

The cave home of Peking Man

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Site of Peking Man's cave home.



Peking Man skull-cap, excavated in 1966.



Peking Man: teeth (*above*), maxilla (*middle*) and mandible (*below*).

Points and scrapers fashioned and
used by Peking Man.



More points and scrapers.



Charred bones unearthed from the cave deposit.

Scorched stones.



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In lieu of a foreword

Dragon Bone Hill¹ near Choukoutien,² the cave home of Peking Man,³ is famous all over the world. The site has yielded human fossils, artifacts made of bone or stone, and traces of the use of fire, that are roughly 500,000-200,000 years old. These have enriched the evidence for the study of the origin and evolution of the human species, attesting that it was man's ability to engage in labour that gave him birth.

In 1953, a small display centre for the finds was built here. In 1961, the State Council designated the area as one of China's major government-protected cultural sites. During the Great Proletarian Cultural Revolution, a new exhibition hall was erected in 1972.

Mountains tower above the cave site to the north and west. At their foot flows a stream, and below them to the south and southeast stretches a vast plain. The surroundings recall the precarious life of Peking Man who hunted in the primeval plains and forests, picked up and made tools and through his work, began a stubborn struggle

with nature. It was from a cave here on December 2, 1929 that Chinese workers and scientists dug up the first complete skull-cap of Peking Man.

Fossil remains of the Upper Cave Man,⁴ dating back more than 15,000 years, were found in a cave further up the mountain above the cave of Peking Man. (The "absolute age" of the fossils recovered from the lower part of the deposits in this cave is about 18,340 B.P. according to a recent radiocarbon dating.) To date, the remains of eight persons of different ages have been found in this cave. They include three complete skulls and fragments of skeletons from a grave. Unearthed with them were mammalian fossils, bone and stone implements and ornaments such as perforated animal teeth, bivalve shells, stone beads, pebbles and fish bones, and grooved hollow bones.

A little to the west of the cave home of Peking Man stands the new exhibition hall, in which the Peking Man and Upper Cave Man finds are displayed. The exhibits begin with the origin of life, and man in his embryonic stage, showing that prior to the coming of human beings, there had been life on earth for more than three billion years, and that the evolutionary process was from the inorganic to the organic, from the simple to the complex, from the invertebrate to the vertebrate, from the aquatic to the terrestrial and from the oviparous to the viviparous. By means of specimens, pictures and narrative, the exhibition sets out the weighty evidence which proves that man evolved from certain vertebrates, themselves the descendants of invertebrates, and that the human species is the result of evolution.

Further on, the exhibition highlights the theme that man was created by his own labour. This section reveals the

history of the earliest man and his evolution: how he developed from the southern ape (*Australopithecus*) to Java Man, Peking Man (*Homo erectus*), etc. and finally to modern man (*Homo sapiens*). Introduced in detail here is the life of Peking Man, his tool-making, use of fire, etc., which attest that the evolution of apes into men was brought about by social-productive labour, and that man's conscious initiative was continuously developed and elevated through practice.

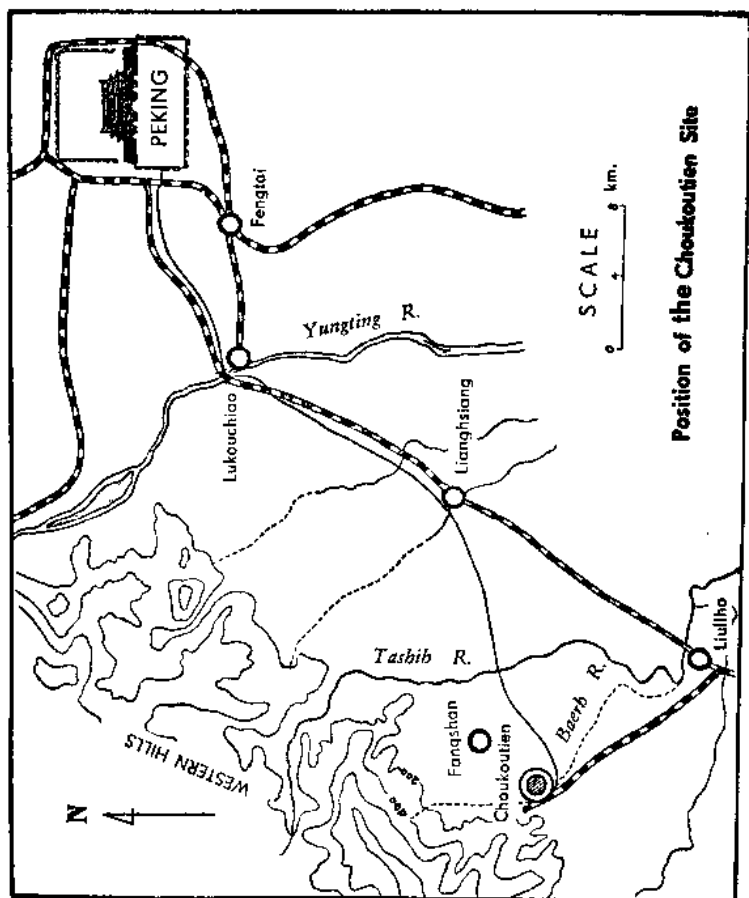
The last section of the exhibition focuses on the progress and achievements made in paleoanthropology and vertebrate palaeontology in China after liberation. Many exhibits are new finds which provide very important evidence for anthropological and palaeontological studies.

¹龙骨山, ²周口店, ³“北京人”, ⁴“山顶洞人”.

The "home" of Peking Man

In the Peking area 50 kilometres southwest of the city proper, there is a small town called Choukoutien. It lies at the southeastern foot of the Western Hills, with mountains to its north and west, and rolling hills on its northeastern fringe. To the south and southeast the view opens onto the great North China Plain, which slopes gently away to the southeast. The Paerh River, actually a stream, emerges out of a narrow gorge not far north of Choukoutien to flow along the west side of the town. It then meanders southwards to meet the Liuli River about ten kilometres away and on to empty into the sea near Tientsin.

Opposite Choukoutien on the west bank of the Paerh River are two round-topped limestone hills which stand in an east-to-west line. The one to the east, known as Lungkushan or Dragon Bone Hill, has a cave on its northern slope, in which the fossil remains of Peking Man, artifacts, traces of the use of fire and a variety of animal bones were found. These finds show us how Peking Man, intelligent and hardworking, struggled indefatigably against nature to create a primeval culture in China.



In the more remote past, 450 million years ago, the Choukoutien area was part of a sea as the presence there of Ordovician limestone proves. In this period marine invertebrates flourished and the earliest types of fish had also emerged. These fish were so primitive that they had no mandible, or lower jaw. As a result of crustal movement, the sea gave way to plain and mountain. Roughly 300 million years ago, the warm and humid climate in this region produced an abundance of vegetation. Vertebrates further developed; amphibians were gradually becoming more numerous and primitive reptiles whose habitat was terrestrial had appeared.

About eight million years ago in the early Pliocene, the topography of the Choukoutien area was still quite different from what it is today. One piece of evidence of this is that on a slope one and half kilometres south of the town, a large number of fossil fish have been found 70 metres above the present river bed. Clearly the slope was once the bank of an ancient river, whose bed sank as a result of the gradual elevation of the surrounding land. Formerly, the hill west of Dragon Bone Hill and the mountains further west were probably part of the same range. Later, however, they became independent formations as a result of prolonged weathering and erosion. The stream to the east of the Dragon Bone Hill was once much wider. There is evidence that even the town of Choukoutien was a part of the river bed. Gravel, pebbles and boulders left by the old river abound on the western slope of the Taiping Hill east of the town, and also along the southeastern foot of the Shengping Hill north of the Dragon Bone Hill.

Through crustal movement, the thick limestone rock formation was warped upward. Limestone is soluble, and where folding has occurred, is especially liable to erosion by groundwater; hence caves and fissures formed here.

Prior to excavation, the cave that Peking Man dwelt in was filled with layers of deposit. Its dimensions are now roughly estimated to have been 140 metres from east to west, and 40 metres from south to north at the eastern end which was the broadest part, while at the western end the width narrowed down to a mere 2.5 metres. The fossiliferous deposit is more than 40 metres deep. There was once a roof over a large part of the cave, but due to weathering and erosion, only traces of it were found in the eastern half of the cave.

The deposit is straticulated, with 13 layers each distinguished by certain characteristics. Thus the whole deposit reads like a history of Peking Man, the finds in each layer being an authentic record providing the basis for this booklet.

At the very bottom of the cave, beneath the fossiliferous deposit is a layer of gravel and reddish silt, generally referred to as the basal-gravel layer. This gravel consists mostly of rounded pebbles, but some of it still shows traces of glaciation and is considered glacier-formed. Sporopollen analyses have confirmed that this layer was deposited during an age of cold climate, evidence of a glacial period prior to the arrival of Peking Man.

Overlaying this basal-gravel layer is a stratum of reddish mud deposited when the water was less turbulent, and in it stone implements have been found, indicating that man had already come to the cave at that time. Since

no human fossil has been found along with these artifacts, their owner cannot yet be identified. It is believed that they belong to Peking Man, as they indicate a level of skill similar to that which would be required to make tools proved to be his, although the mammalian fossil remains found in this layer belong to an earlier period than the deposit which yielded the Peking Man fossils. The first inhabitants of this cave do not seem to have stayed long, for no artifacts other than the few stone implements have been found.

On top of the reddish mud deposit is a layer of coarse sand, evidence of a big flood in the area. When the flood receded, cave-dwelling Chinese hyenas, an extinct species, were the first visitors. This sandy layer has yielded a large number of hyena skeletons and a layer of coprolites, or fossilized dung. These hyenas had the distinctive habit of excreting at a fixed spot and their diet consisted mainly of carrion. With their powerful jaws and teeth they could crack and chew even the hardest animal bones. This meant that their excrement was rich in bone, and thus well suited to fossilization.

Peking Man took over the cave not long after these hyenas. His bones and those of other animals, as well as his tools of bone and stone and traces of his use of fire are to be found in this layer.

In the middle section of the 40-metre-deep deposit, large quantities of hyena bone and coprolite again appear, indicating that the cave was occupied by this animal more than once. The presence of fine sand in several layers of this section proves that the area had been repeatedly flooded. In these layers, which contain an