Neanderthal Man in Malta.

AT a meeting of the Royal Anthropological Institute on March 4, the president, Prof. C. G. Seligman, in the chair, a paper by Sir Arthur Keith on "The Discovery of Neanderthal Man in Malta, with an account of the Survey of the Cave in which the evidence was found (Ghar Dalam), by Mr. George Sinclair," was presented by Dr. A. Burkitt, of the University of Sydney, in the absence of the author The discovery was made in 1917 by Mr. G. Despott, curator of the Malta Natural History Museum, who in digging a trench across the deposits on the floor of Ghar Dalam found two human teeth of a remarkable character. They lay in the second stratum of the cave—a deposit of red cave earth, which varies in depth from 6 to 8 feet. Over the cave earth is a superficial stratum varying from 1½ to 2½ feet in depth and of neolithic date, while under the cave earth is the third stratum, a bone breccia 3 feet in thickness, made up chiefly of rolled fragments of fossil bones belonging to two species of hippopotamus and three species of extinct elephants. The two teeth were found 1½ feet and 2½ feet deep in the red cave earth with remains of stag, elephant (*E. Mnaidrensis*), and hippopotamus (*H. pentlandi*). These bones and the teeth were in the same state of fossilisation. At the same levels and mingled with the above were found chards of neolithic pottery, teeth, and also other remains of neolithic man. Men of the neolithic period and of later dates had lived in the cave and wrought some degree of confusion in the upper levels of the cave earth. In spite of extensive excavations carried out under the auspices of the British Association, no trace of the culture of palæolithic man has been found—neither of the Mousterian period, which is that of Neanderthal man, nor of the later Aurignacian period. All that can be assigned with certainty to palæolithic man are the two molar teeth.

Through the courtesy of the Rector of the University of Malta, Prof. T. Zammit, Sir Arthur Keith was given an opportunity of examining all the teeth found in the floor of the cave. In the condition of fossilisation and in their morphological characters, the two molars differ altogether from the other human teeth, and in size and form are duplicates of molar teeth found in Jersey and at Krapina in Croatia, which are undoubtedly those of Neanderthal man. Teeth possessing such characters have never been seen in the jaws of men of the modern type; they are known only in that anomalous Neanderthal type or species which became extinct in Europe in the last phase of the so-called ice-age. So far, the remains of Neanderthal man have been discovered in only one locality of southern Europe—Gibraltar. Mr. Despott's discovery in Malta carries the type into the old land bridge which—in Pleistocene times—united Tunis to Italy.

The two molars represent the second and third of the upper series of the right side, and although found 7 feet apart, undoubtedly belong to the same set—that of a young man, for the crown of the second is unworn and the third incompletely developed, and must have been in process of eruption. Mr. Sinclair obtained 2250 teeth of neolithic Maltese, of the same date as those buried in the hypogeum at Hal-Safleini, and a close examination of this collection shows no trace of taurodontism, this being the special feature which distinguishes the two fossil molar teeth.

The survey throws a new light on the age and order of the deposits of Ghar Dalam, and makes possible a comparison with the famous palæolithic deposits in the caves of Grimaldi, at Mentone. The original rock floor of Ghar Dalam lies at the same level above the Mediterranean as do some of the original floors of the caves of Grimaldi. On this floor at Grimaldi are the deposits of a raised sea-beach belonging to the Monastirian series of the Mediterranean shores. The rolled stratum of bone breccia in Ghar Dalam apparently also represents this old raised beach. Over the old beach at Grimaldi are deposits of the Mousterian and Aurignacian periods of culture. We may therefore infer that the deposit of cave earth in Ghar Dalam, which contained the Neanderthal teeth, the remains of *Hippopotamus pentlandi* and *Elephas Mnaidrensis*, also represents a pleistocene deposit of a corresponding date. It will thus be seen that the red cave earth represents the geological horizon at which Neanderthal man should appear.

The West Indian Agricultural Conference.

THE ninth West Indian Agricultural Conference was successfully held at Kingston, Jamaica, under the auspices of the Imperial Department of Agriculture on January 28–February 1, Sir Francis Watts, Imperial Commissioner of Agriculture, being the president.

The last conference was held in Trinidad in January 1912, and it will be remembered that the former conference in Jamaica in 1907 was abruptly terminated on the opening day by the disastrous earthquake which destroyed the greater part of Kingston and seriously damaged other parts of the island.

The conference was attended by delegates from Jamaica, Trinidad, British Guiana, Barbados, Grenada, the Leeward Islands, British Honduras, the Bahamas, Bermuda, and by members of the staff and of the governing body of the Imperial College of Tropical Agriculture, Trinidad, and three delegates from England, who were present at the request of the Secretary of State for the Colonies. These were Dr. A. W. Hill, Director of the Royal Botanic Gardens, Kew; Dr. S. A. Neave, Assistant Director of the Imperial Bureau of Entomology; and Mr. S. P. Wiltshire, of the Imperial Bureau of Mycology. In addition to the official delegates, Sir Arthur Shipley, chairman of the governing body of the Imperial College of Tropical Agriculture, Trinidad, was also present at the conference, and took part in its deliberations.

The conference was opened by His Excellency the Governor of Jamaica, and after his speech the president delivered his address, which dealt with the present position of the more important agricultural industries in the West Indies. He outlined some of the directions in which investigation and research were needed, and pointed out the way in which such work could be carried out at the newly established college in Trinidad. Subsequent papers by members of the professorial staff of the College on the research work that is being undertaken—on breeding experiments with bananas in connexion with the Panama disease; on the fertilisation of cacao; on cotton, both as regards genetical work and its insect pests; and on the sugar cane and its diseases—showed the methods by which these many problems are being investigated at the Imperial College, and indicated that the results already achieved give good promise of final success in their solution.

On the second day of the conference the proceedings were opened by the Director of the Royal Botanic Gardens, Kew, with a paper dealing with the Imperial aspects of tropical agriculture, in which he pointed out the need of maintaining the connexion of the Colonial Departments with a central institution or institutions at home, and outlined the directions in which the home authorities could assist those working in the Tropics. Dr. Neave and Mr. Wiltshire followed with papers concerning the work of the Imperial Bureaux of Entomology and Mycology respectively, in which they were able to demonstrate very clearly the services these two institutions are able to render to agriculturists and others throughout the Empire.

Important papers were also contributed by the Assistant-Director of Agriculture, Trinidad, on cacao experimental work, especially with reference to budding, grafting, and selecting, and on the red-ring disease of coconuts, of which he was the discoverer.

Other papers of interest dealt with agricultural education and the need of a more definite system of training children for agricultural work which would lead on to the final training at the agricultural college and so produce an efficient class of cultivators, overseers, etc. Commercial problems of agriculture in Jamaica were very ably dealt with by Mr. R. S. Gamble, chairman of the Jamaica Chamber of Commerce, who pointed out how intimately the agricultural interests of the island are connected with the question of supply and demand, and emphasised, by citing local examples, the folly of over-production in some specialised industry.

During the conference the delegates paid a visit to Hope Gardens and the Agricultural Station, where the Director of Agriculture, Mr. H. H. Cousins, demonstrated the results of his very successful cattle-breeding experiments, and the methods of tick control initiated by him, which have proved of very great benefit to the island.

The conference may be said to have demonstrated especially how vital are the agricultural problems awaiting solution which hitherto have been very largely disregarded. It also served to show, from some of the papers presented, that nowhere can these problems be more successfully faced than at an Imperial College of Agriculture situated in the Tropics.

The Association of Technical Institutions.

THE annual general meeting of the Association of Technical Institutions was held on February 29–March 1 at the Clothworkers' Hall, Mincing Lane, London, E.C. Lord Emmott was elected president for 1924, and the following officers were also appointed: Mr. F. Wilkinson, to be vice-chairman of the Council; Mr. W. Calderwood, to be honorary treasurer; and Principal H. Schofield, of Loughborough College, to be honorary secretary.

Lord Emmott, who discussed educational policy in his presidential address, stated that he believes members of Parliament and the electorate are willing to provide what is necessary for education, provided they are assured that educational policy is based on sound lines and is likely to produce good results. But to cripple trade and industry by an unbearable pressure of taxation, even for so vital a matter as education, would be a policy which would defeat its own ends. The present policy of the Board of Education and the very principle of centralised control in education was criticised, and Lord Emmott stated that, in his opinion, the Board of Education ought to be (*a*) a centre of research work on all educational problems, and (*b*) a real source of light and leading to local authorities, managers of schools, and the teaching profession in general.

Referring to higher technical study and research work, Lord Emmott expressed the hope that those concerned with the organisation of this branch of education will continue to cultivate the closest possible relations with manufacturers and commercial business firms. The main defect of our system of education is that it is too remote from the facts of life.

Principal Coles, of the Technical College, Cardiff, read a paper on "non-resident" students, *i.e.* those who reside outside the area controlled by the Local Education Authority maintaining the Institution. The question of the apportionment of so much of the cost of instruction as is not covered by fees is one which has become exceedingly complicated, and the present position was described by Principal Coles as chaotic. A colossal amount of work has been involved in preparing and sifting statistics, and educational efficiency has been prejudiced by friction: the finding of a generally applicable solution of the problem has become a matter of real urgency. For institutions providing senior full-time departments needing much expensive equipment, many of which draw a large proportion of "foreign" students, the question is a vital one.

Among all the institutions included in Principal Coles's tabular statement, Loughborough College is pre-eminent in respect of the percentage of non-resident full-time senior students, and it is therefore interesting to note the Loughborough solution of the problem: "We have fixed the fees at such an amount that with the proceeds of a penny rate from the County we are self-supporting; we then adopt the policy of assisting our own students, *i.e.* those from the County area; by adopting this system not only do we not mind what is the origin of our students, but we prefer that the L.E.A. from whose area students come should assist us through the student himself."

Mr. Dempster Smith, of the College of Technology, Manchester, who dealt with "Industrial Administration," maintained the proposition, long ago accepted in the United States, "where the Universities act as the gates to business," that the post of works manager calls for professional training no less than do the duties of a lawyer or physician. He then proceeded to answer the questions, When should such training begin? What part of the technical or works training should be cut out? What should be the nature and duration of the training? The answer to the first question is—on the completion of the technical training when the student has a thorough appreciation of what is involved; to the second—nothing. The answer to the third question is in the form of a specimen one-year "post-graduation" course syllabus. In the Manchester College of Technology, all students reading for degrees in engineering or textile technology take a course in the industrial administration department during their last year, and provision is also made for full-time courses in industrial administration for graduates and associates. The growth of interest in the subject has been marked by the foundation in 1920 of the Institute of Industrial Administration, which has arranged to hold examinations in 1924 and succeeding years.

At the present time, when building difficulties are a matter of national concern, the views of those