

measure to extend interest and prompt further inquiry. But as a serious contribution to 'the already voluminous literature on Darwinism,' their value may be seriously<sup>1</sup> doubted.

CHAS. W. HARGITT.

*The Growth of Cities in the Nineteenth Century:*

A Study in Statistics. By ADNA FERRIN WEBER, Ph.D., Deputy Commissioner of Labor Statistics of New York. (Studies in History, Economics and Public Law, Columbia University.) New York, The Macmillan Company. 1899. Pp. xvi + 495.

It is one thing to know in a general way that a certain movement is in progress, and quite another to know its causes, rate of progress and full significance. That a remarkable concentration of population in cities has taken place during the present century is well known by all; that this change in the character of the population is a momentous one is appreciated by those who give thought to the matter; but the various causes that have given rise to this movement, and the full extent and influence of the change, are known to but few if any. This information Dr. Weber has attempted, and in the main attempted successfully, to supply in the present detailed statistical study.

With a remarkable command of authorities, both foreign and American, the author carefully traces the increasing concentration of population in large cities in all the important countries of the world. Successive chapters treat of the general phases of the movement and the methods adopted for its measurement, the history and statistics of urban growth in each country separately, the causes of the concentration shown, migration as a factor, the structure of city populations as regards sex, age, nationality and occupation, birth, death and marriage rates as affecting urban growth, a comparison of the physical and moral health of cities and country, the economic, political and social effect of urban concentration upon population, and finally a consideration of certain tendencies and remedies for evils to which the growth of cities has given rise.

The work abounds in statistical tables. One cannot but admire the painstaking way in which the problem has been considered in all

its phases. At the same time the very detail with which this has been done is confusing. A proper discrimination has not always been exercised. Statistical tables have been inserted wherever the slightest opportunity offered, and many are of so slight importance that they could have been omitted without loss, or their results have been better stated in the body of the text. This is especially true where they are inserted merely for the purpose of illustrating collateral facts. The same criticism applies to the bibliographical references. While the constant reference to authorities and the insertion of bibliographical notes add materially to the value of the work, many of them are entirely unnecessary or foreign to the subject matter of the book.

Generally then, this monograph is a presentation of facts and bibliographical references concerning cities that will be of the greatest assistance to all persons wishing to study almost any problem connected with urban life. Its very exhaustiveness, however, makes it difficult for the ordinary reader to discriminate between the important and unimportant, or to learn what are the really significant results of this comprehensive study.

W. F. WILLOUGHBY.

J. N. BASKETT'S 'STORY OF THE FISHES.'

A RECENT book published by the Appleton's for their 'Home Reading Series' is 'The Story of the Fishes,' by J. N. Baskett. This is an attempt to popularize the anatomy and classification of the fishes, and gives as a separate 'Talk' an interesting account of the methods of fishing. The book is attractively presented for one of its kind: its figures are unusually good and it will prove a useful aid to a beginner—who is not fastidious in matters of scientific fact. The critical reader will find much to reprehend, for there are many inaccuracies and a deal of unbased theorizing. It is scarcely necessary to consider these shortcomings in detail, although a few should be noticed. In a pictorial phylogenetic tree the type of the ganoid is given as the 'gar-pike,' intended, of course, for *Lepidosteus*, but, unfortunately, the writer inserts the picture of a *gar-fish*, *Belone*, which is a well known and highly specialized

Teleost. Of less importance is the cut of the egg-case of a shark labelled as that of the skate, together with similar slips. The introduction of such phrases as 'some fish throw their great stomachs over creatures bigger than themselves, almost as a fowler throws his nets' is hardly to be commended. In the case in question, *Chiasmodon*, the exact mode of feeding of this abyssal fish is absolutely unknown, and probably will ever remain so. But the eversion of the stomach in a star-fish-like manner is a most startling guess. It would certainly be less of a shock to morphologists if they were told that this unique specimen of a deep water fish had captured its food in the way customary with great mouthed fishes, whose distensible jaws enable them to take extraordinary mouthfuls. Perhaps the most harmful part of the book is its theorizing. Without apparently a technical grounding in his subject, the author commends to his readers many independent hypotheses, of which these, selected at random, are examples: that gill-slits were not primary; that filamentous gills, as occurring in shark embryos, are the primitive form; that the teleostean swim-bladder has 'degraded' from a lung-like condition; that 'all our fishes tended more towards being air-breathing or land-haunting creatures formerly'; that, by the evidence of (tertiary) fossils, fishes which are now tropical must have occurred in icy polar seas.

B. D.

## BOOKS RECEIVED.

*La nature tropicale.* J. COSTANTIN. Paris, Alcan. 1899. Pp. 315.

*Our Native Birds.* D. LANGE. New York and London, The Macmillan Company. 1899. Pp. ix + 162. \$1.00.

*Elementary Astronomy.* EDWARD S. HOLDEN. New York, Henry Holt & Co. 1899. Pp. xv + 446.

*Lamarckiens et Darwiniens.* FELIX LE DANTEC. Paris, Alcan. 1899. Pp. 191. 2 fr. 50.

*Analyse microchimique et spectroscopique.* E. POZZI-ESCOT. Paris, Gauthier-Villars. 1899. Pp. 192. 2 fr. 50.

*Report of the Proceedings of the Seventh Annual Meeting for the Promotion of Engineering Education*, Vol. VII. Published by the Society. 1899. Pp. xxii + 193.

## SCIENTIFIC JOURNALS AND ARTICLES.

WE regret to learn that *Natural Science* is compelled to suspend publication. It will be remembered that this was threatened last year but was temporarily averted by a change of editors and publishers. *Natural Science*, while maintaining a high standard, has been, perhaps, the most readable of the scientific journals, and it seems unfortunate that there should not be sufficient financial support to warrant its continuation. There is, however, no scientific journal in the world that is self-supporting, in the sense of paying editors and contributors for their work at what would be its market value in other directions of activity. This, of course, also holds for universities, museums, etc., and there appears to be no reason why scientific journals should not be endowed or subsidized, as is necessary in the case of other scientific institutions. Under the heading 'Eliminated' *Natural Science* takes leave in the following words:

It is one of the conditions of continued vigorous activity on an organism's part that income be at least equal to expenditure, and the same is true of journals. To try to sustain the activity when the aforesaid condition is not fulfilled is not uninteresting, but there are limits to the possibility of continuing it. We regret to say that we have reached these limits as regards *Natural Science*, of which this is the last number, so far as we are concerned. In spite of generous support from many during the past year, and our own endeavors in publishing and editing, the journal has not reached that measure of success which would seem to us to warrant another year's experiment. We make our bow, then, to the process of natural elimination.

*The Journal of School Geography*, which has hitherto been published as well as edited by Professor Richard E. Dodge, of the Teachers College, Columbia University, will hereafter be published by the J. L. Hammett Company, of Boston, Mass., and New York City. This change in the business management involves no change in the editorial management or policy.

## SOCIETIES AND ACADEMIES.

## THE NEBRASKA ACADEMY OF SCIENCES.

THE Academy held its Tenth Annual Meeting on December 1st and 2d in the botanical lec-