

PHYSIOLOGY

Kinship of Ascidians and Vertebrates

THE number of Max Schultz's *Archiv* (v. 4), just published, contains a letter to the editor from Prof. Kupffer, of Kiel, in which that distinguished embryologist asserts that he has been studying the early history of a species of Phallusia, and that his results in large measure agree with those of Kowalevsky touching the startling vertebrate features of the early condition of these invertebrata. He reserves for the present the details about the exact formation of the nervous system, but quite confirms the fact of the existence of a notochord. He says: "At this stage one could not imagine a more beautiful model of a vertebrate embryo, with the neural tube on one side of the axis and a visceral tube on the other." He, moreover, describes in his species of Phallusia the neural tube as not merely an almost spherical vesicle, but as prolonged in the form of a fine hollow thread into the tail above the notochord or axis. He promises full details shortly, and we hope to be able to return to this most important matter.—M.F.

THE Chloral controversy seems likely to terminate. *Pure* chloral, M. Bouchut informs us, is really a good anaesthetic. On the other hand, M. Laborde says that its frequent administration is attended with danger. Chloral, if mixed with blood outside the body, yields no chloroform until traversed by a current of air.

SOCIETIES AND ACADEMIES

Ethnological Society, November 9.—This society held its first meeting for the present session at the rooms in St. Martin's Place. Professor Huxley, the President, occupied the chair. After some remarks by Colonel Lane Fox, the honorary secretary, on the Megalithic Monuments of Stonehenge, Mr. Gardner, of H.M. Consular Service, China, read a paper before the Society, on the Chinese People, Government, &c. The point on which Mr. Gardner laid most stress—in fact, the leading idea of the whole paper—seemed to be the tenacity with which the Chinese had preserved the usages of antiquity, and the skill with which they had adapted them to the exigencies of modern times. They retain, according to him, the patriarchal theory of government, but make it suitable for an empire of 400,000,000 human beings. And if we allow that the ideographic form of writing is the most ancient of all, then the Chinese, in this nineteenth century, preserve an older principle of expressing thought than is to be found in the most ancient Egyptian hieroglyphics extant, and yet no language in the world is more capable of finding appropriate terms for the latest discoveries in mental and physical science, and the newest inventions of art. Mr. Gardner pointed out some analogies which he fancied existed between Chinese, Egyptian, and Hebrew, leaving it to philologists to decide whether these supposed coincidences were fortuitous, or a confirmation of the theory set forward by Hunter and others, of the original unity of the Aryan and non-Aryan languages. In the Chinese religion, Mr. Gardner stated, that whatever might be the nominal creed of individuals, or even masses, ancestral worship (undoubtedly the most ancient form of religious cult) as an act of devotion is most universally practised in the present day. Underlying all religious forms and creeds, Mr. Gardner stated, was an idea, more or less vague, of one Supreme Being; but he did not express an opinion as to whether this idea is a legacy of ancient times, or one of modern development. Besides this leading idea, Mr. Gardner gave a long account of the Chinese social institutions and benevolent societies: these latter are somewhat remarkable, and though not general enough in their organisation to refute the prevailing idea that the enthusiasm of humanity is peculiar to Christianity, tend to show that the Chinese are more philanthropic than any other heathen nation. Mr. Gardner also read some notes, and gave some anecdotes of personal experience to elucidate his main theories. In conclusion, if Mr. Gardner is correct in his premises, we see no reason to doubt his conclusion, that when the theory of division of labour shall be put in practice with regard to races as well as individuals, the Chinese will play an important part in the world's history as ethical philosophers, merchants, mechanics, and labourers; but that they are unfitted for rulers, soldiers, or the higher walks of art, and will not tend to advance physical or mechanical science.

The President referred to the similarity between certain Chinese

customs and those of the Polynesians; such as the exclusion of a word occurring in the name of a great chief. In like manner, the prohibition of marriage between persons of the same surname is a custom common to the Chinese and the Australians. In concluding the discussion, he alluded to the popular but erroneous notion that the Chinese were modified Mongols, and pointed to the fact that, although both had long black hair on the head, and only scanty hair on the face, yet the Chinese had a long skull, with prominent brow-ridges, whilst the Central Asiatic had a broad skull, deficient in brow-ridges.—Captain Sherard Osborn advocated the introduction of railways and the opening of mines; and pointed to the many other advantages which the Chinese would receive from their intercourse with Europeans.—The Rev. Prof. Summers, Dr. Hyde Clark, Dr. Leitner, and others, took part in the discussion.

Additional interest was given to the meeting by the presence of the Yarkandi brought to this country by Dr. Leitner, the only native of Yarkand who has ever visited Europe.

Geological Society, November 10.—Prof. T. H. Huxley, LL.D., F.R.S., President, in the chair. Mr. E. Hartley, of the Geological Survey of Canada, Montreal, was elected a Fellow of the Society. The following communications were read:—"Australian Mesozoic Geology and Palaeontology," by Charles Moore, Esq., F.G.S. The author referred to the observations of Professor M'Coy and the Rev. W. B. Clark, on the occurrence of fossils of Mesozoic age in Australia, and then proceeded to notice the species which he had obtained from that region. Fossils of Mesozoic type occur both in Western Australia and Queensland, but the specimens have hitherto been found in apparently drifted blocks, and nothing is known of the bedded rocks from which they are derived. The author stated that the Australian Mesozoic fossils agree, not only in genera, but also in many cases in species with British forms; and he gave a list of species from Western Australia, identical with British species, from the Middle and Upper Lias, the Inferior Oolite, and the Cornbrash. Of the fossils from Queensland also, many are said to be identical with, or very nearly allied to, British species, but the author regards the general type of the Queensland remains as referring them to the Upper Oolite. A gigantic species of *Crioceras* is regarded by the author as possibly indicative of the occurrence of Neocomian deposits in Australia. The fossil evidence upon which Professor M'Coy inferred the occurrence of the Muschelkalk in Australia, was said by the author to be nugatory, his supposed *Myophoria* proving to be a *Trigonia* nearly allied to *T. gibbosa* of the Portland Oolite, and his doubtful *Orthoceras* a small *Serpula*. The author had found no indications of the existence of Triassic or Liassic deposits in Queensland. The blocks from Western Australia, referred by the author to the Middle Lias, contain *Myacites liassianus* (Quenst.), and are quite as highly ferruginous as the English Marlstone. The species identified by the author with British Oolitic species would indicate a range from the Inferior Oolite to the Cornbrash; the author suggests that the species may have had a longer range in time in Australia than in England, or that the subordinate divisions of the Oolite were not clearly marked in the Australian Mesozoic deposits. He is inclined to refer the fossils to the period of the Inferior Oolite. The author inferred from the occurrence of these Mesozoic fossils in drifted blocks, at the two extremities of Australia, separated by 38° of longitude, that an enormous denudation of rocks of the secondary series has taken place over a considerable part of Australia. Descriptions of a great number of new species were appended to the paper.

"On a Plant- and Insect-bed on the Rocky River, New South Wales," by Charles Moore, Esq., F.G.S. The organic remains noticed by the author were found by him in a small block of chocolate-coloured, micaceous, laminated marl, obtained from a bed about ten feet thick, at a depth of 100–110 feet, in the auriferous drifts of Sydney-flats, on the banks of the Rocky River. The author found the leaves of two forms of Dicotyledonous plants, fragments of a flat narrow leaf, which he refers to the Coniferae, a seed-vessel, and the impressions of several seeds. The insect-remains consist principally of the elytra of beetles, among which Buprestidae appear to predominate. The vegetable remains seem to indicate that the deposit is of Tertiary age.

Prof. T. Rupert Jones mentioned the discovery of a large *Crioceras* in the Jurassic beds near Port Elizabeth.—Mr. W. Boyd Dawkins suggested that we had hardly a right to apply the European standard in judging fossils from all parts of the world, and doubted whether, if these fossils were examined from the