News and Views

Discovery of a Living Crossopterygian Fish

THE discovery of a living crossopterygian fish of the order Actinistia, described and illustrated on p. 455, is an event of outstanding importance. There can be no doubt that Dr. J. L. B. Smith, who is to describe this specimen, is correct in placing it in the family Cœlacanthidæ, of which it would appear to be a typical member. In some respects, the present specimen seems to bear a closer resemblance to genera of the early Mesozoic era such as *Undina* than to the later cœlacanths of the *Macropoma* type from the Upper Cretaceous. The fact that no traces of fossils referable to this family have been found in rocks later than those of the Cretaceous period makes the discovery of a living representative in South African seas even more remarkable. It is stated that the skeleton of the living fish was found to be cartilaginous and the vertebral column apparently tubular. In the fossils the central part of the vertebral column has disappeared, and was probably cartilaginous, but the neural and hæmal spines were ossified. A unique feature of the fossil cœlacanths is the ossified air-bladder, which can be seen clearly in many specimens, and it will be of interest to learn whether this character was observed in the living fish. The photograph of the South African fish seems to show paired nostrils just in front of the eye; but this is another feature of which we must await confirmation. Dr. Smith's detailed report will be awaited with great interest by zoologists and palæontologists alike, and it is little short of a tragedy that the unfortunate disposal of the body of the fish after skinning will make this report very far from complete. An article relating to the discovery of this fish by Dr. E. I. White, of the British Museum (Natural History), accompanied by a large photograph, appeared in the *Illustrated London News* of March 11.

Prof. J. L. Myres, O.B.E., F.B.A.

ON October 1 of this year, Prof. John Linton Myres, Wykeham professor of ancient history in the University of Oxford, will retire, and will be succeeded by Mr. Henry Theodore Wade-Gery, fellow of Wadham College, Oxford. Prof. Myres has occupied this chair since its inauguration in 1910, returning to his own University after three years as Gladstone professor of Greek and lecturer in ancient geography in the University of Liverpool—a chair which also he was the first to hold. His tenure of the Wykeham professorship had already expired under the age limit, but was extended for a further period of five years. His appointment to this chair, which his pre-eminence as a research worker and original thinker in the field of the ancient history (or as it would now be termed the pre- and proto-history) and geography of the Mediterranean region had made almost inevitable, was otherwise appropriate in that he was both a Wykehamist and a member of New College.

BEFORE his appointment to the Gladstone chair at Liverpool, Prof. Myres had been a student of the British School of Archæology at Athens and had held a fellowship at Madgalen College and a studentship at Christchurch, Oxford; and he had travelled widely and excavated in various parts of the Mediterranean, Greece and the Ægean, Cyprus, Crete, northern Africa and Asia Minor—activities which have continued to occupy much of his periods of vacation. Apart from his reputation as archæologist, geographer, and historian—many of his discoveries and conclusions are classics of reference—Prof. Myres is known throughout the scientific world for his energy and abilities as an organizer. There are few fields in the economy of science in which he has not intervened to the advantage of men of science and their work. It was during his tenure of office as general secretary of the British Association in the years succeeding the Great War that the organization and working methods of that body were reformed and brought up to date, mainly on his initiative, with the co-operation of the late Prof. H. H. Turner and later of Sir Frank Smith, his fellow secretaries. During the War, Prof. Myres served in the Naval Intelligence in the eastern Mediterranean, where he combined the duties of an intelligence officer with more aggressive tactics, modelled, it was said, on the raids of Homeric heroes. For his services he received the O.B.E. and the Order of King George I of Greece.

Early Civilization and Cultural Relations in Cilicia

EXCAVATIONS at Mersin in Cilicia by the Neilson Expedition to the Near East of the University of Liverpool during the present season have more than justified the anticipation of last year that this site would afford evidence of settlement and early cultural development equal in antiquity to, if not surpassing, anything yet recorded in the Mesopotamian region. According to Prof. Garstang's preliminary report on this season's work (*The Times*, March 10), the sixteenth level of excavation has been found to contain the well-preserved remains of a fortified city—a whole group of great buildings laid out with plan and purpose. This level lies twenty feet below the imperial Hittite fortress uncovered last year; and in it chalcolithic deposits lie beneath a stratified series of building levels, in which the culture is related to the early predynastic Mesopotamian cultures of Uruk and Tell Ubaid. The cultural affinity with predynastic Mesopotamia of the sixteenth level itself is demonstrated by evidence of direct contact with the polychrome phase of the still older Tell Halaf culture. Prof. Garstang's approximate dating assigning this cultural level at Mersin to 3600 B.C. is therefore to be regarded as by no means excessively high; while the line of fortifications with its abutting 'married quarters', and the chief's residence, all brick-built and not of stone, it is to be noted, thus constitute the oldest known example of architecture.

THIS level of chalcolithic occupation, however, lies at a depth of no more than 35 ft. from the summit of a mound which rises to a height of 80 ft. above water level; and it is known that there is a further ten feet of chalcolithic deposits below it before the neolithic strata are attained. In these, the accumulated relics of the original neolithic settlers extend downward for more than 30 ft. Here, Mr. Miles Burkitt, whose expert examination has been invoked, has found evidence, extending from below the painted pottery down to the 12 ft. level, of two main phases of neolithic culture, in which black or brown pottery is associated with tools of obsidian. To the beginning of the later of these two phases he assigns an antiquity which "can hardly be later than 5000 B.C., while the lowest level reached must date a thousand years earlier". As Prof. Garstang points out, the elaboration of the fortifications and dwelling site point to a well-advanced and highly organized existence at Mersin when Egypt, Babylonia, Crete and Europe were still in infancy. Impressive as the chronological range of this Cilician culture must appear to be, its significance for the archæologist is enhanced, when Prof. Garstang finds in certain details of his ceramic material evidence which appears to point not only to the East, but also to the West, forming a possible link with the Danubian area. Should further examination endorse this suggestion, Mersin will afford something approaching decisive evidence on a crucial problem of European prehistoric chronology of late much under discussion.

Exhibition of Cypriote Antiquities

AN exhibition of pottery of the Early Bronze Age at the Institute of Archæology of the University of London was opened by the Earl of Athlone, Chancellor of the University, on March 10. This pottery was excavated at Vounous in Cyprus by an expedition sponsored by the British School of Archæology at Athens and under the direction of Mr. James Stewart. The exhibition, as was pointed out by the Chancellor in declaring it open, is the first to be held in England of the results of an important excavation of purely British origin in Cyprus; and this fact is indeed of special significance in view of the attempts which have been, and are being, made to arouse interest in Great Britain in the early history and antiquities of Cyprus. The cost of the excavation was defrayed by subscription, among the principal subscribers being the University of Cambridge, Sir Charles Hyde, and Sir Charles Marston. The last-named has presented the main part of the finds allotted to him to the Institute of Archæology, and they form the nucleus of the present exhibition with supplementary loans from the Fitzwilliam Museum, Cambridge, and the Birmingham City Museum and Art Gallery. After the exhibition had been declared open Mr. Stewart gave an account of the site and its excavation. The Vounous site is a cemetery on the east and north sides of a low hill in the foothills of the Kyrenia Mountains. The north side had already been excavated by Dr. Dikaios, and the present work was confined to the east side. The tombs are open caves approached from a forecourt. Burial is in a contracted position, with burial gifts of pottery and food. The entrance was sealed with a single stone and covered in. Sometimes graves had been opened by an iron age grave-digger, who had again sealed the tomb after inserting a votive offering, with, as Mr. Stewart said, "confusing effect". The chronology of the site falls into three periods, dated tentatively from 2900–2500 B.C., 2500–2300 B.C. and 2300–2050 B.C.

Approach to the Absolute Zero

THE second Poynting Memorial Lecture in the University of Birmingham was delivered by Dr. H. B. G. Casimir, of Leyden, on March 7, on "The approach to the absolute zero of temperature and some properties of matter at the lowest temperatures at present attainable". Dr. Casimir remarked that the subject, being one in which the combination of the theoretical and experimental had been so fruitful, was an appropriate one with which to commemorate a man who had in himself so remarkably embodied this combination. The definition of temperature in terms of an ideal gas enables us to say that the ice-point is 273·15° K., but in practice the gas scale cannot be used directly below 1° K., for at such temperatures gases cease to exist. It is possible, however, by other methods, for example, the resistance of phosphor bronze, to extrapolate to 0·2° K., and very small temperature changes can be measured by using the magnetic properties of substances, so that measurements down to a few hundredths of a degree absolute or even less can be made with a good deal of confidence. Methods of experimenting were explained and the remarkable properties of helium II were described.

IT appears likely that it is impossible to solidify helium II, because the solid state requires stability of lattice, and if the helium atom cannot have less energy than $h\nu/2$, this may be sufficient to prevent the formation of a stable lattice no matter how low the temperature. Some special advantages of working at low temperatures were mentioned: Electric insulation is enormously improved; exceedingly high vacua can be attained—if care is taken to exclude helium, vacua down to 10^{-10} or perhaps 10^{-15} mm. of mercury can be attained. Thermal insulation is greatly improved by the almost complete absence of radiation and of gas. Calorimetry is rendered relatively easy, for heat capacities are small, whereas by using the magnetic properties of a salt such as $KCr(SO_4)_2.12H_2O$, temperature changes of the order of 0·001° can be measured, so that the surprising conclusion emerges that the heat generated by allowing a mass of 1 gm. to fall through 0·01 mm. would be capable of detection. The facts of superconductivity suggest the possibility of construction of galvanometers of prodigious sensitiveness and there would be no Brownian motion to cause trouble.

Necker's Map of Scotland

THE first geological map of Scotland, made by Louis Albert Necker in the year 1808, was exhibited by Mr. V. A. Eyles, of the Geological Survey, at a meeting