

ANTHROPOLOGY

Priest-Scientist to Seek Earliest Human Ancestors

MANKIND'S earliest cradle will be sought in Central Asia by the noted French student of human pre-history, P re P. Teilhard de Chardin, who will take the field this fall.

This announcement was made by Sir Arthur Smith Woodward of the British Museum, in the course of his address as president of the section on anthropology, British Association for the Advancement of Science.

The project was originated by the late Dr. Davidson Black, who first gave to the world the scientific details of the ancient skeletons now known as Peking Man. He planned to make a careful study of the pre-glacial Tertiary deposits in south Central Asia, and in 1932 actually travelled overland from China to Syria, passing through the region under consideration. Unfortunately, he died before he could carry out his project, and P re Teilhard, who was closely associated with him in the last few years of his scientific work, has undertaken to see it through.

The central Asiatic uplands are indi-

cated as a promising place to explore for the remains of earliest man for more than one reason. Sir Arthur called attention to a supporting basic principle in the study of evolution laid down by an American scientist, the late Dr. W. D. Matthew of the University of California. Dr. Matthew pointed out that it would be reasonable to expect the highest evolved forms of a given line of development to be in or near the place of original development, and that lower forms would be found at the outer fringes of its total area of distribution.

The relatively few remains of very early man that have been found form a rough circle around Central Asia: they include Piltdown Man in England, Heidelberg Man in Germany, Peking Man in China and Trinil Man in Java.

Central Asia is a "good bet" for man-ward evolution from a possible apelike ancestral stock, on grounds of geologic history, Sir Arthur continued, citing in support other earlier researchers. He said:

"The east-to-west ridge of the Hima-

layan Mountains was gradually raised up at the time when northern India was covered with a great forest which swarmed with apes of many kinds. The formation of the ridge separated off a northern portion of the forest which became subject to comparatively inclement conditions.

"The apes stranded in this northern portion would be disturbed by the extensive destruction of the trees, and the survivors would be driven to be ground-apes and change their habits of feeding. They would thus be modified in the direction of man.

"Regarded from the zoological point of view, of course, man is an arboreal mammal which has left the forest. His remote ancestors, by continuing to live in the forest, preserved their jaws, teeth, and limbs nearly on the primitive mammalian plan while the brain alone made progress."

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ANTHROPOLOGY

Palestinian Man Quite as Old As Low-Browed Neandertal

PALESTINE'S earliest known cave men, though they had skulls much more "modern" than those of their fellow-members of the Neandertal race, were nevertheless earlier than many of their low-browed kindred, and at least as early as any of them.

This verdict was delivered before the meeting of the British Association for the Advancement of Science at Norwich, in two reports submitted by three of England's most noted students of early man, Miss Dorothy A. E. Garrod, Theodore D. McCown and Sir Arthur Keith.

Palestine man is represented by three practically complete skeletons and the more or less fragmentary remains of a number of others, all found in two cave locations in the Mount Carmel region. They were found several years ago, but the bones were so rigidly imbedded in the stone-hardened earth of the old cave floors that many months of most careful chiseling have been necessary to free them for scientific examination.

The skulls, though undoubtedly of the Neandertal type, have relatively little of the heavy, beetling, almost gorilline eyebrows that characterize the European Neandertalers. There are also a number of other "modern" features about them.

Yet when Miss Garrod examined the stone implements and the broken animal bones found with them in their caves, these proved to be of very early age. The bones were those of animals belonging to



PALESTINE'S "MODERNISTIC" NEANDERTALER

Face and jawbone undoubtedly Neandertaloid, Palestine Man's eyebrow ridges are less prominent than those of his European cousin, and his braincase has a higher arch.

a warm, moist climate, and the flints were of a type elsewhere associated with the earliest finds of Neandertal men.

The two together are believed to indicate that Palestine man probably lived during a warm period when the glaciers of northern Europe had retreated for the time being, which puts him back among the earliest of human beings whose bones and cultural remains are at all well known.

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ARCHAEOLOGY

Chinese of New Stone Age Lived Like Indians of West

CHINESE of Shansi province, in northern China, were farmers in the New Stone Age as they are farmers now. They lived primitively, and some elements of their culture are suggestive of those of the American Southwest, though there is no direct connection between the two.

Explorations by archaeologists of the Freer Art Gallery, a department of the Smithsonian Institution, have shown how Chinese lived and worked among the fine-soiled loess bluffs in the Shansi region, some 2,000 years ago. Their findings are incorporated in a report, just published, by C. W. Bishop, associate curator of the Gallery.

They lived in round pit dwellings, as some of the ancient Southwestern Indians did. These Chinese pit dwellings averaged ten feet deep, were shaped like bee-hives, and had plastered walls. Entrances were at the top. Modern natives of the district dig their dwellings, like artificial caves, into the sides of the loess bluffs.

They cultivated the soil with stone and shell hoes, and used stone and shell in making their arrowheads. Other materials used in their tools were horn, bone, and presumably wood.

Their principal crop seems to have been millet, still widely used for food in northern China. Their only domestic animals were pigs and dogs.

They knew the arts of spinning, weaving, basketmaking and pottery. In the latter craft, they first made pots by the "coil" method, but in the later days of the New Stone Age developed some kind of potter's wheel. Hemp seems to have been their principal, perhaps their only, source of fiber for cord and cloth.

Bones of the dead, found piled helter-skelter, suggest that they may possibly have practised ceremonial cannibalism.

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GEOLOGY

Continents Rise and Sink Through Long Cycle of Ages

Evolution of Grass Called Greater Event Than Raising of Highest Mountains

GRASS was glorified above earth's highest mountains, in the address that opened the annual meeting of the British Association for the Advancement of Science. The speaker was the Association's president, Dr. W. W. Watts, professor of geology at the Imperial University of Science and Technology, South Kensington.

"It is perhaps not too much to say that the magnificent outburst of energy put out by the earth in the erection of the Alps, Andes, and Himalayas in Tertiary times was trivial in its influence for man's advent and his successful occupation of the earth in comparison with the gentle but insidious growth of 'mere unconquerable grass' and its carpet of 'wise turf' which in some form clothes by far the greater part of the land of the globe," Prof. Watts declared.

The speaker based his estimate on the importance of the grasses on the evolution of mammals, particularly those used by man for food, clothing, burden-bearing and many other purposes. Before grass evolved, comparatively late in earth's long history, herbaceous animals were browsers, and mostly solitary. When grass came, some of them modified their habits to feed on it, and in time they became gregarious, thus forming the foundation of flocks and herds even before man appeared on the scene to claim leadership of those flocks.

In the course of his address, Prof. Watts undertook to find a geological mechanism to account for the tremendous changes in the extent of the sea during the course of geologic time. In some ages, the sea covers most of the land areas; in others, it recedes until it occupies only the true ocean basins themselves. The present is a time of such recession.

The explanation offered is that the continental land masses float, like great rafts of rock, on an underlying layer of rock of a different kind. This underlying massive stratum passes through phases of solidification and liquefaction, as a lake in northern lands is ice in winter and water in summer. During the liquid

phase, the continental rock rafts sink lower, and the sea partially covers them. During the solid phase, the masses rise higher, and the sea drains off again.

These phases are very slow, the time from change to change being measurable in scores or even hundreds of millions of years. Their comings and goings are due to the development of internal heat in the underlying stratum, caused by the radioactivity of the rock material itself. When enough heat has accumulated, they liquefy after a period of slow "boiling up" lasting many ages, they cool and solidify again.

At present the earth is in the "solid" phase, with the continents floating high.

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PSYCHOLOGY

Spiritist Mediums May Be Split Personalities

ARE SPIRITIST mediums persons with dual personalities? Are their "controls," the shadowy personalities that purport to give them messages from the other world, merely their other, "opposite" selves?

A suggestion that this may be the case was offered before the meeting of the British Association for the Advancement of Science, by Whately Carington, well-known English psychologist.

Mr. Carington subjected a considerable number of mediums, both in their normal condition and in the trance state, to what psychologists call the word-association test. This consists in the examiner saying one word, and the subject answering with the first word that comes into his mind. The answer gives a picture of the mental state of the subject.

Thus, to the word "ball," a small boy might answer "bat," while a debutante might answer "dance," and a soldier "cartridge."

A person with dual personality, who is his "own opposite" in the second mental state, might give opposite reactions to the same test word. Take the most fa-