a chapter on the early development of the mammalia, special attention being devoted to the development of their embryonic membranes and to that of the external form of the human fetus. It is unfortunate for the continuity of the descriptions that no mention is made of the early processes of development of the Reptilia, since these in several particulars afford a much clearer transition to the specialized mammalian conditions than do the similar stages of the chick. The account of the later stages of *Amphioxus* might well have been replaced by a description of the early stages of reptilian development.

But, on the whole, Professor Kellicott's book is an excellent one, both in its conception and execution. The descriptions are clear and without redundancy and are illustrated by numerous well chosen illustrations. Extensive bibliographic lists are appended to the various sections and there is an excellent index.

J. P. McM.

Chemical Technology and Analysis of Oils, Fats and Waxes. By DR. J. LEWKOWITSCH.

In three volumes. 5th edition. Volume I. Macmillan Company. 1913. \$6.50.

This volume has increased from 542 to 668 pages: the chapters on the Constituents and on the Examination of the Mixed Fatty Acids being increased by nearly one third. In view of the encyclopedic character of the book, one is surprised to find no mention of the absolute viscosimeter; of Dunlap's excellent

method of purifying alcohol for alcoholic potash; of T. W. Richards' apparatus for distilling in vacuo by electricity, all of which are admirably adapted for work with fats and oils. The information regarding the Saybolt viscosimeter, too, is not the latest, although perhaps the latest published.

The reviewer regards the treatment of the subjects as most thorough and eminently satisfactory. It is wisely critical, showing evidence of investigation done under the doctor's own eyes. It is approached by nothing in any language, as is attested by the fact of its translation into French and rewriting in German. It is invaluable to every one having to do with fats, oils and waxes.

It will be noted with deep regret by all in this branch that the appearance of the book in this country closely coincided with the death of its author.

A. H. GILL

SCIENTIFIC JOURNALS AND ARTICLES

THE April number (Vol. 15, No. 2) of the *Transactions of the American Mathematical Society* contains the following papers:

Maurice Fréchet: "Sur la notion de différentielle d'une fonction de ligne."

J. H. M. Wedderburn: "A type of primitive algebra."

C. T. Sullivan: "Properties of surfaces whose asymptotic curves belong to linear complexes."

E. W. Chittenden: "Relatively uniform convergence of sequences of functions."

H. S. Vandiver: "Note on Fermat's last theorem."

E. R. Hedrick and Louis Ingold: "A set of axioms for line geometry."

G. C. Evans: "The Cauchy problem for integro-differential equations."

THE March number (Vol. 20, No. 6) of the *Bulletin of the American Mathematical Society* contains: Report of the twentieth annual meeting of the society, by F. N. Cole; Report of the winter meeting of the society at Chicago, by H. E. Slaught; "Shorter Notices"; Zorretti's *Leçons sur le Prolongement analytique* and Scheffers's *Serret's Lehrbuch der Differential- und Integralrechnung*, by Frank