

owing to these facilities and the shorter distance, sailing vessels soon became superseded by steamers, and it was estimated that 2,000,000 tons of vessels were thus thrown out of employment. Under the old system, when voyages from India took the greater part of a year, and the time of arrival could not be calculated within a month or two, it was necessary to keep large stocks to meet the varying demand for goods, and hence the erection of the enormous range of warehouses at the India Docks. Steamers by way of the canal make the voyage in thirty days, and the time of their arrival can be regulated within a day or two; shorter voyages and punctuality of arrival make it possible for merchants to order direct from the East, and hence less capital is required and the cost of warehousing saved. The Suez Canal has had a material effect in fostering the growth and export to this country of Indian tea, which has increased from 11 to 120 million pounds. The export of rice from India has also enormously increased since the opening of the canal, and now constitutes the largest single item in the export trade of India. When the only route was round by the Cape the difficulty in transporting wheat, owing to its liability to heat during the voyage, and the loss from weevils, made the export of grain unprofitable. Since the opening of the canal India has become the second exporting country of the world, the exports of grain amounting now to over 50,000,000 bushels.

Other merchandise, both of import and export, has been affected to a less degree; the shorter route has also rendered possible the export from Australia and New Zealand of very large quantities of meat, fruit and other food products.

The Saint Mary Falls Canal, commonly called "The Soo," has now a traffic even larger than that of the Suez Canal, and exceeds the total foreign trade of the port of New York. The development of the trade now carried on over the Great Lakes is almost entirely due to this "Soo" canal. The size of vessels engaged in the navigation in 1870 averaged 175 tons; now there are five lines, owning sixty steamships of from 1750 to 3000 tons. The increase in trade is due in a great measure to the opening out of the iron mines of northern Michigan and Wisconsin, which have been made available by the canal route from the mines to the ports in the southern lakes. But the most important factor in the increase of the navigation is the transport of wheat and flour, the low rates at which these can be carried by water encouraging the growth over a very widely extended area of country. The other resources which have been developed by the construction of this canal are timber, coal and copper. One conspicuous feature due to this canal is the immense increase in population in the Lake Superior region and the development of towns.

ANTHROPOLOGY AT THE BRITISH ASSOCIATION.

THE Anthropological Section met in the Park Place School-room, under the presidency of Mr. E. W. Brabrook, C.B., ex-President of the Anthropological Institute.

On Thursday, September 8, the morning's programme consisted mainly of papers on physical anthropology.

The sixth annual Report of the Committee on the mental and physical deviations from the normal among children in public elementary and other schools was read by Mr. White Wallis, and gave a further account of those children whose mental and physical condition renders them unfitted for the public education provided in ordinary elementary day schools. The new information has been mostly obtained by studying the correlations of the cases, and the facts tabulated show that great difficulties must arise in making any provision for the proper care of these children, who show a much greater tendency than average children to become delicate under an adverse environment. The large proportion of both boys and girls who present "abnormal nerve-signs" shows the importance of trying to remove each such sign by carefully adapted physical training, and that the improvement of the brain condition of such children below the average in mental and physical development requires skilled teachers and good hygienic surroundings.

Mr. O. H. Howarth read a paper on human life at high altitudes, with the object of determining whether the adaptability of man to extreme conditions is of comparatively recent development, or of gradual growth. He exhibited an object which he regarded as a stone celt, found at an elevation

of 7700 feet in the Rocky Mountains in Colorado. As causes of human inhabitation of extreme altitudes, he named the pursuit of industries impracticable elsewhere, and seclusion for religious purposes, and enumerated the conditions favourable and unfavourable to the persistence of human life under these conditions. He described numerous specialised superstitions; especially the impulse to establish cults on high peaks, and the belief in disembodied spirits, leading to a variety of precautions to prevent their interference. In the discussion which followed, Dr. Beddoe pointed out that Tibet, which was the highest average altitude in the world, was the only place in which real theocracy existed, and that the shepherds in remote parts of Australia often became demented because they were so much alone. Dr. Francis Galton thought it would be worth while to observe the behaviour of animals in high altitudes. Prof. Tylor suggested that some attention might also be directed to the collection of literature dealing with this subject. Mr. C. H. Read regarded the object exhibited by Mr. Howarth as a purely natural production, not a manufactured implement. Dr. G. A. Dorsey and Dr. J. G. Garson continued the discussion. Mr. Howarth briefly replied.

Miss M. A. Ellis presented a note on the human ear as a means of identification, stating that ears do not change shape after childhood, and classifying the great varieties of shape by marking off the *helix* into five divisions. Various types of ears were exhibited, and a brief discussion followed.

Mr. K. Minakata's paper on *Tabu* in Japan was read in abstract.

Mr. G. Leith read an important paper on a large and varied collection of stone implements from South Africa, describing the situation and characteristics of the bushmen's haunts, in some of which were found implements and other signs of occupation, just as they had been left years ago; and remarking upon the various types of stone implements which are found both in the cave deposit, and in the talus in front of the cave. With these poisoned arrows the bushmen were a dangerous enemy to the Boers, even when the latter were equipped with firearms. The investigation of Lighthouse Cave, at Cape St. Blaize, led to the discovery of many fine specimens of skinning knives, scrapers, and flaked implements, indicating that it had been a place for the manufacture of these implements for many ages. Alluding to his researches in various beds of gravel at various altitudes in which he discovered large numbers of paleolithic stone implements of very remarkable size and shape, he classified the latter, according to their position, into neolithic or modern, paleolithic or ancient, and eolithic. The evidence of these gravels proved without doubt, in his opinion, that South Africa was the home of man at a very remote period of history. The eoliths found there corresponded exactly with the plateau implements found on the Kentish Weald by Mr. Harrison. Prof. Dawkins did not think that the evidence was clear as to their belonging to the Gravel ages, and had no doubt that he could find a parallel from North America for the specimens produced.

Mr. F. T. Elworthy described a number of Roman symbolic hands from Pompeii and elsewhere, of the kind known as *Mano Pantea*; contending that these hands are not votive offerings, but in fact the Roman Penates. Mr. A. J. Evans and Mr. E. S. Hartland pointed out that these hands all belong to the late heterogeneous cults of the early empire, and have no connection with the indigenous family cults of Italy. Mr. J. L. Myres described other examples exhibited in the British Museum, one of which bears a definitely votive inscription. Bishop Brownlow commented on the Christian benedictory use of the gesture represented in these pre-Christian hands.

Mr. H. Warington Smyth described the river craft in use among the Siamese, explaining the construction of the "dug-out" Me Kawng boats, and discussing the various native types. To this was appended a brief description of the simple fourteen-reed instrument in use among the Lao of the Me Kawng Valley, illustrated by an example of this characteristic and monotonous music.

On Friday, September 9, after the President's address, Dr. Beddoe gave a summary account of the mediæval population of Bristol, based on two series of skulls, the one mediæval, the other probably of the eighteenth century, disinterred on the occasion of the removal of St. Werburgh's church, and on certain lists of surnames of various dates. He found the mediæval skulls very generally small, short and broad (cephalic index 80·0), while the later ones exhibited the same long types that characterise the present population of

Bristol and the surrounding districts (index 76'6). He ascribed the mediæval brachycephalism to the large proportion of people of French descent, which was indicated by that of French surnames, these latter having gradually declined in number ever since the fourteenth century.

Prof. H. A. Miers, F.R.S., read a note on the origin of stone-worship, in which he pointed out that when meteorites fell in early times, they must have provoked religious awe; quoting instances among recorded falls in which this was certainly the case, and some in which the meteorite became an object of worship. Mr. Arthur Evans pointed out in reply that the meteoric theory of stone-worship had in fact been formerly dominant, but could not be held to account satisfactorily, in a large number of cases, for the observances associated with the worship of stones.

Prof. C. Lloyd Morgan gave a short account, with lantern illustrations, of the camps and megalithic remains to be visited during the meeting in connection with the excursions.

Mr. A. L. Lewis sent a note on the circles of Stanton Drew.

A description of the megalithic monuments of Dartmoor, by Mr. P. G. S. Amery, was postponed to Wednesday's session.

The afternoon session was held in the Princess Theatre, Park Row, and attracted an audience of nearly a thousand persons. Prof. E. B. Tylor, F.R.S., discussed the survival of palæolithic conditions in Tasmania and Australia, with especial reference to the modern use of unground stone implements in West Australia; pointing out that the stone implements from Tasmania, the making and use of which by the natives came under the observation of the colonists during the first half of this century, have a character which may be called quasi-palæolithic. They were fragments or flakes of stone, in no case ground, but edged by chipping on one face only, and trimmed so as to afford a grasp to the hand, no haft of any kind being used. These instruments correspond to some extent with scrapers, &c., belonging to the Drift and Cave periods in Europe; but their general rudeness, and the absence among them of symmetrical double-edged and pointed implements like the flint picks of Old World palæolithic times, place the modern Tasmanians at a distinctly lower stage than the Europeans of the mammoth period. The stone implements found in Tasmania, of which some good collections have now been made, indicate a state of the Stone Age in past times not essentially different from that found in actual existence before the disappearance of the native population. These quasi-palæolithic implements, old or new, have to be considered apart from the few cases of ground stone hatchet blades fixed in handles, which are now admitted to have been introduced in modern times by Australian natives.

The purpose of the paper was to offer evidence making it likely that the early Stone Age condition characterising Tasmania extended within no distant period over the whole Australian continent. A native Australian hatchet hafted with gum on a stick-handle was exhibited, lent by Mr. W. Ayshford Sanford, of Nynehead Court, Somerset, who brought it half a century ago from the Perth district of West Australia. The blade of this instrument, with its unsymmetrical edge formed by chipping along one side of the original flake, is simply indistinguishable from the ordinary Tasmanian form placed beside it. Prof. Tylor stated that, unwilling to judge hastily from a single specimen, he had for years been in correspondence with anthropologists in Australia as to the presence there of such implements, and had lately, through communications from the Bishop of Tasmania and Mr. Alexander Morton, of the Hobart Museum, received intelligence that the latter, than whom no one better understands the Tasmanian implement question, has on a late journey to the little-known Murchison district in West Australia, while not meeting with ground stone axes, found the natives using chipped stones quite similar to those used by the Tasmanian aborigines, as shown by photographs sent for comparison. These quasi-palæolithic implements not having yet been dispossessed in this district by the ground stone hatchets, which apparently were introduced from the Torres Straits region, it would seem that this neolithic invasion was of no remote date, and that the vast area including Australia as well as Tasmania may have been till then peopled by tribes surviving at a level of the Stone Age which had not yet risen to that of the remotely ancient European tribes of the Drift gravels and limestone caves. While disclaiming any hasty inference, Prof. Tylor called attention, from this point of view, to the importance of, and the similarities between, the modern Australioid skulls and the prehistoric skulls of Neanderthal, Spy, Padbaba, &c.

On Saturday, September 10, Prof. Tylor opened the morning session by introducing the final report on the north-western tribes of Canada. He pointed out that, while the work of the committee has materially advanced our knowledge of the tribes of British Columbia, the field of investigation is by no means exhausted. The languages are still only known in outline. More detailed information on the physical types may clear up several points that have remained obscure, and a fuller knowledge of the ethnology of the northern tribes seems desirable. Ethnological evidence has been collected bearing upon the history of development of the culture area under consideration; but no archaeological investigations have been carried out which would help materially in solving these problems. For this reason Prof. Tylor thought it was a matter for congratulation to know that the ethnological investigation in British Columbia will not cease with the operations inaugurated by the committee, but was now entrusted to the committee for the ethnological survey of Canada, the second report of which was to be read during the morning. He finally bore testimony to the very high value of the work done by that committee.

Mr. J. L. Myres then read a condensed abstract of the complete final report of the committee. It consists of two parts: (1) Report of the investigations into the physical characteristics of the tribes of British Columbia, by Dr. Franz Boas and Mr. Livingston Farrand; (2) a summary of the work of the committee in British Columbia, by Dr. Franz Boas.

Sir John Evans, commenting upon the report, said that one question that arose was whether the committee had been able in the course of their labours to acquire any of those old personal objects which formed such an interesting subject in the report. He knew that in the museum at Victoria there was a collection of the antiquities of the north-western tribes of Canada, but he believed that the bulk of the objects collected in Canada were still in the museum of New York. This circumstance, however, was largely due to the greater liberality of the United States Government. It would be a graceful act if the authorities of that museum were to present to the British Museum a typical collection of the objects that Dr. Boas had obtained, assisted as he had been by the British Association. When in Vancouver and Victoria he had thought it a great pity that the many objects collected from the original inhabitants of the country had not found their natural home within the British dominions. Dr. Dorsey, he was sure, would agree with him that there was an abundance of material from which a selection could be made for the mother country. In conclusion, he asked those present to express their pleasure that the labours of the committee had terminated so satisfactorily.

Dr. G. A. Dorsey, of Chicago, stated that one of the objects of his present visit to England was to arrange for the transfer of some portions of the collection under his care to museums in England. He gladly testified, from his own practical experience, to the value of the reports of the committee as a guide-book to the tribes which they described. He further pointed out that Dr. Boas was not now in the service of any association, but was employed by the New York Museum, the directors of which had placed at Dr. Boas' command something like 1200*l.* for equipment purposes.

The President endorsed the views of Sir John Evans and Dr. Dorsey as to the value and importance of the work of the committee and its embodiment in the pages of the report.

Mr. Hartland expressed the hope that the whole series of reports, some of which are out of print, might be republished in a convenient form; and a resolution to that effect was subsequently sent up by the Sectional Committee to the Committee of Recommendations.

Mr. A. Krauss read a paper, illustrated by lantern slides, on the Tarahumare people of Mexico. He showed that the Tarahumaris lie in the most inaccessible portions of the Sierra Madre of Northern Mexico. They are ignorant and primitive, and many still live in caves. What villages they have are at altitudes of some 8000 feet above the sea level. They are a small and wiry people, with great powers of endurance. Their only food is pinoli, which is maize parched and finely ground. They have a peculiar drink called teshuin, also produced from maize and manufactured with considerable ceremony. The language of these hillmen is limited to about 300 words, and their imperfect knowledge of numbers renders them unable to count beyond ten. The religion they have seems to be a distorted and imperfect conception of Christian tradition mixed with some of their own ideas and superstitions. Miss Zelia

Nuttall summarised her own observations of the same peoples.

Miss Mary A. Owen contributed a note on the myths and customs of the Musquakie Indians.

Mr. C. Hill-Tout sent photographs of newly-discovered rock drawings from British Columbia.

The second report of the Committee of the Ethnographical Survey of Canada stated that the investigation presents two main branches: (1) that dealing with the white races, and (2) that dealing with the aborigines or Indians. These, however, are not entirely distinct, for a particularly interesting line of inquiry is that relating to the Métis or "half-breeds," resulting from the intermixture of the whites and Indians.

Three sets of anthropometric instruments have been purchased, and distributed to Mr. Charles Hill-Tout, of Vancouver; to Mr. A. F. Hunter, of Barrie, Ontario, who has associated with him Dr. F. Tracey, of Toronto; and to Dr. A. C. Hebbert, of Montreal. A camera, specially adapted to its work in the field, has been placed in the hands of Mr. Hill-Tout.

Communication has been opened with the Committee appointed by the American Association for the Advancement of Science for an Ethnographic Survey of the United States.

The several provincial governments of Canada have been approached for the purpose of obtaining, if possible, grants in aid of the work of the Committee. Nothing has, however, so far resulted from the communications referred to in the way of material aid; but Mr. David Boyle has been commissioned by the Government of Ontario to obtain photographs of the Indians of the province in connection with his investigations of Iroquois religious rites. Proceeding upon the lines adopted by Mr. B. Sulte in regard to the province of Quebec (whose results form Appendix II. of the Committee's Report), a similar inquiry has been undertaken by Mr. A. F. Hunter in regard to the composition of the population of the several counties of the province of Ontario. In British Columbia Mr. C. Hill-Tout has been able to do some work among the Haida Indians, and his results are presented in Appendix I.

On Monday, September 12, Miss A. G. Weld exhibited an early Cinghalese bronze image of Buddha, found in 1886 on the estate of Baltrasna, about 15 miles from Kells, by a labourer digging deep into a bog. Mr. C. H. Read accepted the image as a genuine work of Buddhist art, but quoted the frequent discovery of Chinese porcelain seals on Irish sites, which, like the figure in question, were probably not imported before the establishment of the tea trade. Sir John Evans pointed out that a bog would offer a safe place of concealment for stolen property. Dr. Beddoe stated that there was evidence, which was at least suggestive, that Buddhist missionaries did at some remote period reach these islands.

Mr. W. Crooke, late Director of the Anthropological Survey of the North-western Provinces and Oudh, read a paper on the jungle-folk and other Dravidians of Northern and Central India, describing the character of the country occupied by these races, their environment, food-supply and industries, and considering, mainly on the evidence of anthropometry, the relations between these jungle races and the peoples inhabiting the great northern plains. The suggestion that they were Mongoloid was dismissed as contrary to evidence recently collected. There was probably an original Negrito element in the earlier Indian races, but the existing traces of it appear hardly elsewhere than in the Veddas and the Todas. The existing Dravidians possibly represent a later emigration from the African continent, possibly reaching India by a route more northerly than that taken by the Negritos. In regard to the preponderate Dravidian element in the existing races, he briefly discussed the measurements collected by Mr. Risley and himself, and while generally accepting the conclusion that the effect of the Aryan invasion was more social than racial, he emphasised the need of a more extensive collection of measurements both on Indian soil as well as in Eastern Africa. He then proceeded to note survivals of primitive custom among the Dravidians. A discussion followed in which Dr. Beddoe, in conflict with Mr. Risley, asserted the existence of a considerable Aryan element among the present races.

Mr. Sidney Hartland desired to emphasise the value of the work done by Mr. Crooke in his inquiries among the races of the North-west Province and Oudh, and referred to the fact that ethnological work was positively discouraged among its officials by the Indian Government. Any one who realised the already very complex character of the facts relating to the native races, and the still increasingly complicated differenti-

ation of new sub-castes and sections, must come to the conclusion that the amazing indifference of the Indian Government to ethnological questions was nothing short of suicidal. He would be glad if a representation could be made to the Indian Government urging the pressing importance to the Indian Empire of an exhaustive and sympathetic study of the races under its care.

The President heartily associated himself with the suggested appeal to the Indian Government.

An *ad interim* Report of the Torres Straits Anthropological Expedition was read, to the effect that Murray Island was reached on May 6, where, in the course of a fortnight, a number of anthropological and psychological observations were made. Delena was reached on May 27, and Port Moresby on May 31. In the absence of the Governor, Sir William Macgregor, Mr. Musgrave gave every assistance. Short visits were paid to Kaile, Kappakappa, Hula, Babaka and Kerepunu. Subsequently a short excursion was made to the Astrolabe Range. Drs. Rivers, MacDougall and Myers have obtained a large number of observations in experimental psychology, and the whole of the party have enjoyed good health.

Mr. R. E. Guise, in a paper on the tribes inhabiting the vicinity of the mouth of the Wanigela (Kemp Witch) River, New Guinea, described the tribes of Bulaa, Kamali, Babaka, and Kalo.

Mrs. Isabella Bishop read an instructive paper on the Mantzu of Western Sze-Chuan. She entered upon the territory of the Tssu-Su of Goms and lived for some weeks among the Mantzu, being lodged either in their houses or on their roofs. She described the aspect of their villages and their dwellings, their devotion to Lamaistic Buddhism, their system of government, and their marriage and burial customs. Their most noteworthy characteristic was the position accorded to women, who were as unfettered as in England and America, and were on an absolute equality with men, possessing legal rights to property. She minutely described the dress and ornaments of both sexes, showing their occupations and amusements, and pointed out certain resemblances to the Lolos of Yunnan. They had their own language, but it was written in Tibetan characters. Their physiognomy was European in expression as well as feature, and recalled that of the Latin races. Mr. Archibald Little described some of his own experiences in the region, and characterised the inhabitants as being polite and hospitable. They seemed to be wedged in between China and Tibet; and how they came there appeared to be an ethnological puzzle, as their appearance was similar to the high-class Italian. Mr. Warrington Smyth commented upon the characteristics of the country.

Sir T. Hungerford Holdich's paper on the Afridis and Swatis was postponed, owing to the serious illness of the author.

On Tuesday, September 13, Miss Mary H. Kingsley read a paper on West African conceptions of property, the object of which was to give some idea of the law and nature of property among the peoples of true Negro stock. The geographical distribution of the true Negro stock is a subject worthy of attention for several reasons. One is that among these peoples were found the most highly developed form of native African culture; another, that in the matters of physical and mental characteristics the true Negro differs greatly from the better-known Bantu stock. A high percentage of error had at present been attained by the failure to recognise these differences, and thereby the work of Sir A. B. Ellis on the true Negro, and that of Bastian on the true Bantu, had not yet been given its full scientific value. The three kinds of property existing in West African culture are (1) an ancestral property of the tribe ("stool" or "cap" property); (2) family property in which every member of the family had a certain share, to which every member had to contribute, and on which every member had a claim; (3) private property, acquired by personal exertion (over and above that made in co-operation with other members of their family) gained by gifts, or made in trade by the exertion of superior trading ability. Each of these kinds of property was equally sacred in the eye of native law. The only kind that could become another kind of property was the private. Stool property and family property remained of their kind for ever, and could not be alienated, though liable, with all the other kinds, to meet debt. Wealth was divisible into (a) the means by which property could be acquired and developed, to which division belonged wives and slaves; (b) property in power over market rights, utensils, canoes, arms, furniture, and trade goods. Property was guarded by and existed under the law represented by the cult of the law

god, and by the influence of religion. The President said that so elaborate a legal system, with such sound equitable principles, had seldom been brought before the Association. Sir William Crookes expressed his great admiration of the paper, and hoped that Miss Kingsley would read similar papers at future meetings.

Mr. H. P. FitzGerald Marriot then read a paper on the native secret societies of the West Coast of Africa. These societies maintained the religious and social principles of the people, and administered justice according to native law and custom. Some of them were merely temporary, such as the lesser Purroh of certain parts of Sierra Leone, of which white men spoke; others, again, were ancient tribal institutions, such as the secret religious or State Purroh, with its grand council, of which most people were unaware. Mahomedan influence was seen not only by the personal association of the latter, but by the knots that were used as charms both by some of these societies as well as by individuals. The names and varieties of these societies were numerous. Those nearest to each other were generally on good terms, though distinct; and all could be more or less connected. In various instances the Government could employ these societies to carry out its ends, and by means of methods to which the natives were accustomed could gradually habituate them to British law and order.

M. le Comte Charles de Cardi read a paper on "The natives of the Niger Delta," giving an account of the early navigators who visited Western Africa; of the origin of the Benin people and of many of their customs; of Ju-Juism in the delta, with some description of devil-huts; and concluding with an estimate of the capabilities and future of the West African natives.

Mr. C. H. Read contributed a paper, illustrated by a series of lantern slides lent from the collection of the Anthropological Institute, on "Ancient works of art from Benin city." He pointed out that the position of Benin near the great waterway of the Niger had brought it into contact with influences from the north. It was thus possible that here might be found some relics of the ancient civilisations of the Mediterranean. Relations with Abyssinia were founded on the journey of a Franciscan friar from Benin to Ethiopia in the fourteenth century, and some corroboration of this was found in the Benin tradition that the king was subject to a powerful prince far to the east. In the hope of finding evidence of these traditions in the loot that came from Benin, Mr. Read had made representations to the Government, with the result that a large collection of ancient examples of Benin art had been secured for the British Museum, though it could scarcely be said that they had any direct bearing on the relations of Benin with either the extreme north of Africa or the East. A document of great interest bearing on their origin was a report by Sir Ralph Moor, giving the account of a palaver with the Court historian, three Ju-ju men, the master smith, the master wood-carver, and the master ivory-carver, from which it appeared that the white men first came in the time of King Esige, and one of them, named Ahammangiwa, made the plaques and brass-work for the King. Assuming an average reign of twenty to twenty-five years for each of the kings, this would bring the time of Esige to about 300 years ago, a date that would correspond very well with the date of the European costumes shown in the plaques.

Mr. C. W. Hopley sent some vocabularies and illustrative examples of the languages of Kavirondo. Copies of these are to be seen and consulted in the library of the Anthropological Institute.

In the afternoon Prof. Flinders Petrie gave a summary of the principal discoveries during the last five years that had revealed the rise of Egyptian civilisation. Various excavations at Koptos, Naqada, Abydos and Hierakonpolis had discovered remains belonging to the ages before 4000 B.C., which had hitherto been the starting-point of known history. Beginning with the Libyan stock, with some Negro mixture, which occupied Egypt in its earliest civilisation, he showed some of the objects he had found at Naqada. These were at first temporarily assigned to a new race; but now they could be safely assigned to the pre-dynastic stock about 5000 B.C., and even earlier. In the graves of this aboriginal race were found bowls of black clay with patterns imprinted upon them. In each of the countries where this type had been found, it was contemporary with the introduction of metals. The proximate date of this was 5000 B.C.—and that accorded very well with the time necessary for arriving at the high culture attained by 1500 B.C. Therefore these discoveries were of great value in

giving the relative state of Egyptian civilisation to that of the rest of the world at the introduction of dynastic rule. There was a wide difference between the people of 5000 B.C. and those of 4000 B.C., but no difference between those of the latter period and modern times. This showed that a different race entered the country about that period.

Next came the earliest dynastic remains, *e.g.* the presumed tomb of King Mena, the founder of the dynastic history, of about the date of 4700 B.C., then the remains of other royal tombs found at Abydos belonging to the first three dynasties. The gradual decay of flint working between 4500 B.C. and 1500 B.C., as metals came into use and copper was gradually hardened into bronze, had no parallel in the world. Prof. Petrie showed diagrams and impressions of cylindrical seals as used by the kings of the first three dynasties, also a vase exhibiting the earliest representation of Egyptian mythology and other vases, tablets, and slates showing animals and birds. These finds were very important, as they showed the rise of the art of modelling, and of the Egyptian ideas and appreciation of the forms of animals and of the human body, and proved that Egyptian art reached its high-water mark somewhere before B.C. 4000. Other finds showed the kings in triumph over their enemies, receiving captive kings, opening the public works, or reclaiming the marshes. The handled copper vessels showed the most advanced metal work found of the first three dynasties. The population of the pre-dynastic age was different in type from that of historical times, and in the early monuments the presence of diverse types was very clear. We had at last before us evidence of the close of the period previously considered prehistoric, showing the development of the art, writing, and civilisation of Egypt and the composition of a race which had since maintained its character during 6000 years. Egypt was then an originator in the arts and not a borrower, but ever since then most of the nations of the earth had been borrowers and not originators. Here we were studying the history of a country not borrowing but developing a vast and complex civilisation on its own resources.

Sir John Evans said that the wonderful flint knives must have been the culminating point of an art stretching over a vast series of years. Where was all that civilisation developed? He hoped that the recent conquests in Egypt would materially assist us in investigating that matter.

Mr. Arthur Evans thought a comparison of the pottery of other parts of the Mediterranean basin with that of Egypt helped to bridge the gap which separated early Egypt from the dawn of civilisation in Europe. He considered that Prof. Flinders Petrie would be safe in assigning his discoveries even to an earlier date than he had done.

Prof. Flinders Petrie, in reply, said that he himself thought that he was well within the mark, but he chose the date he had fixed in order to be absolutely safe.

Miss A. Goodrich Freer then read a paper on "The folklore of the Outer Hebrides." This folk-lore has a degree of interest which justified the inconvenience attendant on its collection. A peculiar value attaches to the ancient hymns, stories and legends, and to the charms, spells and divinations, because these were more certainly becoming difficult to recover.

On Wednesday, September 14, in the morning, the programme consisted of papers on archæology and folk-lore.

Mr. Sidney Hartland presented the sixth Report of the Committee on the Ethnographical Survey of the United Kingdom, emphasising the fact that, while the whole scheme of the committee's inquiries included a number of subjects, it was not considered necessary for each observer to deal with them all, and that some subjects, such as current traditions and beliefs, and dialects, were more immediately pressing than others.

Mr. A. Bulleid presented the third Report of the Committee on the Lake Village at Glastonbury. Twelve more dwelling mounds have been examined, as well as the ground between and around them, and the southern end of the settlement has now been completely explored, the timber substructure in this locality being in a better state of preservation than in any part hitherto examined. Mounds A, B, C and D showed the gradual growth of the village, easily recognised by the floor of one mound overlapping the floor of the mound immediately contiguous to it, also for the number of bone needles found. Mound E contained the remains of a small furnace of baked clay, fragments of crucibles, and small pieces of bronze. In Mound A, part of the framework ostensibly of a loom was discovered; evidently discarded before the first dwelling was erected.

Mr. Arthur Evans supplemented this report with a paper on the place of the Glastonbury Lake Village in British archaeology. He insisted upon the homogeneous character of the culture here revealed, and showed that it belonged entirely to the pre-Roman period and the first and second centuries B.C. It represented a distinct phase of a form of culture introduced into Britain by the invading Gaulish tribes. The glass-working industry of Glastonbury was probably derived, by the same overland route as various forms of vases, safety-pins, and other relics, from the old Venetian region where this art flourished already in prehistoric times. The name Glastonbury itself was a translation of the Celtic Ynis-witrin—Glass Island.

Prof. Boyd Dawkins said that the inhabitants of that village had most probably introduced both glass-making and lead-mining. He had no doubt that Mr. Arthur Evans's derivation was correct. Sir John Evans thought that the mere fact of the dwellings being in that unsuitable position pointed to the probability that the constructors were lineally connected with other lake dwellers on the continent of Europe. That the occupation of the village ceased in the first century after Christ seemed probable, because of the general absence of Roman ware.

Prof. W. M. Flinders Petrie then read a paper on traces of primitive *Terramare* settlements in the modern towns of North Italy. He showed that recent clearing at Castellaro di Fontanellato had disclosed the fact that the marsh towns of North Italy in the Bronze age were arranged on a strictly square system of crossing roads, and that this type of town was perpetuated in the regular plan of the camps of the Roman army. On examining the present plans of the cities of Lombardy, the outline of the original square settlements could be plainly traced. Replying to the objection that the existence of square forms of towns did not itself prove that those forms were of pre-Roman date, Prof. Petrie said that that was not really his argument; granting or assuming the pre-Roman date, the square forms of the towns would indicate the presence of *Terramare* settlements.

Mr. P. F. S. Amery then exhibited, with explanatory remarks thereon, a series of lantern slides showing the megalithic monuments of Dartmoor, in anticipation of the Devonshire excursion arranged in connection with the Bristol meeting.

The Report of the Committee on the Excavations at Silchester stated that the area selected for excavation in 1897 included two *insulae* (XVII. and XVIII.), extending from *insula* III. (which was excavated in 1891) to the south gate, and lying on the west side of the main street through the city from north to south. It is proposed during the current year to excavate the two *insulae* south of *insula* XV. and XVI. (excavated in 1890), and a triangular piece of ground to the south of them, almost as large as a third *insula*. When the examination of this area is completed, considerably more than half the city will have been systematically excavated and planned.

Miss Nina Layard reported the discovery of human skeletons walled up in the remains of the Black Friars' monastery at Ipswich.

Mr. T. W. Shore read a paper on traces of early Kentish migrations. He identified such early Kentish colonies by Jutish or Kentish place-names under their present or more ancient form; by other place-names derived from the Jutish hero Hengest; by survival of gavelkind and customs of land tenure analogous to those of Kent, and of kindred customs.

Papers on the folk-lore of Guernsey, by the late Mrs. Murray-Aynsley, and on myths of insect life, by Mr. S. Clement Southam, were taken as read; and the session closed with a vote of thanks for the use of the Park Place Schoolroom, and with the exhibition in the Committee-room, by Mr. H. Bolton, of human relics from the recently discovered caves at Uphill.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

A LETTER written by the Public Orator, Dr. Sandys, thanking Mrs. John Hopkinson and other members of her family for their munificent benefaction of 5000*l.* to the University of Cambridge, to be applied to the building of a memorial of the late Dr. John Hopkinson and Mr. J. G. Hopkinson, was read by Dr. Sandys in the Senate House, and approved by Grace of the Senate, on November 10. It has since been engrossed on parchment and presented to Mrs. Hopkinson.

Science announces that the late Edward Austin, of Boston, has given by his will 1,100,000 dollars for public purposes; 500,000 dollars is left to Harvard University, 400,000 dollars to the Massachusetts Institute of Technology, 30,000 dollars to Radcliffe College, 30,000 dollars to Roanoke College, and 30,000 dollars to the Tuskegee Normal and Industrial School. The income from these large bequests is to be used for scholarships. The sum of 10,000 dollars is also given to the bacteriological laboratory of the Harvard Medical School.

At a conference on secondary education, convened by the Victoria University, and held on December 3 at Owens College, Manchester, resolutions were passed urging that (1) a Minister of Education of Cabinet rank should represent the Education Department in Parliament. (2) The consultative committee mentioned in Clause 3 of the Bill laid before the House of Lords last session should be obligatory. (3) Immediate provision should be made for the institution of local authorities for secondary education. Another resolution, to the effect that the relations of the proposed Board of Education to the Charity Commissioners should be more clearly defined in the Bill, was adopted.

A COURSE of about thirty-three lectures on "The Morphology and Histology of the Vascular System," commencing on January 11, will be given at University College, London, by the assistant professor, Mr. A. G. Tansley, each lecture to be followed by two hours' practical work or demonstration. An attempt will be made to trace the evolution of the stele of the vasculature through the various stages exhibited by pteridophytes and phanerogams. A special feature of this part of the course will be the inclusion of the important fossil types, many of which throw much light on the course of evolution of the vascular system, and whose anatomy has become fully understood only through the researches of the last few years.

SIR J. GORST, M.P., delivered an address to agriculturists at Cambridge on Saturday afternoon, on "Education in Agricultural Districts." In the course of his remarks, he said that reports showed that the chief reason for the prosperity of agriculture in foreign countries was the education of the people in all technical knowledge pertaining to their industries. If efforts were to be made to raise agricultural education in this country to something like the level of Denmark, France, or Switzerland, they had a very difficult task before them. Elementary education was the bed-rock upon which the whole of the superstructure must be built. It was useless to attempt a national system of technical instruction until there was a sound system of elementary instruction upon which it could be based.

THE Association of American Agricultural Colleges and Experiment Stations recently held a successful meeting at Washington, D.C. The following facts with reference to the Association and its work make a striking testimony of the condition of agricultural education and research in the United States: The institutions represented in this Association employ over 1500 persons in their faculties, who are giving instruction to about 30,000 students. These institutions have over 50,000,000 dollars in permanent endowments, buildings and equipment, and an annual revenue of nearly 6,000,000 dollars, of which more than 2,000,000 dollars is derived from funds granted by the United States. Besides the work of instruction, they are carrying on original research in different directions. This is especially true in many scientific lines relating to agriculture, over a million dollars being spent for this purpose annually. There are now pending in Congress propositions to establish, in connection with these institutions, experiment stations for investigations in mechanical arts and naval engineering, for which some of the colleges already have considerable facilities.

THE Chelsea Physic Garden is in future to be administered in accordance with an extended scheme. The *Pharmaceutical Journal* states that the Apothecaries' Society has decided, owing to considerations of expense, to abandon the management of the garden which, it will be remembered, was founded by Sir Hans Sloane in the early part of the eighteenth century, and was subsequently transferred to that Society in trust. A scheme has accordingly been drawn up for vesting the control in the Trustees of the London Parochial Charities, but it is proposed that the actual management should devolve upon a committee of fifteen members, eight to be nominated by the Trustees, and one each by the Treasury, the Lord President of the Council, the Royal Society, the Technical Education Board.