

### Past and Present Peoples of Chinese Turkestan.

AT a meeting of the Royal Anthropological Institute on Tuesday, Mar. 27, Sir Arthur Keith gave an account of a people who lived in the eastern part of Chinese Turkestan in the earlier centuries of our era. His account was based on five skulls which were obtained by Sir Aurel Stein during his third expedition (1913-15) to central Asia. The explorer found these skulls in sites within the eastern and southern fringe of the Taklamakan desert—sites now dried up and forsaken, but irrigable and inhabited when the Tarim basin of Chinese Turkestan formed part of the corridor along which in past times Chinese trade flowed towards the west.

The people from these ancient cemeteries show a mixture of characters, some of which are Mongoloid, others of which are Caucasoid (or Iranian), but on the whole the Mongoloid traits are the more evident. Amongst the Lopliks and other peoples still inhabiting the eastern and south-eastern fringes of the Tarim basin are found individuals which come very near to the Loulan type found in the ancient cemeteries. From data collected by Sir Aurel Stein and collated by Mr. T. A. Joyce, it is apparent now that the peoples at the eastern end of the Tarim basin—the floor of which is formed by the Taklamakan desert—are transitional in type. When traced towards the north and towards the east they rapidly become Mongolian; when traced along the south side of the Tarim basin towards the west the Iranian type prevails more and more and becomes pure when the Pamirs and the valley of the Oxus are reached. The Loulan people who lived in the eastern part of the Tarim basin more than 1500 years ago were of a transitional type. Sir Aurel Stein's discoveries show that the racial frontier between Mongolian and Caucasoid types in this part of the world has not greatly altered its position since the Christian era began. The Loulan people were probably true Huns.

Intermarriage and migration do take place across racial frontiers, and most anthropologists explain a mixed type, such as the Loulan, as a result of intercrossing. In Sir Arthur Keith's opinion such an explanation leaves the most important facts of the problem unexplained. We have, in the first place, to explain the origin of the primary types—the Mongoloid

and Caucasoid. We have to explain the greatest racial divide in the world, one many thousand miles in length, which crosses the Old World and separates peoples of a Mongoloid type in the east and north from others of a Caucasoid type in the west and south. This divide is traceable from the north-west corner of Europe to beyond the mouth of the Ganges in Asia. The great divide crosses the Taklamakan from west to east; the Loulan people lived on it. We cannot explain the origin and distribution of peoples of Mongoloid stock and the existence of the great racial divide unless we presume that evolution is true and that the stocks which we find on one side of the divide and on the other have come into their present states of body and brain in the areas where we now find them. If, as we presume, Mongoloid and Caucasoid stocks have in the course of time become differentiated from a common type, then between the extreme forms there ought to be, or to have been, transitional types occupying intermediate zones. If evolution is true we ought to find intermediate types on frontier zones, and that is what we do find. In Sir Arthur Keith's opinion the Loulan people should be interpreted, not as products of hybridity, but as of a natural evolutionary process.

In unravelling the Mongoloid from peoples of Caucasoid affinities, head form is not decisive. Mongoloid peoples are of all degrees of long-headedness and of all degrees of round-headedness. So are Caucasoid peoples. The Loulan people, who had heads of medium size, were intermediate between long and round. As a rule the Mongoloid peoples of central Asia had the larger heads and brains; the Iranian peoples of the Pamirs were small headed and not big-brained. The main points which serve for the discrimination of Mongoloid peoples are hair, skin colour, and facial form. A considerable part of Sir Arthur Keith's paper was devoted to Mongolian characters of face and the methods which should be applied for their analysis and measurement. In conclusion, he thanked the Government of India for the benefits which have been conferred on science through the expeditions led by Sir Aurel Stein who, in Sir Arthur's opinion, has done more than anyone to clear up the racial constitution of the peoples of central Asia.

### Water Movements in the Straits of Gibraltar.

PROF. RAPHAEL DE BUEN publishes an account of the oceanographical investigations which have been carried out by Spain in the Atlantic and Straits of Gibraltar, in the *Journal du Conseil International pour l'exploration de la mer*, vol. 2, No. 3, December 1927.

Periodic fluctuations in the depth at which particular temperatures occur have been noted by the *Dana* Expedition in 1921 and by the various Spanish expeditions in this area. They were attributed to tidal phenomena (NATURE, 109, 45; 1922), but Prof. de Buen goes a step further. Since the periodicity does not correspond with that of the Atlantic tide, he considers that they owe their origin to deep-seated Mediterranean tidal waves.

The author does not consider that a sub-surface current of Mediterranean water wells out into the Atlantic over the ridge between Gibraltar and the African continent, such as has been shown to take place by Danish and Norwegian oceanographers (*loc. cit.*).

Prof. de Buen writes: "It may be seen in all the series of observations made during the campaign of the

*Almirante Lobo*, as also in my maps (published in the *Rapport Atlantique*, 1926), which are based on the observations made during the campaigns of the *Dana* and the *Thor*, that at no time do the Mediterranean waters penetrate to the Atlantic. This must not, however, be accepted as an established fact until further investigations have been carried out, having as their object to discover whether at any time, at the moment when the bottom waters approach most nearly to the surface, some quantity of Mediterranean water does not find its way into the Atlantic. The Mediterranean influence in the Atlantic was found in all the observations to be nil. It is therefore necessary to seek some other explanation of the existence of warm dense water to the south-west of Ireland, in which some experts have considered that they could see a markedly Mediterranean character."

Somewhat inconsistently, "the layer of Mediterranean water which penetrates into the Ocean through the Straits of Gibraltar" is cited a few pages later as a possible explanation of the migration of sardines in the neighbourhood of Cadiz.