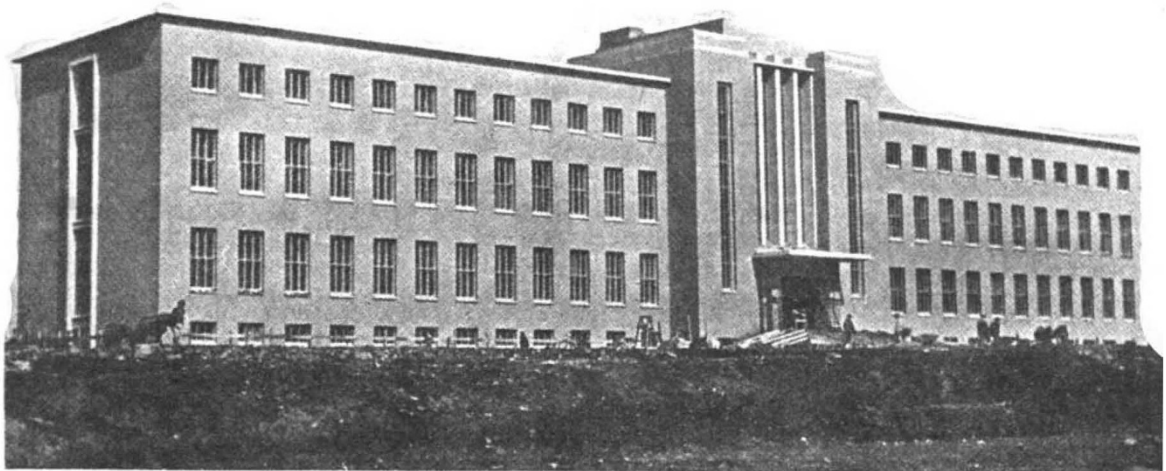


The Students' Hostel can accommodate thirty-eight students. There are also a reading-room, a dining-room, and a sports room.

The University is attended by some 290 students, and its teaching staff comprises fourteen professors and as many lecturers. The principal aim of the teaching is to prepare the students for official careers in the State, for scientific work is more difficult here than at the big universities of other countries. Yet, as mentioned above, both the University and the medical research department

Denmark at a time when Iceland was ruled from Copenhagen. But as Iceland has now become a free and independent country and only united to Denmark by a common king (a tie which the present events rent asunder early in April last) negotiations are being carried on with the view of getting the old cultural treasures, such as MSS. written by Icelanders on Icelandic and Scandinavian matters, returned to Iceland. If this can be achieved, which there is no reason to doubt, the University of Iceland will be in a position to



NEW BUILDING OF THE UNIVERSITY OF ICELAND.

have undertaken researches into animal diseases and done good work.

The Philosophical Faculty lays the main stress on teaching the Icelandic language, history, literature, and old Northern lore. This Faculty will lead in all work done in the field of national learning. Though the Icelanders have preserved the old cultural treasures of Scandinavia better than any other nation, yet most of the old manuscripts in which these treasures are to be found are kept in foreign museums, particularly in Copenhagen. These MSS. were exported to

play a still more important part in research into the old Northern lore. For doing such work the Icelanders are better equipped than other nations, because the tie between the present and the past forms of their language and literature has never been rent asunder. Every Icelander thoroughly understands the old literary works which were written some eight hundred years ago.

Though our University is small, it works in the same spirit as other universities, and with the same zeal and sincerity for the good of the nation and for the promotion of learning.

## THE STUDY OF PREHISTORIC TIMES\*

THOUGH T. H. Huxley, having established beyond the reach of criticism 'Man's Place in Nature', considered that his duty as biologist and anthropologist stopped short at the limits of organic evolution, he realized, perhaps before

anyone else, that the principles of evolution did not stop there. He was well aware that when a primate had made a tool and had thus become entitled to be called a man, a new vista was opened in the realm of evolution, and that by the creation of extra-corporeal organs man had discovered a new method of adjusting himself to his

\* Substance of the Huxley Memorial Lecture of the Royal Anthropological Institute delivered by Harold J. E. Peake on November 26.

environment. Just as the doctrine of evolution, when applied to plants and animals, is the fundamental theme and focus of all biological research, so the evolution of civilization should hold a like place in anthropological studies, and its most important duties should be to trace, step by step, man's progress in the development of his material civilization, the evolution of his varied forms of social organizations, allied as these are with the growth of his religious conceptions and practices, until the whole series is complete from the primitive flint tool to the aeroplane or television, from the simple family group to the nation or empire. Here attention is directed to the methods that have been used and are still being employed to reconstruct man's behaviour during the period before writing was known that is termed 'pre-historic'.

Few, if any, peoples, however primitive, are not interested in their past. They have embodied it in tradition; while other tales, related to explain natural phenomena, are embodied in myths. This body of tradition and myth, especially in the highly elaborated forms, such as are found in the Homeric poems and other great national and tribal epics, are the only available accounts of prehistoric times. Study of these records has oscillated between acceptance and scepticism; but sufficient confirmation has accrued from such archaeological investigations as those of Schliemann at Mycenæ, Sir Arthur Evans in Crete and others, to justify acceptance of legend as containing a germ of truth about the deeds of heroes and about prehistoric times.

Philological studies, beginning with the investigations of Sir William Jones on the relations of Sanskrit, Greek, Latin and German, of which the results were embodied in an address delivered in India in 1786, have, as the result of much speculation and discussion, been responsible for theories as to linguistic and racial origins and pictures of prehistoric times, which in so far as justifying the theory of a predominant Aryan race is concerned, have failed to retain a place in scientific theory.

While the Aryan theory based on linguistic evidence has thus come to be discredited, study of the physical characters of the populations of Europe, and of human remains dating from prehistoric times, has led up to the classification which took final form in the work of W. Z. Ripley (1900), who argued that Europe had been peopled by three races, the Nordic, Alpine, and Mediterranean, though the existing populations show a large number of intermediate types owing to intermixture.

In the nineteenth century another line of research was pursued in the hope of throwing light on the social and economic organization of

prehistoric peoples. Studies of the village communities of Denmark by Olufsen (1821) and of the German mark by von Maurer indicated the existence of village communities with common ownership and cultivation of the soil among all Germanic, Scandinavian and Celtic peoples. Further studies of the village communities followed, beginning with those of Sir Henry Maine based upon his experience in India. In Britain, Seebohm's view of the pre-Saxon origin of the village community has recently been revived, with additions by Peake in the suggestion that the three-field system may have reached Britain from the Danube basin about 1200 B.C., while it is suggested that both the 'Celtic' rectangular enclosure first identified by Crawford from the air and the 'long strip' system may characterize distinctions marked between the central European populations in the Middle Bronze Age, and possibly represented in successive migrations into Britain in the beginning of the Late Bronze Age, which brought two distinct types of cultivation with them.

So far, except for a number of skeletons with reliable associations, none of the evidence upon which these methods of inquiry depend is of prehistoric date. The only science which has at its disposal an almost endless supply of contemporary documents coming down to us from prehistoric times is archæology—and this, too, is strictly limited to material culture.

It is only within the last few generations that archæology has attained to sufficient precision in its methods to be worthy of being called a science. The study has passed through many phases; and it may not be valueless to trace the succession of ideas that has marked its progress.

In very early days, men noticed ancient monuments which they attributed to their legendary heroes, as did Pausanias at Tiryns and Mycenæ. Hesiod realized there had been a bronze age before the age of iron; but Lucretius was the first to make a clear statement on the matter; the belief, however, that stone, and perhaps copper and bronze, implements were thunderbolts was widespread. The study of legendary material in the Middle Ages, of which the work of Geoffrey of Monmouth is a conspicuous example, continued until towards the end of the sixteenth century, when Camden in his "Britannia" started a new scientific method by interpreting ancient monuments in the light of statements made by classical writers.

The first to appreciate the true significance of stone implements was Michaelis Mercatus (*ob. c.* 1590), who made a definite pronouncement that they were made by men before they knew how to use metal, and Dugdale also, in 1656, attributed polished flints found at Oldbury in Warwickshire to men ignorant of the working of iron or brass.

Prehistoric questions aroused considerable interest in Great Britain, though early remains were usually attributed to the ancient Britons or the Druids. In the meantime, the work of a commission appointed to investigate the history of Denmark in 1806 led C. J. Thomsen, after studies extending over twenty years, to divide prehistoric times into three phases: the ages of stone, bronze and iron.

In France the work of Boucher de Perthes in the Somme valley, first published in 1838, led in 1859 to the acceptance by British geologists and archaeologists of the Abbeville implements, as pointing to the existence of man here "at a period remote beyond any at which we have hitherto found them", while it was made clear from these discoveries that the Stone Age must be divided into two, as Lubbock suggested, namely the Palaeolithic and Neolithic Ages.

The discrimination between cave and drift implements in the Palaeolithic period initiated a series of classificatory systems which culminated in 1912, when Breuil added the Aurignacian to those familiar phases of Chellean, Acheulean, Solutrean and Magdalenian. For a time, this sequence was considered final; but discrepancies have since necessitated some revision.

The discovery of the Swiss pile-dwellings in 1853 led to the conclusion first formulated by Keller that the neolithic civilization and domesticated animals were first introduced from Asia about 5000-4000 B.C. The attempt to fill in the gap believed by some to exist between palaeolithic and neolithic led to the investigation of the Danish shell-mounds by a committee appointed in 1860, the identification of the Tardenoisian and Azilian cultures, and finally in 1921 to the recognition by R. A. S. Macalister that this so-called gap covered cultures which he grouped together as "Mesolithic".

Thus between 1836, when Thomsen recognized the three ages of stone, bronze, and iron, and 1921, archaeologists had framed a system of relative chronology extending from Harrison's Eolithic, the earliest period, down to the close of prehistoric times. How such a relative chronology became converted into a positive chronology, at any rate for the later phase, may now claim attention.

Excavation of archaeological sites, the examination of monuments and the decipherment of inscriptions, supplemented by tradition embodied in written documents, in Egypt, Mesopotamia and Greek lands, made possible correlations to which Crete and Egypt contributed largely, and upon which it became possible to work out a chronological system making a framework for archaeological discovery extending from the fourth millennium B.C. or earlier, down to historic times.

The diversion of interest in archaeological excavation from buildings, objects of art, and inscriptions, to which it had been directed in the nineteenth century, to the lesser finds, and especially pottery and sherds, opened the way to the study of cultural complexes and their distribution. This led up, through the work of Ratzel, Graebner, Rivers and others, to the more extravagant theories of the Diffusionist school, which traced the origins of all cultural development back to ancient Egypt. For a time, a violent reaction against such extreme views precluded advance along these lines; but a saner perspective in more recent work, accepting the principle, and tracing the diffusion of culture elements from the Aegean area, has laid the foundations of a chronology for the greater part of central, northern and western Europe, with a margin of error of rarely more than a century, from the middle of the fourth millennium B.C. The chronology of the pre-agricultural stage is still uncertain, but hopes are entertained that this may in time be reduced to some semblance of accuracy by studies and methods which collectively may be called geochronology.

Among pitfalls to which the archaeologists of the past have been prone, and to which we ourselves are still inclined, is a too rigid adherence to such classificatory distinctions as palaeolithic, mesolithic, neolithic and the like, which, while convenient enough for the purposes of the museum curator, do not represent the actual conditions of life in prehistoric times, when these periods and cultures were not marked off from one another with such extreme precision. These arbitrary divisions cut across many vital distinctions. The difference between Lower and Middle Palaeolithic has disappeared; while the first great break in continuity occurred, it is believed, early in Aurignacian times with the arrival of *Homo sapiens* in Europe. The next great break occurred with the cultivation of grain and the taming of wild animals, indicating the neolithic age and making settled life a possibility.

When we consider the long duration of the mesolithic age and the still greater length of time occupied by the various phases of the palaeolithic, it seems unnecessary to divide into a number of comparable ages the period during which crops have been cultivated, namely, a period of little more than 7,000 years. Most archaeologists are coming to the conclusion that the stages in metallurgy do not form the most convenient divisions for the grain-growing age. It has long been clear that in Britain the Middle Bronze Age, when successive waves of invaders from central Europe forced themselves into the country, a movement also apparent all over Europe, caused a greater

break in the continuity of culture than the various advances in metallurgy. In a recent work, Hawkes has suggested that the first period of the development of culture in Europe closed with the fall of the Palace of Knossos. A second grain-growing period may conveniently be regarded as ending with the coming of the Romans. There is much, however, to be said for the suggestion that prehistoric times came to an end with the introduction of Christianity and written documents, or even continued to the middle of the eleventh century.

These changes, omissions, and additions in the recent development of prehistoric studies require a revision of nomenclature which might as a starting-point be based upon the distinction marked by Elliot Smith between Palæanthropic and Neanthropic man. While the former epoch is at present in a state of flux which precludes further subdivision, the latter falls naturally into two phases: the hunting and collecting age, and the second a cultivating age or the corn age, which is in turn divisible into four main periods. The first is conspicuous for the spread of cultivation, the second was a period of invasions, the third, the

medieval period or age of faith, and the last the modern period or the machine age.

Stratigraphy, typology, the study of the distribution of cultural elements, more especially with the aid of distribution maps, each by its appropriate method and argument, has made and will continue to make specific contributions to prehistoric studies.

In the past, archaeologists were wont to focus their attention on flints, potsherds or works of art—always on material objects, regardless of the men who made them. Younger investigators, and some of the veterans too, are now realizing that the human element is all-important. We are engaged in fitting together a gigantic jig-saw puzzle, of which many of the pieces are missing. To solve this gigantic puzzle—not one puzzle only, but a series—a picture of each succeeding age is needed, and ultimately an absolutely continuous series, like a roll of film, giving a moving picture of the progress of mankind. Then, if even only a part of our considerable task has been performed, we shall be in a better position to achieve that new orientation in world affairs for which many of the greatest thinkers of to-day are striving.

## THE CENTRAL REGISTER

READERS of NATURE will recall several references during the past year or so to the work of the Central Register set up by the Ministry of Labour and National Service. A survey of the position of the Register as a whole appeared in NATURE of February 3, 1940, p. 176.

The Central Register has now been working for more than a year, and up to the end of October had made 9,016 placings of persons from the Register in Government Departments and other organizations engaged on work of national importance. The number of placings of scientific men of all kinds, including industrial chemists but not engineers, is 1,469.

In June last, the Select Committee on National Expenditure examined the Central Register and issued a report upon it. The report emphasized that the Central Register was an essential part of the organization of the national effort and was not, as was often supposed, an employment-finding agency; its function, as the Committee expressed it, was not to find jobs for men but to find men for jobs. The Committee noted that the chief use of the Register had been by Government departments and such bodies as Chatham House and the British Council, and that little use had been made of the Register by industry. The Committee

recommended, therefore, that steps should be taken to encourage employers in the vital war industries to make greater use of the Register. The Committee referred to a widespread belief that Government Departments had not followed the Government's declared policy that the Central Register should normally be the sole medium for the recruitment of temporary staff of the standard of the Central Register. It declared that this belief was mistaken, and that departments in general had used the Central Register, exceptions to the rule being confined to the most part to the earlier stages of the War.

At the same time, the Committee expressed strongly its conviction that the position of the Central Register as the sole agent for recruiting higher personnel to Government Departments should be fully maintained, except where the urgency of any requirement of special qualifications justified an exception to the rule. The Committee further examined the criticism that there was delay in filling appointments through the Central Register, and stated in its report that this criticism had been examined and found unjustified. Some orders had been filled within a few hours, while the average time taken by the Register in making submission was between