undergoing modification in civilised man, and parts not used to any extent are being deprived of the supply necessary to healthy growth. It is much to be feared that the teeth, though so essential to the welfare of the body, are in this predicament. But we are sadly in need of more definite information than is at present available, and it is partly in the hope that some of the readers of NATURE, who have opportunities which I do not possess, may be induced to test this and other ideas relative to the increase of caries, that I have written on the subject. The whole question is at present much obscured by misconceptions due to ignorance. One fact, however, emerged only too clearly from D.. Wilberforce Smith's investigation, namely, that while the grinding teeth of civilised men of middle age are either missing or practically useless for their purpose, the ancients enjoyed a perfect set of teeth till advanced years, and modern savages enjoy the same blessing.

Clapham, May 10. ARTHUR EBBELS.

Johannes Müller and Amphioxus.

THE story of Müller's Neapolitan visit in search of Amphioxus, as copied in NATURE (May 3, p. 14) from the *Lancet*, belongs to the category of those that are *ben trovato* or the reverse. To anyone acquainted with the works of this brilliant morphological genius the tale bears internal evidence of entire lack of foundation.

Müller's chief memoir on Amphioxus appeared in the *Abhandlungen der Berliner Akademie* 1842. If Prof. Todaro had ever read the original, or an earlier note in the *Berichte* 1839, he would scarcely have related the story. Müller's work begins with an historical summary of previous researches on the animal, and in particular he relates (*Berichte* 1839, p. 199) that the first specimens he examined were obtained from Prof. Retzius. Moreover, Costa's description, mentioned by Prof. Todaro as being the immediate cause of Müller's expeditious trip to Naples, *appeared in* 1839, *and in the same year* Müller published observations on the two specimens given him by Retzius. At this period he was in ignorance of its occurrence at Naples, for (p. 200) he says it has been found "on the English, Norwegian, and Swedish coasts." His chief work—the one before mentioned—was carried out on *living* specimens got by Müller himself near Gothenburg, on the Swedish coast, and, as is well known, and also expressly stated by himself, he worked at the microscope for twelve days in order to complete his task on the spot. The evidence goes to show that Müller obtained no Amphioxus—not even the one he is credited with!—from Naples until his work was completed; and (p. 81, foot-note) he remarks: "In Naples the capture of the animal is very easy close inshore, for it lives in great numbers in the sandy ground of Posilipo. In 1842 I brought back from Naples *over* 1000 *specimens* in spirit."

If the journey referred to ever took place, there is no record of the one specimen in any of his works, and Müller, who could sacrifice a very rare Pentacrinus to the scalpel, was not the man to spare an Amphioxus. It must indeed have been a "miraculous draught" that yielded only one specimen of Amphioxus off Posilipo.

However "interesting" and amusing the story may be to those who have a preference for fiction, it is to be regretted that, with no basis of fact to support it, a *zoologist* should have told it of one whom zoology will always rank as a chieftain amongst her greatest sons. To many of us, who regard Müller with something akin to reverence, the fable is less interesting than painful. J. B.

The Scandinavian Ice-Sheet.

IN reply to the letter of Prof. T. G. Bonney (NATURE, vol. xlix. p. 338), which I by chance have read to-day, concerning the difficulty of explaining how the Scandinavian land-ice could have crossed the deep channel of Skagerak and Kattegat, and have reached the East Anglian coasts, I should like to remark that this difficulty is not new to me, and will exist after it has been explained how the ice-stream from Norway could have crossed the named channel and extended over Denmark and North-western Germany. It is, however, an undisputed fact that certain Norwegian boulders are very common in the most northern parts of Jylland, and from there dispersed over the whole Jylland (though their rarity increases with distance from Norway), the northern parts of Fyn and Sjœlland, over Slesvig and Holstein and North-western Germany from Fehmarn towards the west, further over Dutchland and Belgium to several localities at the English east coast, under such conditions that they could not have been transported by floating ice. It is consequently a fact that the ice-stream from Norway has crossed the named channel. I think, therefore, that the best explication is that the Skagerak channel in its present condition was at first formed after or during the period of largest glaciation, to which the Norwegian ice-stream belongs, but before the Baltic ice-streams, both of which, I suppose, are posterior to the greatest extension of the land-ice. The chief reason for the formation of these ice-streams is the existence of the above-named channel, which has prevented the ice-stream from Norway from extending over Denmark for the second time.

Copenhagen, May 2. VICTOR MADSEN.

The Earliest Mention of Dictyophora.

TWAN CHING-SHIH'S "Miscellanies," compiled in the ninth century A.D. (Japanese edition, 1697, book xix. p. 7), has the following note:—"In the 10th year of the period I (Tá-Tung (544 A.D.) a fungus grew in Yen-hiáng Gardens owned by the Emperor Kién-Wan. It was eight inches long with a black head resembling the fruit (that is, the Torus) of *Euryale ferox*; stem hollowed through inside like the root of *Nelumbium speciosum*; skin all white except below the root, where it was slightly red. Portion like the fruit of Euryale had below a joint like that of the bamboos, and was removable; from the joint a sheet was developed, simulating a network, five or six inches in circumference, surrounding the stem in the manner of a bell, but distant and separate from it. The network was fine and lovely, and also removable from the stem. It is allied to Wei-hi-chi (the Auspicious Fungus of Graveness and Pleasure) of the Taoist writings." This description seems to have been passed over by readers as a mere fiction, but I find that it agrees very well with the figure of a Dictyophora, and may probably be the earliest mention of it. A Japanese botanist, Kōzen Sakamoto, has figured the two forms of Dictyophora in his "Monograph of Fungi" (1834, vol. ii. p. 15), but has not referred to the above-cited description. KUMAGUSU MINAKATA.

May 4.

The Scope of Psycho-physiology.

I HAVE no wish to enter into a triangular duel with Dr. Titchener and "the writer of the note" who has provoked his fire. But since my name has been introduced, a word or two of explanation seems necessary.

Some time before Dr. Titchener discharged his first barrel, I was requested by the editor of this journal to contribute a popular article on "the scope of psycho-physiology." In complying with his request, I accepted (1) the conditions implied by the word popular, which no doubt laid me open to the criticism that my "whole treatment" was "a little general and superficial"; and (2) the title suggested to me, since I regarded it as comprehensive and not specially provocative of terminological controversy. C. LLOYD MORGAN.

Bristol, May 10.

The Aurora of February 22.

THE splendid aurora of February 22-23 began on the Pacific coast of North America on the former date, extending unusually far south in California, New Mexico, and Arizona, but did not become conspicuous on the eastern half of the continent until the day following. The earth currents affecting the telegraph lines were troublesome west of Chicago exclusively on February 22 also, not being felt east of that point until the day following. This localisation of the aurora in longitude has been noted in numerous other instances as well. An arrangement has been made to secure records of the geographical distribution of earth current disturbances on the lines of the Western Union Telegraph Company, which extend very widely over the North American continent. From what appears in the case above described, such records are likely to prove to be of very great interest.

April 30. M. A. VEEDER.