

it is transporting until it becomes fully laden. The main features of a river are the direct result of the water constantly trying to adjust its bed to suit its load. If the river enters a reach fully laden and the slope is such that the water continues to flow at its original speed, then just as much material will leave that reach as enters it and so no erosion takes place. Should, however, a fully laden river enter a reach the slope of which is less steep than it has been upstream, the rate of flow of the water will be decreased and a proportion of the load is then deposited. This mostly occurs at the beginning of the reach and thus the river gradually steepens the slope until it becomes sufficient for the entering load to be carried through.

In the lower part of its course, a river normally enters upon a plain. Here the rate of flow is greatly diminished and the fully laden river proceeds slowly towards the sea. In turning a corner, the speed on the outside of the curve is always much greater than that on the inside. This results in the water on the outside being able to take on an additional load and thus erode the bank. Conversely, the water on the inside is unable to carry the whole of the load it already possesses and deposits sediment on the inside of the curve. The bend thus becomes steeper and steeper, and it is owing to this action that rivers always meander in the plain tract. Quite commonly the river still does a little actual erosion and in consequence by the continual change of position of the various loops of the meanders, the general level of a strip of land, about one or two miles wide in the case of rivers the size of those found in England, is gradually lowered, the edges of this band, which mark the extreme limit of past meanders, often forming steep cliff-like slopes. If, as the result of earth-movements, the general slope of a river-valley be increased, the river flows more quickly and is thus able to increase its erosion. It sometimes happens that a meandering river is thus re-juvenated, and in that case the river deepens its bed in the shape the meanders then happen to possess. The land between the individual loops are then in time left standing high above the new low river-level. This has happened in the case of the River Wye in Monmouthshire, and has resulted in very beautiful scenery.

#### Fauna and Climate in Early Palestine

In view of the interest of the various geographical and distributional problems in the prehistory of Palestine, to which a notable contribution has been made by the preliminary examination of the finds in the bone-bearing beds of Bethlehem (see *NATURE*, Sept. 4, p. 431) attention may be directed to a communication from Prof. L. Picard, of the Hebrew University, Jerusalem, which appears in the recent issue of the *Proceedings of the Prehistoric Society* (Jan.-June). Prof. Picard there examines in detail the data of palæontology, geology, archæology and stratigraphy in their bearing, first on the climate of Palestine in prehistoric times, and secondly on the origin and geographical relations of the fauna of that period.

Writing before the publication of the evidence from Bethlehem, he concurs with Miss Bate's previously published conclusion as to the complete absence from Palestine of a boreal (cold period) fauna, though its existence has been asserted; but he is unable to accept her interpretation of the palæontological evidence as pointing to a change from a forested landscape with humid conditions to a drier climate and more open country. He finds that while there were a number of forms, now extinct, contemporary with the old Acheulean—the earliest evidence of man's handiwork then available to him—some of these, such as probably the hippopotamus, survived even so late as Biblical times.

As a whole, the various classes of evidence (in palæontology, trees and plants, as well as land and aquatic fauna) are interpreted by Prof. Picard as concurrently pointing to the fact that no important change in climate takes place down to recent times. In fact, the present climatic conditions, the aridity of the eastern section and the Mediterranean or 'etesian' climate of the western, existed in the Pliocene, and date back to the Upper Miocene. Further, the geographical conditions in the south were such as to preclude migration to, or from, Africa in the Pleistocene. The fauna which has been designated as African-Asiatic has been domiciled in Palestine since the end of the Miocene and can be regarded as endemic during the Plio-Pleistocene. The problem, it will be seen, is of considerable general interest, but to palæontologist and archæologist more especially in relation to recent discovery in East Africa. Further evidence from Bethlehem will be awaited eagerly.

#### Human Skeletal Remains in London

EXCAVATION work in Farringdon Street, London, E.C.4, for the foundations of an extension of the offices of the *Evening Standard* has brought to light a large number of human skeletal remains. About three hundred skulls and two thousand other bones have been found. It is suggested that the excavation may have opened one of the pits in which victims of the great plague of 1665 were buried indiscriminately. There were a number of these pits situated in various parts of London. One of the largest was in Tothill Fields, Westminster, near where Caxton Hall now stands; another near Newgate was adjacent to the site of Christ's Hospital, the Bluecoat School, demolished for the extension of the Post Office, and still another was in Whitechapel. Dr. A. J. E. Cave, of the Royal College of Surgeons, who has inspected the recent finds, is of opinion, according to a statement published in the *Evening Standard* of September 10, that, judging from their condition, they are probably the skeletons of men, women and children who died in the seventeenth century and may well have been victims of the plague. They are all of the same type, and differ but very slightly from typical skulls of to-day. Though they have not yet been submitted to an exact examination, Dr. Cave is stated to have said that the skulls appear to have a

vault a little more pointed than the modern skull. It will be remembered that Prof. F. G. Parsons some years ago examined a large number of seventeenth and eighteenth century skulls of Londoners, when a graveyard, presumably of the adjacent St. Clement Danes, was discovered on the demolition of King's College Hospital in Portugal Street. He then concluded that little change had taken place in the physical characters of the Londoner during the last two or three hundred years, except that the skull showed a slight tendency to broaden.

#### Recent Excavation at Meare, Somerset

A FORTNIGHT'S work of excavation at Meare Lake Village by Mr. H. St. George Gray and Dr. A. H. Bulleid has brought to light an interesting variant in the method of constructing their dwellings employed by the inhabitants. The season's work, as already indicated (see NATURE, Aug. 28, p. 352), is directed to the investigation of the central portion of the eastern half of the village. Excavation of the area surrounding Dwelling Mounds Nos. 16, 17 and 19, which, it is reported in *The Times* of September 13, has now reached the southern half of the floors of the circular dwellings, has shown that there are at least two floors, or layers of clay, separated by a quantity of ash, black earth and refuse deposited during the occupation. The peat in this part of the village is so firm that the usual timber foundations for the support of the clay floors appear to have been unnecessary. In the area surrounding the dwellings the refuse from the huts is found to contain a considerable amount of ornamented pottery (Iron Age "B") and evidence of weaving in the form of loom weights, spindle whorls and bobbins. Portions of bone needles also have been found. In the occupational refuse between the clay floors, the proportion of bones and pottery sherds found to the area at present examined is unusually high. The bones are mostly of lamb and young oxen, but there are also the remains of a small horse, pig and dog, a few bones of red and roe deer and also of birds. Here there is further evidence of weaving—spindle whorls of baked clay, stone and tin, bobbins, etc., as well as a highly polished bone needle and two bone pins with mouldings and long slots of a type unusual in western Britain. Objects of iron are not plentiful, but include a butcher's knife with convex edge. In bronze are a couple of fibulae, an openwork harness ornament, and a hinge-plate with rivet holes. The ornaments include shale bracelets, and among the beads is one of blue, strung on a bronze wire.

#### Recent Earthquake in Sussex

SHORTLY after 1 a.m. on September 8, an earthquake of intensity 5 or more (according to the Rossi-Forel scale) was felt in the west of Sussex, especially at Horsham and the neighbouring village of Warnham. The earthquake is of some interest owing to its connexion with the series of shocks that have occurred for nearly three centuries in the district around Chichester, the first known to us being that of the year 1553. A little more than a

century ago, between September 1833 and August 1835, there was a series of eight earthquakes in the district, which were studied by a small committee, the first ever instituted for the study of British earthquakes. One of the most important of these earthquakes was that of January 23, 1834. It was of about the same intensity as the recent shock. Its centre lay 4 miles west-north-west of Chichester, and the longer axis of its disturbed area of 780 sq. miles, if produced, passes through Horsham. Readers who are willing to aid in the investigation of the new earthquake should send their accounts to Dr. A. T. Dollar, Emmanuel College, Cambridge.

#### Mechanization in the Modern World

AMONG the matters handled at the meeting of the International Committee on Intellectual Co-operation at Paris on July 12-17 was the inquiry into mechanization in the modern world. The plan of this inquiry has been approved by the Committee and preparations are now in hand by the Institute. National lists of organizations concerned with social sciences are also being collected by the Institute, and lists have already been received from the United States, France, Japan, Italy, Czechoslovakia, Belgium and Norway. The inquiries on unemployment among intellectual workers are being pursued and the establishment of an advisory committee including representatives of the national bureaux and international organizations concerned has been authorized. The Institute has also collected most of the bilateral intellectual agreements in a volume which will shortly be published. The International Committee on Intellectual Rights has been concerned with preparations for the revision of the Berne Convention and for the Universal Conference on authors' rights, and a meeting of experts is being held to formulate final proposals for two conferences at Brussels on these subjects. The Advisory Committee of Intellectual Workers of the International Labour Office, however, pronounced in favour of keeping the question of the moral rights of salaried artists in the applied arts on its agenda.

#### The S.S. *Orcades*; the Latest Orient Liner

LAST month the Orient liner *Orcades* started on her maiden voyage. According to an article in the *Electrical Review* of August 27, it is claimed that she is the first British ship on the Suez route to have a public sitting-room supplied with conditioned air. Conditioned air is supplied to the public rooms and to several of the cabins. It is not sufficient for comfort to have only ventilation and correct temperature; the humidity must also be controlled within fairly narrow limits. In the tropics, the atmosphere is frequently uncomfortably damp. To reduce the temperature without extracting moisture from the air raises the relative humidity and may make the conditions more uncomfortable. When the climate is colder, air after warming sometimes becomes unpleasantly dry. Hence although air conditioning as it is managed at present is expensive, it may add greatly to the comfort and well-being of the passengers. The new vessel—an eight decker—has been built by