

## TERTIARY MAN IN ASIA—THE CHOU KOU TIEN DISCOVERY\*

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A rich fossiliferous deposit at Chou Kou Tien 70 li to the southwest of Peking was first discovered in the summer of 1921 by Dr. J. G. Andersson and later surveyed and partially excavated by Dr. O. Zdansky. A preliminary report on the site was published by Dr. Andersson in March 1923 (*Mem. Geol. Surv. China, Ser. A, No. 5, pp. 83-89*) followed in October of that year by a brief description of his survey by Dr. Zdansky (*Bull. Geol. Surv. China No. 5, pp. 83-89*). The material recovered from the Chou Kou Tien cave deposit has been prepared in Professor Wiman's laboratory in Uppsala and subsequently studied there by Dr. Zdansky. As a result of this research Dr. Andersson has now announced that in addition to the mamalian groups already known from this site there have also been identified representatives of the Cheiroptera, one cynopithecoid and finally two specimens of extraordinary interest namely, one premolar and one molar tooth of a species which cannot otherwise be named than *Homo ? sp.*

Judging from the presence of a true horse and the absence of *Hipparion*, Dr. Andersson in his preliminary report considered that the Chou Kou Tien fauna was possibly of Upper Pliocene age, an opinion also expressed by Dr. Zdansky. It is possible however in the light of recent research that the horizon represented by this site may be lower Pleistocene age. Whether it be of late Tertiary or of early Quaternary age the outstanding fact remains that for the first time on the Asiatic continent north of the Himalayas archaic hominid fossil material has been recovered accompanied by complete and certain geological data. The actual presence of early man in eastern Asia is therefore now no longer a matter of conjecture.

While a complete description of these very important specimens may shortly be expected in *Palaontologia Sinica*, the following brief notes may be

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\* Announcement of the Chou Kou Tien discovery was first made by Dr. J. G. Andersson on the occasion of a joint scientific meeting of the Geological Society of China, The Peking Natural History Society and the Peking Union Medical College held in Peking on October 22nd, 1926 in honour of H. R. H. the Crown Prince of Sweden.

of interest here. One of the teeth recovered is a right upper molar, probably the third, whose relatively unworn crown presents characters which appear from the photographs to be essentially human. The posterior moiety of the crown is narrow and the roots appear to be fused. The other tooth is probably a lower anterior premolar of which the crown only is preserved. The latter also is practically unworn and appears in the photograph to be essentially bicuspid in character, a condition usually to be correlated with a reduction of the upper canine.

The Chou Kou Tien molar tooth though unworn would seem to resemble in general features the specimen purchased by Haberer in a Peking native drug shop and subsequently described in 1903 by Schlosser. The latter tooth was a left upper third molar having a very much worn crown, extensively fused lateral roots and from the nature of its fossilization considered by Schlosser to be in all probability Tertiary in age. It was provisionally designated as *Homo? Anthropoides?* It is of more than passing interest to recall that Schlosser in concluding his description of the tooth pointed out that future investigators might expect to find in China a new fossil anthropoid, Tertiary man or ancient Pleistocene man. The Chou Kou Tien discovery thus constitutes a striking confirmation of that prediction.

It is now evident that at the close of Tertiary or the beginning of Quaternary time man or a very closely related anthropoid actually did exist in eastern Asia. This knowledge is of fundamental importance in the field of prehistoric anthropology; for about this time also there lived in Java, *Pithecanthropus*, at Pildown *Eoanthropus* and but very shortly after at Mauer the man of Heidelberg. All these forms were there thus practically contemporaneous with one another and occupied regions equally far removed respectively to the east, to the southeast and to the west from the central Asiatic plateau which it has been shown elsewhere most probably coincides with their common dispersal centre. The Chou Kou Tien discovery therefore furnishes one more link in the already strong chain of evidence supporting the hypothesis of the central Asiatic origin of the Hominidæ.