SCIENCE

FRIDAY, DECEMBER 29, 1899.

CONTENTS:

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

*SCIENTIFIC THOUGHT IN THE NINETEENTH CENTURY.**

IT is an interesting fact that the life of our Association is almost coextensive with that nineteenth century of Christian civilization which is now drawing to a close. In intellectual, as in physical phenomena, we are tempted to overestimate the magnitude of near objects and to underestimate that of distant ones; but science and art tend to advance with accelerated velocity, and we are undoubtedly right in ranking the achievements of our age in science and its applications as far greater than those of any previous century.

When our predecessors assembled a hundred years ago to organize this Academy, they could avail themselves of no other means of transportation than those which were in use before the time of Homer. If the distances over land were too great for convenient walking, they were carried or drawn by horses. If they had occasion to cross bodies of water, they used oars or sails. We have been brought to our destination to-day by the forces of steam and electricity.

The harnessing of these mighty forces for man's use has transformed not only the modes of transportation, but the processes of production of all kinds of commodities.

* Address at the Centennial Celebration of the Connecticut Academy of Arts and Sciences, October 11, 1899.

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-