

THE CENTENARY OF 'DARWINISM'

THE Linnean Society has issued a special number of its journals in celebration of the centenary of the first publication of the theory of evolution by natural selection in the papers by Darwin and Wallace given to the Society in 1858*. The number contains thirteen papers, mostly by Fellows of the Society. Three of these deal with Darwin and the development of his theory during the intervening century, and the rest with modern work on evolution, five botanical and five zoological.

The first of the three contributions on Darwin's life and theory is Sir Julian Huxley's lecture on "The Emergence of Darwinism", which was given at the inaugural meeting of the fifteenth International Congress of Zoology last July. The lecture is an evaluation of Darwin's work in the light of our more recent knowledge. In particular, Huxley stresses the part of good fortune in Darwin's career, especially in providing him with the background required for his work. Even his delay in publishing his theory was fortunate, for the world was not ready for it earlier. So also was the intervention of Wallace, without which he might never have published, or, at least, not in the readable form in which it appeared. The lecture gave a most appropriate introduction to the Congress—as it also does to this publication—in emphasizing Darwin's outstanding quality as a biologist, not always sufficiently appreciated in modern times.

In his essay on Darwin's views on embryology and evolution, Sir Gavin de Beer discusses chiefly how far Darwin believed in Haeckel's theory of recapitulation. In the first edition of "The Origin" he was unwilling to accept the essential thesis of the theory, that life-histories evolve by addition of new stages at their ends, but he seems to have been persuaded by Fritz Müller and Haeckel to a still somewhat cautious acceptance, being in this matter led astray, perhaps because he realized that his knowledge of embryology was not wide. de Beer also believes that in at least one quotation Darwin anticipates the theory of pedomorphosis. This seems, to me, at least doubtful; the quotation can be read as doing no more than express doubts about the more extreme forms of the recapitulation theory.

* Darwin-Wallace Centenary. *J. Linn. Soc., Lond.* Botany, 56, No. 365; Zoology, 44, No. 205: pp. 1-152 (1958).

In his article on "Darwin, Wallace and 'Pre-adaptation'", Dr. Harrison Matthews discusses the intellectual climate at the time of the publication of "The Origin", emphasizing, as did Sir Julian Huxley, the value to Darwin of the progress of thought in the preceding years and of the fact that in 1859—but not ten years earlier—younger men such as T. H. Huxley were available to support the new theory.

As a zoologist and not a botanist, I cannot discuss the botanical papers in detail. In his presidential address on fossil plants, Dr. Henshaw Thomas gives an account of a great deal of recent work and shows that much evolution in plants has been by development of new structures rather than by modification of structures already present—the parts of the flower are not modified leaves. Dr. W. B. Turrill in his Hooker Lecture discusses the evolution of floras, with special reference to the Balkan peninsula; Dr. E. J. H. Corner has a paper on change of function in the organs of plants and the part it has played in evolution; Prof. I. Manton writes on chromosome numbers and the phylogeny of ferns; and Dr. Darnley Gibbs on the production of chemical substances in plants.

The longest of the zoological papers is Dr. S. M. Manton's summary of her work on locomotion in the arthropods. This will be useful to many who are not specialists in the subject and find her original papers longer than they can absorb. Prof. O. M. B. Bulman has an interesting paper on the evolution of colonial form in the graptolites, and Dr. E. B. Ford writes on the work of the Oxford zoologists on evolution in natural populations. In a paper on the problems of reptile classification, Mr. F. R. Parrington discusses much recent work and comes to the conclusion that there is no reason for thinking the reptiles diphyletic; all their groups are descended from primitive captorhinomorphs which were already reptiles. Finally, Dr. G. Pontecorvo writes on the versatility in evolution shown by the hereditary systems of organisms, both in typical holozygotic reproduction and in more primitive types.

Anyone interested in one or more of the many subjects dealt with in these papers will find something of value in this publication. It seems an excellent way to celebrate the centenary.

G. S. CARTER

WATER FLUORIDATION AND DENTAL CARIES

THE Swedish Royal Medical Board has submitted a report to H.M. The King of Sweden concerning the use of fluorides in the prophylaxis of dental caries.

Swedish experts have been considering for a long time the prevention of dental caries by means of fluorides. In 1952 the Swedish Royal Medical Board appointed experts to study the question, and in 1955 the Board reported to the Swedish Government that the addition of fluorides to drinking water would be a valuable means of preventing the widespread dental caries; but the four members of the Scientific Council of the Board were doubtful about possible toxic

effects of fluorides, even at the low concentrations present in drinking water, and the Board then preferred to await the outcome of further research. Meanwhile, it recommended the prohibition of fluoridation of public water supplies.

In 1957, however, a committee, consisting of Prof. Sven Sellman, Prof. Yngve Ericsson and Prof. Allan Strålfors, considered the prophylaxis of dental caries with emphasis on the use of fluorides for this purpose. This committee has presented, since 1958, more than one report. Members of the Scientific Council of the Royal Medical Board have also expressed their views.