

UPPER PALAEOOLITHIC CULTURES¹

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THE Upper (or Late) Palaeolithic of Soviet Central Asia has not yet been thoroughly studied. Throughout this territory little archaeological material has been collected as yet, and Late Palaeolithic remains appear to occur as isolated groups. About fifty sites have provided material which has been ascribed to Upper Palaeolithic and most of these ascriptions are provisional.² So far considerably more Mousterian sites have been discovered in Soviet Central Asia. Various explanations have been put forward for this; for example that some Late Palaeolithic sites have been mistaken for Mousterian;³ that the weather has destroyed many;⁴ and that many Late Palaeolithic sites are buried under loess.⁵

An important feature of Upper Palaeolithic sites in Central Asia is the similarity of the material to the Mousterian. In the cave of Obi-Rahmat only a gradual increase in the number of types distinguishes the Late Palaeolithic layers from the Mousterian. R. K. Suleymanov has established the following relationship between Mousterian and Late Palaeolithic types:⁶

¹ See Maps 3 on pages 46 and 47. Material presented by A. Z. Yusofzay has also been used in this chapter.

² Ranov and Nesmeyanov, 1973, p. 17.

³ Lazyukov, 1981.

⁴ Ranov, 1972, pp. 275–97.

⁵ Ibid., 1972, p. 282.

⁶ Suleymanov, 1972, p. 134.

Site horizon	Mousterian (%)	Late Palaeolithic (%)
Obi-Rahmat (D)	148	86
Obi-Rahmat (C)	15	85
Obi-Rahmat (B)	20	80

Links with the Mousterian stone-working tradition are also in evidence at the sites of Boz-Su (C14 date 38,000 years),⁷ Kulbulak,⁸ Shugnou⁹ and Samarkand¹⁰ (Fig. 1 Late Palaeolithic tools from Soviet Central Asia: 1–14 – Shugnou site; 15–24 – Samarkand site.). This relationship suggests that the Late Palaeolithic stone technology of Central Asia was not introduced from outside but is a development of the indigenous Mousterian industry. This is supported by V. A. Alekseev's suggestion that the Teshik-Tash child may be an example of a pre-Asiatic type, and this in turn may lead to the conclusion that Central Asia may now be considered part of the primordial homeland of modern man.¹¹

The Late Palaeolithic sites of Central Asia are usually associated with the surface deposits of the Golodnaya Steppe (Hungry Steppe) and Dushanbe terrace levels of the Upper Pleistocene. Shugnou, the Samarkand site and Kulbulak are among these. Some well-known finds were made on the Krasnovodsk peninsula at the Khazar and Khvalyn terraces (Yangaja and others). They have, however, been removed from their original site.

Since there is very little Central Asian Late Palaeolithic material available, all attempts to present its culture have been provisional. V. A. Ranov¹² has put forward a most sophisticated scheme based on A. P. Okladnikov's concept of two separate lines of development of Palaeolithic cultures in Soviet Central Asia. According to this scheme Group A cultures developed from a Levalloisian/ Mousterian basis (e.g. the cave of Obi-Rahmat). The line of development of this group, which resembles the Late Palaeolithic of western Asia, has so far been traced only in its general outlines, especially because there is a gap in time between Obi-Rahmat, Yangi and Kaj-Gor. Group B is traced from the Karasu site in southern Kazakhstan through the Samarkand culture to the post-Palaeolithic Hissar culture. Ranov points out the traditional features of 'Asian Palaeolithic' in this line of development – a clear pattern of evolution influenced by the Asia Minor 'Mediterranean' province.

Within these two groups Ranov distinguishes three basic technical variants of Late Palaeolithic culture: (a) Kara-Kamar (Aurignacian) type; (b) Khoja-i gor (Asia Minor)

⁷ Okladnikov and Islamov, 1961, pp. 51–60.

⁸ Kasymov, 1972, pp. 111–19.

⁹ Ranov, 1973, pp. 42–61.

¹⁰ Dzhurakulov et al., 1980, p. 92; Kholyushkin, 1981, p. 21; Taskenbaev and Suleymanov, 1980.

¹¹ Alekseev, 1981.

¹² Ranov and Nesmeyanov, 1973, p.31.

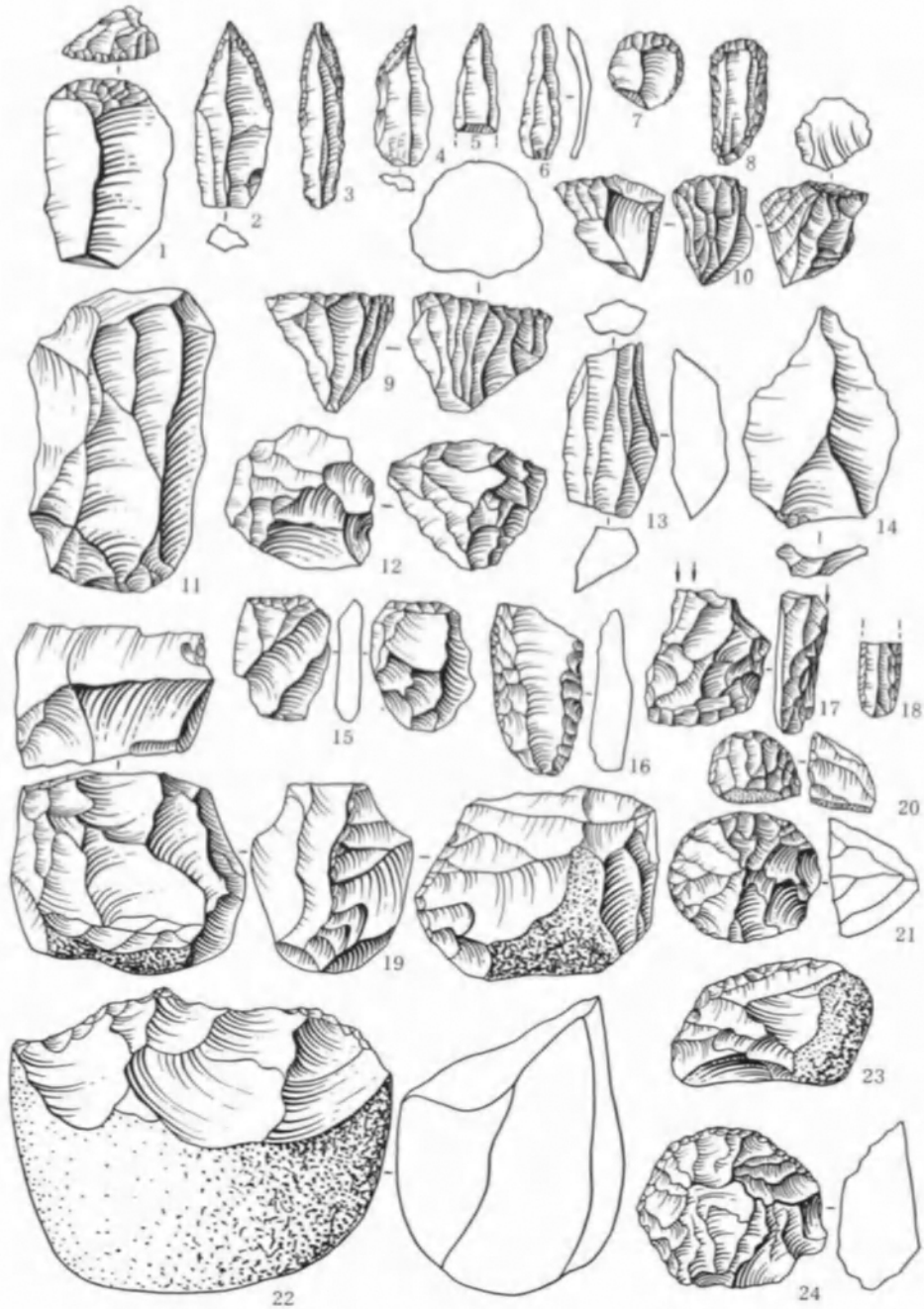


FIG. 1. Late Palaeolithic tools from Soviet Central Asia: 1–14 – Shugnou site; 15–24 – Samarkand site.

type (Khoja-i gor, Kizil-lai); and (c) the Samarkand variant (the Samarkand site, Siabsai, Khoja-mazgil, Neiza-tash, etc.).¹³ After these groups come Shugnou¹⁴ and Ak-Kupruk¹⁵

¹³ Ranov, 1965, p. 10.

¹⁴ Ranov, 1973, pp. 57–9.

¹⁵ Dupree and Davis, 1972, pp. 14–28.

(northern Afghanistan). The creation of the Kara-Kamar variant was evidently premature, since the material available is insufficient.¹⁶

One of the most thoroughly researched sites in Central Asia is Kulbulak in the valley of the river Angren, north-west of the T'ien Shan mountains. It is an open site by a stream that is still intact today. M. R. Kasymov has identified nine cultural layers.¹⁷ The top three layers may, in his opinion, date from the Late Palaeolithic. These show a continuing tradition of denticulate tools. There are miniature scrapers, often with toothed, retouched edges and wedge-shaped and prismatic cores. A better finish distinguishes the Mousterian tools in the Late Palaeolithic levels from those in the layers below. The objects found in these layers lie in deposits of the Golodnaya Steppe cycle.

Five layers have been identified at Shugnou, which is situated in the upper reaches of the river Yaksu, in the upper part of a 10 m (third) section of the early Dushanbe terrace.¹⁸ The site has an excavated area of 500 m². The excavator considers all the layers to be remnants of temporary hunting camps, and that the top layer is Mesolithic and the four lower layers Late Palaeolithic. Some 4,700 stone implements were found at the site. All five cultural horizons present the same pattern: accumulations of worked stone, a few bones clustered together and the remains of heavily eroded camp-fires.

The same kind of fauna, with a few exceptions, is found in all layers: horse, ox or bison, ram or goat, marmot and tortoise. The cultural levels also contain a considerable amount of tree-pollen, including birch, pine, fir, cedar, alder, willow, poplar, plane, walnut, ash and other varieties. Only a few objects were found in the third and fourth horizons. Most of them appear to be Mousterian and are strongly reminiscent of material found in the upper layers of Obi-Rahmat. Many of the elements found are post-Mousterian, like the oblong core typical of Late Palaeolithic found in the third horizon.¹⁹

The second horizon yielded the largest quantity of material. There is a preponderance of heavy blades, often Mousterian in appearance, many with lateral ribs, which seem to be picks. There are several basic categories of tools. One of these is the scraper: end-scrapers are made from either heavy, elongated blades or wide, truncated blades; there are instances of round scrapers retouched along the entire perimeter of the disc; and there are simple flake scrapers. Points constitute another large group. They include awls with sharpening retouch along one or two edges, pierced points with blunted edges, Gravettian and 'Tutkal' points.

¹⁶ Ranov, 1960, pp. 145–50.

¹⁷ Kasymov, 1972.

¹⁸ Ranov and Nesmeyanov, 1973, p. 83.

¹⁹ Ranov, 1973, p. 57.

Smaller, curved blades characterize the industry of Horizon I. The most noteworthy tool type is a core scraper with a well-defined 'nose', which is common to Kara-Kamar, the workshop on the Krasnovodsk peninsula, and the Samarkand site. With the core-scrapers, there are blade scrapers with meticulously finished points and edges, and coarser flake scrapers. The C14 date of this horizon is $10,700 \pm 500$ years (GIN 590).

Horizon 0 is Mesolithic. The cores found here are closely related to those of the Markansu culture of the eastern Pamirs.²⁰ The tools include unusual hollowed, scraper-like implements. The commonest tool is the scraper made from either flakes or sections of blades, more often from heavy flakes.²¹ The Samarkand site, located in the centre of the city, was discovered in 1939 by N. G. Kharlamov, and has been studied more thoroughly than the others. The main excavations were carried out between 1958 and 1967 by D. N. Lev.²² Cultural layers have been noted on both the lower (10 m) and upper (13–17 m) terraces. V. A. Ranov and S. A. Nesmeyanov consider that the deposits containing the cultural layers were formed after the late Golodnaya Steppe (Samarkand) terrace of the Siabsai and Zerafshan river,²³ that is, around 16,000 years ago. The results of the statistical analysis of the stone industry corroborate such a conclusion.²⁴ D. N. Lev distinguished three cultural levels. The variety of fauna is poor, thirteen species in all, including eleven species of mammal, birds of the sparrow family, and one species of reptile – the tortoise. The mammals are as follows: elephant or rhinoceros, horse, Pleistocene ass, wild donkey, camel, boar, deer, a type of gazelle, sheep of the steppe, aurochs and wolf.²⁵

Lev has pointed to organic links both between the three layers themselves and between them all and the Mousterian industry of Amankutan. In establishing this hypothesis, he has attempted to highlight indirect lines of evolution in the typology and methods of fashioning the tools. He sees evidence of such lines of development in both the vaguely Mousterian form of tools from the Samarkand site, and in individual analogies between the knife-shaped and hollowed tools of the two industries under discussion.

However, in the absence of any concrete demonstration of a transformation of the Amankutan industry into an industry such as that of Samarkand, and in view of the small number of artefacts found at the former site, such assertions carry no conviction unless based on a comparison of the local roots of that industry with possible external influences.

²⁰ Ibid., p. 52.

²¹ Ibid., p. 52.

²² Lev, 1964, pp. 102–7.

²³ Nesmeyanov, 1980 pp. 46.

²⁴ Dzhurakulov et al., 1980, pp. 51–95.

²⁵ Ibid., pp. 54–95.

The material found at Kuturbulak is very similar to that found at Samarkand.²⁶ We find the same retouched flakes and blades, hollowed tools and core tools, scrapers, burins and pebble tools. At Kuturbulak, most of the mentioned are smaller in size and more delicately fashioned. The relationship between the different types of tool is also different.

The spatio-temporal relations between the industry of the Samarkand site and the Late Palaeolithic industries of Soviet Central Asia to those of surrounding territories present a problem that is no less complex. In speaking of the special features of the 'Asiatic' line of development of the Samarkand site – of the 'provenance' of the Mousterian forms and pebble tools, we must bear in mind a number of features common to the Palaeolithic of Europe and Asia Minor. The first is the presence of core-scrapers and high-profile scrapers, and often well-defined nose scrapers; this allows us to speak of definite links with industries such as those of Asia Minor and East Asia. These types of tools have direct counterparts in Mugaret-el-Wadi and Kara-Kamar. The two human lower jaws found on the Samarkand site are of great interest; they have been described as being of Mediterranean type.²⁷ In terms of tool typology, the Samarkand site is closely related to two others: Khoja-mazgil and Siabsai situated at a distance of 70 and 2 km respectively.

Upper Palaeolithic tools were found at the Yangaja sites, on the Krasnovodsk peninsula: as well as coarse, prismatic cores and Upper Palaeolithic blade and flake tools, there was a series of core-scrapers with high profiles.²⁸ The site of Khoja-i gor, on the right bank of the river Isfar, in the Ferghana depression, dates from the closing stages of the Upper Palaeolithic.²⁹ Geomorphological dates put it near the end of the Upper Pleistocene. The prevalent type of tool is the end-scraper, in both rounded and double-edged variants. The presence of small points with blunted edges relates this site to West Asia.

The site at Kara-Kamar bears a resemblance to Upper Palaeolithic complexes in Afghanistan.³⁰ Keeled core-scrapers predominate here (Fig. 2). The industry also contains numbers of end-scrapers of the grooved and toothed variety. 21 per cent of the finds are blades and retouched flakes. Kuhn's opinion is that these scrapers give Kara-Kamar an Aurignacian character. Ranov holds that the second horizon at Kara-Kamar is a variant of Late Palaeolithic culture fairly common in this Asia, developed from archaic Mousterian traditions.³¹ The basic implement here is the Mousterian blade with retouched edges, and occasionally with a retouched platform. Horizon I has a C14 date of $10,580 \pm 720$ years.

²⁶ Tashkhenbaev, 1975, pp. 5–15.

²⁷ Ginzburg and Gokhman, 1974 pp. 5–11.

²⁸ Ranov and Nesmeyanov, 1973 p. 17.

²⁹ Okladnikov, 1959 pp. 158–84.

³⁰ Ranov, 1978, pp. 233.

³¹ Ranov, 1960, pp. 145–50.

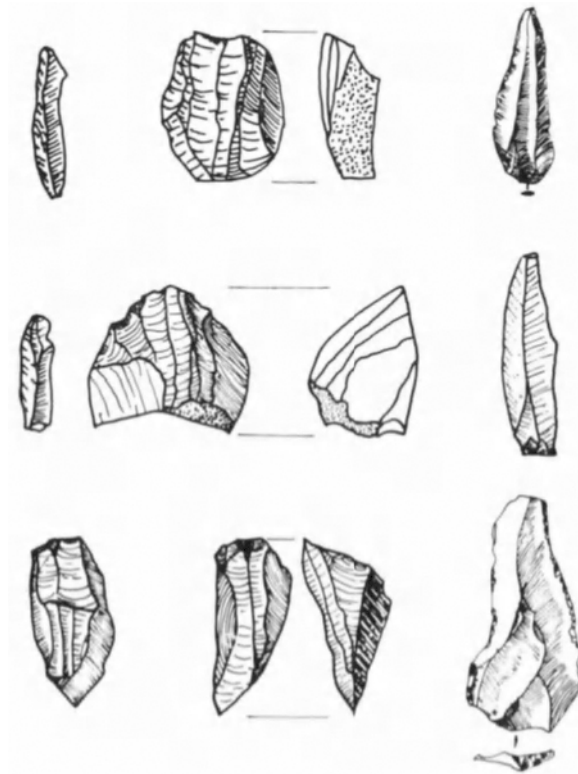


FIG. 2 Late Palaeolithic tools from Kara-Kamar, Afghanistan: bladelets, bladelet-cores and blades.

It is characterized by the appearance of the microblade technique, and also has keeled scrapers. The lamellar flakes and end-scrapers are completely Palaeolithic in nature. The industries of this horizon are analogous to those of Oshkhon in the eastern Pamirs and to the third horizon of Tutkal.

Ak-kupruk sites II and III in Afghanistan, are of great help in understanding the general character of the Late Palaeolithic of this part of Central Asia.³² Ak-kupruk is dated around $16,615 \pm 215$ years ago. Taking the material of complexes A and B together, Dupree and Davis discern two components. The first consists of heavy items, cores, flakes, blades, denticulate scrapers, sharpening chips and ribbed blades. The microlithic component includes prismatic micro-cores and microblades. There are two further types of scraper; keeled and end-scrapers. Burins from the second largest category, consisting mainly of simple burins on the end of blades or flakes. There are also angle burins, combined burin-knives, shouldered points, cleavers and bifaces. The presence of microlithic cores in this complex shows that it is possible that material from different periods has been mixed together. We should

³² Dupree and Davis, 1972.

take special note of the limestone pebble found in the cave of Ak-kupruk II which bears the carved outline of a human face.³³

Recent studies by the British Archeaeological Mission in Pakistan have made a definite contribution to the study of the Upper Palaeolithic in the Potwar region of Punjab. The tools associated with Lei Conglomerate fall mostly into the Middle to Upper Palaeolithic bracket. An important excavation has been carried out at the open-air site of Riwat and an intensive survey has been done in the surrounding area of nearly 2 km². This appears to be a temporary working site and is dated approximately 40,000 years ago by the thermoluminescence method. The excavation revealed 'a low stone wall and post sockets which appear to have been the base of a small windbreak or shelter and a small stone-lined pit of unknown purpose. With these were associated Upper Palaeolithic type cores, blades, etc., of fine grained quartzite, in fresh condition comparable to those found earlier on the edge of the loess'. This was probably a camping place.³⁴

Sanghao cave is the most extensively studied Palaeolithic site in Pakistan. It was discovered and excavated by A. H. Dani and described by B. Allchin (1973).³⁵

The deposit consists of twelve cultural horizons, the lower ten of which include artefacts made in both Mousterian and Upper Palaeolithic traditions (Fig. 3). The basic raw material used in making the tools is quartz. A small proportion of the tools were made from bone. Uneven flakes, many of them elongated, lamellar flakes, served as blanks for tools. The flakes were struck from prepared cores, some of the striking platforms were at right angles to the flake surfaces and some were faceted. This shows that the technique of working stone was fairly well developed and reminiscent of the late Soan and the Middle Palaeolithic in India. Some of the flake cores were discoidal, and there were Levalloisian and tortoise cores; a few prismatic blade cores were also found. A number of cores had been turned into choppers and chopping tools by means of secondary flaking. Layers 3 and 4 (Period III) contain a significant number of narrow, attenuated blades, straight and symmetrical in form, blades with burin facets make their appearance here, and the Mousterian tradition continues.

It is still difficult to correlate all the ancient sites in the region, to show all the lines of development, because the Upper Palaeolithic in Central Asia and the adjacent areas of Afghanistan and Pakistan have not yet been sufficiently studied.

Writing of the obvious similarity between Indian Palaeolithic and the culture of Group B in Soviet Central Asia, V. A. Ranov notes also the influence of Group A sites on Indian

³³ Marshack, 1972, pp. 66#x2013;70.

³⁴ Allchin, 1986, pp. 78–81.

³⁵ Dani, 1964.

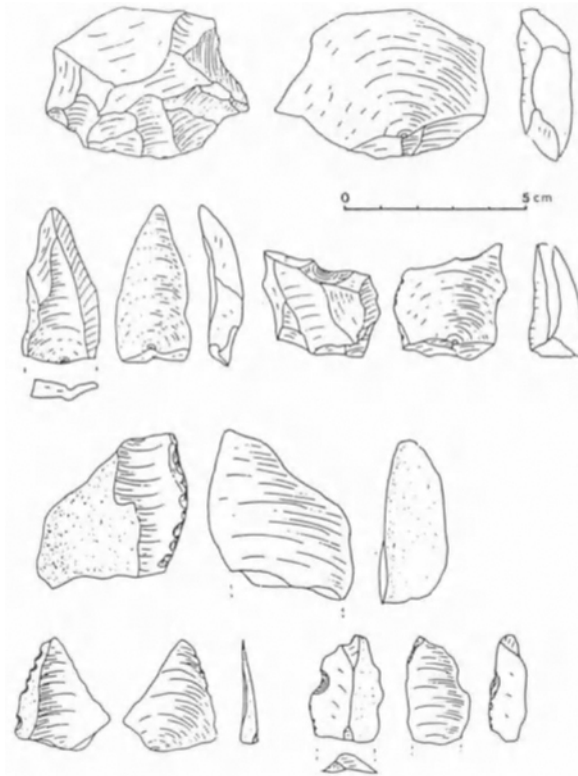


FIG. 3. Upper Palaeolithic tools from Sanghao, Pakistan: Levallois flake and point, scrapers, etc.

Palaeolithic – this on the evidence of Sanghao and other Upper and Middle Palaeolithic sites,³⁶ but the development of ancient cultures in this territory followed its own individual course. In contrast, the Samarkand site and others with a similar stone-tool typology are akin to Siberian and Mongolian localities. All this testifies to great complexity in the development of the Upper Palaeolithic cultures in Central Asia.

The discovery of Late Mousterian sites in southern Siberia has added a new aspect to the problem of sources and lines of development of Late Palaeolithic cultures. The Ust-Kansk site in the Altai Mountains is a case in point.³⁷ Analysis of its inventory of stone tools has established that it belongs to the Mousterian/Levalloisian tradition.³⁸ Whether there are examples of Levalloisian is a difficult question. Researchers at first put Shuidonggou and Sjara-osso-gol at the end of the Mousterian period. Now it has been established that all these materials relate to the Upper Palaeolithic. The earliest of them are of the Shuidonggou type. The sites of Chzhiyui and Sjara-osso-gol relate to the final stage of the Upper Palaeolithic.

³⁶ Ranov, 1972, p. 291.

³⁷ Rudenko, 1960, pp. 104–25.

³⁸ Anisyutkin and Astakhov, 1970.

Insufficient attention has been devoted to the Upper Palaeolithic in the region of Mongolia. At present, several sites can be singled out which, in their general make-up, afford an impression of the final stage of the Palaeolithic in this area (Fig. 4). In the east of the region, the first find of Palaeolithic tools were made in 1967, 20 km north of Choibalsan in the locality of Ulbi Nuur.³⁹ A further find of Palaeolithic implements was made at the source of the Khuitin-Bulak river, 100 km from Choibalsan in the direction of Halhin-gol, where the road passes through a depression, bounded to east and west by clearly defined terraces, 30–40 m high, their edges indented with gullies of some depth. Towards the middle of the depression, a further terrace, 2–3 m in height, can be seen. Several hundred broken pebbles were found here in a fairly small area, and they can be divided into a number of basic shapes. The majority are pebble tools, chopping-tools and denticulates, made from basalt and andesite pebbles, edge-formed by repeated blows to one side of the pebble. The resultant working edge could be straight, convex or pointed, occasionally with secondary flaking. The butt of the tool retains its pebble cortex. Bifacial chopping-tools, too, were made from heavy pebbles. At one end a wedge-shaped blade was made by chipping both sides and subsequently retouched. This cutting edge of a chopping-tool was carefully fashioned; half, or even two-thirds, of the surface of the tool was hewn and the butt was left intact. Denticulates, too, were made from pebbles, but unlike the chopping-tools, they were formed by chipping not the narrow but the broad end of the pebble; furthermore, the denticulates are rather smaller and are chipped over the entire surface, some on one side only, some on both. Their working edge, which may be straight or oval is retouched.

There are more than twenty cores among the worked pebbles. It is difficult to divide them into distinct categories, though there are Levalloisian cores to be found – discoidal and roughly prismatic. Only one Levalloisian core is well formed and finished. As usual in the Levalloisian tradition, the perimeter of one side has been flaked off. Its striking platform is particularly well formed. This core was prepared for subsequent removal of blades. Some of the discoidal cores could also have been used as denticulates. A few of them had relatively well-prepared striking platforms. The flakes detached were small. Prismatic cores were made from long pebbles one of whose sides was made by transverse chipping into a striking platform which is always slightly askew. Heavy, lamellar flakes were detached from such cores. Among the tools found here there were several picks. Almost all the tools found near the streams were heavily patinated – indirect evidence of their antiquity.

Judging by the finds at Choibalsan and at the source of the Khuitin-Bulak, the formation of the Palaeolithic culture of eastern Mongolia was influenced by two regions: western

³⁹ Derevyanko and Oklandnikov, 1969.

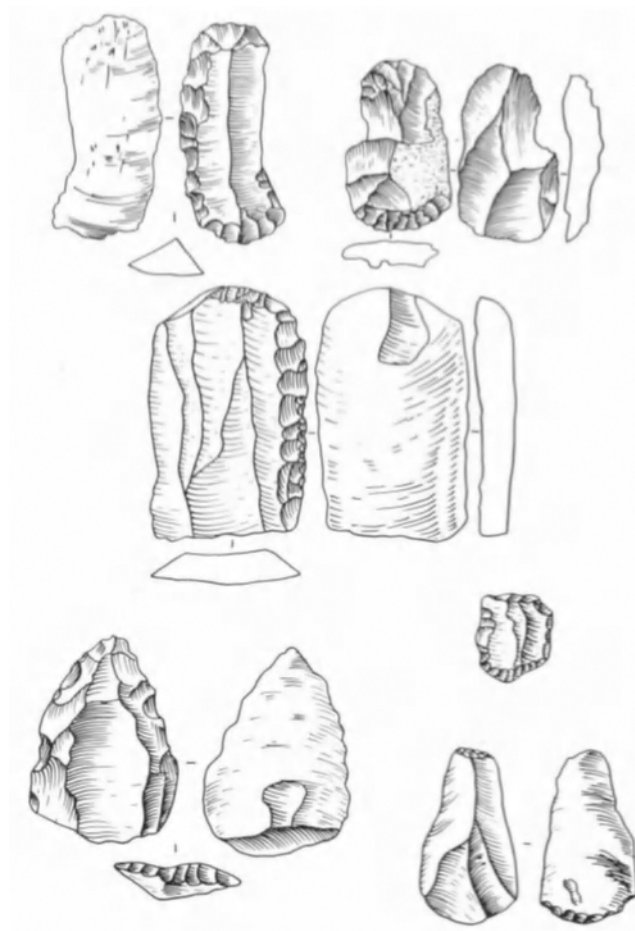


FIG. 4. Tools from Moiltyn-am, Mongolia.

Mongolia, with its Levalloisian/Mousterian pebble industry; and, as the presence of denticulates of the Siberian type shows, the region of the Yenisey and the Angara.

The Upper Palaeolithic sites of central Mongolia have been studied more thoroughly. One of the most important sites for the surrounding area as well as for Mongolia itself is the many-layered settlement of Moiltyn-am (Cheryomukhovaya ravine) on the left bank of the Orkhon river (Fig. 4). The settlement is situated opposite the ruins of Karakorum, ancient capital of the Mongol khans. The settlement was discovered in 1949 by A. P. Okladnikov.⁴⁰

The stone tools found are of the same period as the loess deposits in the second terrace of the Orkhon valley.⁴¹ The terrace has two levels. The lower level (10–12 m) was formed without significant interruption or change in conditions. The distinctive features of this level of the terrace are its great width and flatness and the composition of the river deposits.

⁴⁰ Okladnikov, 1962, 1964, 1981; Okladnikov and Larichev, 1963.

⁴¹ Okladnikov and Troitskiy, 1967.

The second level of this terrace extends from 20 to 14 m above the level of the river. The base of the terrace consists of heavy, alluvial deposits of shingle covered with a series of further deposits. Man first settled the diluvial-proluvial strip alongside the old channel – this strip was the foundation of the second level of the terrace – before its flat surface was covered by the floods.

Excavation has uncovered five cultural horizons, and this allows us to follow the process of development in the form and manufacture of stone tools from the first to the last stage of the Upper Palaeolithic. Okladnikov concluded that an overall conformity and a single line of development ran through all the cultural horizons of Moiltyn-am. This continuity is to be seen in the fact that all layers contain cores of the Levalloisian tradition – discoidal, pebble and prismoidal – as well as scratchers, scrapers, awls and other implements.

Notwithstanding this stability in form and formation of stone tools, significant changes can be observed. The first and most important phenomena are the appearance in the fourth layer of the oblong core, and its subsequent development, as well as the appearance of scratchers with a convex working edge. It is highly significant that the number of items made from knife-shaped blades increases as we move from the lowest cultural horizon to the highest. The blades themselves take on a regular shape and progressively diminish in size. Thus the stone tool inventory tends to become microlithic. Furthermore the upper cultural horizons show an increase in the number of items with delicate retouch and secondary flaking to improve the shape.

The earliest horizons of Moiltyn-am evidently belong to the very beginning of the Upper Palaeolithic and their stone tools and cores are typologically very close to the Mousterian. The third layer shows the formation of a system of forms which were common to a large part of Mongolia and are also similar to Upper Palaeolithic remains in the Altai and southern Siberia. The topmost horizon belongs to the last phase of the Upper Palaeolithic, and Okladnikov dates it to between 15,000 and 12,000–10,000 years ago.

Roughly contemporaneous with the lower layers of Moiltyn-am are sites such as Zausan Tolotoi near Ulan Bator, Sangino, the lowest horizon on the Uliastai river and on the heights of Bulun-Khujin. The Levalloisian/Mousterian tradition is typical of all these sites, though stone tools characteristic of the Upper Palaeolithic already prevail (Fig. 5).

The subsequent stage in the history of the ancient peoples of Mongolia is connected with the finds on the lower level of the second terrace. The cultural level of these sites is connected not with the yellow, diluvial stratum of sandy soil and loam left by the Ice Age (which relates to the low layers at Moiltyn-am), but with the brown-soil horizon. This latter stage is also associated with the upper horizons of the Moiltyn-am settlements, as well as with Sangino sites similar to Sharakho I, and other sites.

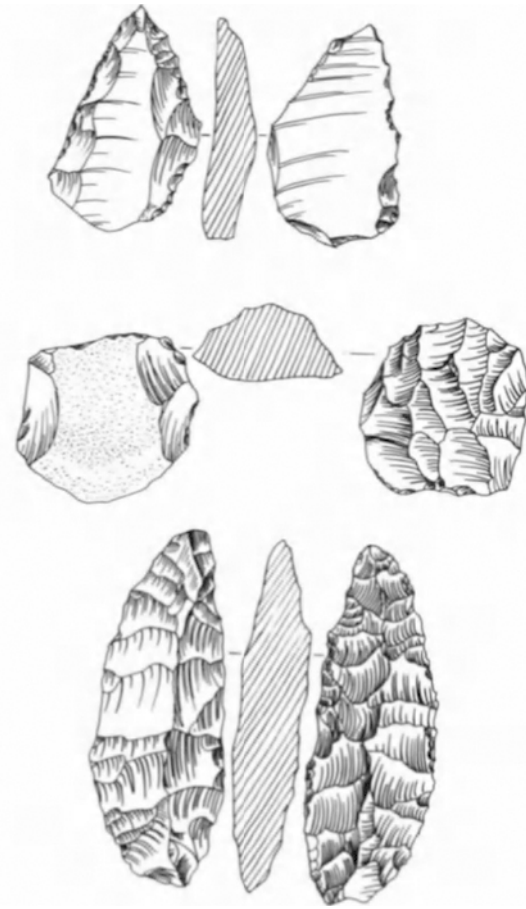


FIG. 5. Stone tools from Sangino, Mongolia.

The last phase of the Palaeolithic and the transition to Mesolithic are represented by the material excavated at Khere-Uul Mountain in eastern Mongolia.⁴² The settlement is situated on an eminence next to a terrace of up to 60 m in height which rises from the Halhin-gol river valley. On the western slope of the eminence there are eroded patches which have now become largely covered in turf. Excavations were conducted on this western slope. Discoveries were made at a depth of 40–60 cm beneath the present surface in a layer of sandy loam containing small amounts of humus.

The Khere-Uul settlement displays a new phase in the development of human culture: the evolution of the blade techniques. Most of the tools were made from fairly small, regular, knife-shaped blades. These were generally detached from oblong or wedge-shaped cores. Blade techniques were widely used throughout Central, East and North Asia at the end of the Pleistocene and the beginning of the Holocene. This coincided with profound changes in the natural environment.

⁴² Oklandnikov, 1974.

The atmosphere was becoming warmer, and the mammoth and animals associated with it retreated northwards and finally became totally extinct. At the same time man was advancing from south to north, going as far as America; this is demonstrated by the diffusion over a vast area of many common elements in the stone-tool culture and techniques of ancient peoples.

The discovery of paintings in the cave of Khoist-Tsenker-Agui was of great importance in determining the cultural level of the tribes in Mongolia at the end of the Palaeolithic. The cave is situated 23 km south-west of Monhhaan somon in the Mongolian Altai.⁴³ It formed within impressive deposits of limestone and gypsum. The floor at the entrance is piled high with massive blocks of the entrance arch which, at some stage, partially collapsed. The cave floor drops steeply away from the entrance. The roof rises like the gigantic dome of some underground cathedral, and its steep cornices hang down like stalactites.

The paintings were found in peculiar niches. The artists apparently had to draw while lying down in an awkward position. Most of the paintings were done on even rock surfaces and, because these were not extensive, the paintings partly overlap. In some places there is a complete interweaving of strangely stylized animal figures: horses, goats, bulls and birds. One composition, done in red, attracts special attention. It portrays several mountain goats in the most varied attitudes. Some running headlong, others preparing for a vertiginous leap, while others still are resting in calm, relaxed postures. The horns of the animals, too, are shown in different ways; some beasts with barely noticeable horns drawn in short, sparse lines, others with proudly uplifted, convoluted spirals. The most striking things in this Stone Age gallery are the images of large birds with enormous bodies and long, curved necks, as well as the pictures of powerful beasts with a clearly drawn long trunk. The birds bear a striking resemblance to ostriches. The animal with the trunk is either an elephant or a mammoth.

The cave paintings of Khoist-Tsenker-Agui show a cultural, historical and artistic world that is bright and completely individual. They express the different aesthetic traditions of the art of ancient Mongolia. The most significant feature of western Mongolian cave paintings taken as a whole is the absence of representation of human beings. This art is completely and exclusively devoted to the depiction of animals. The artists were confronted with a world of wild, undomesticated animals that inhabited the steppe and the desert of Central Asia, and they regarded this world whose life supported theirs not with detachment but with the passionate eye of the hunter.

The manner in which the particular animals are represented in the various cave paintings of Khoist-Tsenker is especially important when we come to consider themes common

⁴³ Oklandnikov, 1972, p. 75; Derevynko, 1980.

to both Mongolian cave paintings and the Palaeolithic art of the distant west. Among the animals depicted in cave painting in western Mongolia an elephant-like beast, understandably, occupies a special place. Two Khoist-Tsenker drawings of an animal with a trunk are, in all probability, drawings of an elephant: the typical eastern namadicus elephant rather than the northern mammoth. On one of the drawings, tusks as well as a trunk are distinctly visible.

The horse, a classical subject occurring frequently in western Palaeolithic painting, is to be found in only one drawing at Khoist-Tsenker, and even then its aspect is strange: it has no head, and two tails. Although many of the same animals are depicted both in western European Palaeolithic art and in the paintings at Khoist-Tsenker, one marked discrepancy is obvious: among all the paintings in France and Spain, there is not one depicting a camel. Yet the two-humped, or bactrian, camel of the Khoist-Tsenker cave is a natural, almost necessary subject, for this area was its home. Since the Tertiary period this animal had inhabited the dry, arid wastes of Central Asia. It fits as naturally into the basic selection, the repertoire of wall paintings in Central Asia and southern Siberia as the one-humped camel, or dromedary, ‘the ship of the desert’ and features in wall paintings scattered over a wide area of the Sinai peninsula and North Africa.

In Inner Mongolia and Ningxia Muslim Autonomous Regions, during the Late Pleistocene epoch, the weather gradually became colder and drier, and loess deposits were formed. There are many deposits of fine sand and much low-lying land, and rivers and marshes. It is particularly in the general area of the southern foothills of the Yin mountain range that rivers and lakes were formed which attracted animals and men.⁴⁴ Of the human fossils and cultures of the Late Palaeolithic era found in this region the most important are: Hetao man, the Shuidonggou site, the Sjara-osso-gol river site and the Dayao culture.

Hetao man is the term used for the human fossils of the initial stage of the Late Palaeolithic era.⁴⁵ Teilhard de Chardin and E. Licent discovered a human upper-left outer incisor in a layer of gravel on the bank of the Sjara-osso-gol river in the Yikezaho league of Inner Mongolia. The tooth is very well preserved, the crown has not been eroded and the root has not reached maturity; it is similar to that of a modern child. Because of the protrusion of the two sides of the lingual surface of the molar, the centre of this surface is concave, or shovel-shaped and bears the characteristics of present-day Mongolian teeth. D. Black has done preliminary research on this tooth and named it Hetao man. In 1957 the Inner Mongolian Museum found a fossil human parietal bone and a section of a femur in terrace deposits near the village of Dishagouwan, again on the Sjara-osso-gol river in the Yikezhao league

⁴⁴ Pei, 1960; Zhou, 1955.

⁴⁵ Jia, 1953; Wo, 1958.

of Inner Mongolia. The thickness of the parietal indicates that it approximates to that of Neanderthal man and is larger than that of contemporary man. Traces of pressure of the artery branches on the inside of the parietal bone were greater on the back branch than on the front, further indicating primitivity. The wall of the femur is thick and the marrow cavity small, representing only a third of the diameter. It seems that the characteristics of the femur and the parietal bones must belong to the category of *Homo sapiens* and are human fossils of the early part of the Late Palaeolithic era.

The Shuidonggou site is in Lingwa county 45 km south-east of Yiunchuan city in Ningxia.⁴⁶ This site was first excavated in 1922. In 1957, 1963 and 1980 there have been geological surveys and fairly systematic excavations in this area. From top to bottom the local deposits divide into red soil, loess, and gravel deposits of the post-loess period. The culture stratum is in the loess layer at a depth of about 12 m from the surface is about 50 cm thick.

Cultural remains are a layer of ashes, chipped stone implements and burnt fragments of bone, together with mammalian fossils including the Asian wild ass (*Equus hemionus*), the hyena (*Crocuta ultima*), rhinoceros (*Coelodonta antiquitatis*) and gazelle (*Gazella sp.*).

The stone implements of Shuidonggou, which are considered to belong to the early part of the Late Palaeolithic, are numerous; the principal material of which they are made is red quartzite. This material comes from the gravel layer at the base of the loess. By working at the stone core it was possible to produce regularly formed stone flakes, and the implements made were very fine. They include points, scrapers and choppers, and clearing tools. Pointed tools of very uniform quality were made with stone flakes. All are made by running the two edges of the stone flakes from the broken face towards the back face, the tip being thus formed into a sharp point. The working is of high quality. These are standard artefacts of the Shuidonggou culture (Fig. 6). The scrapers are for the most part made from stone flakes and various forms of straight, concave, convex and hull-shaped blades. There are also a few which are made from small pebbles. The material for the chopping-tools is always quartzite pebbles using a technique of chipping from both sides to form a curved blade, with the butt being preserved in its pebble cortex to facilitate holding. Cutting implements are made with stone flakes and they are all very small. However, they are very numerous and of uniform manufacture. There are two forms, beak-shape and ridge-shape.

The Sjara-osso-gol river valley used to be very deep, around 65 m below the present ground surface. The two banks of the river are formed from deposits of fine yellow and light-blue sand, with earth in between. This layer of thick sand is situated directly upon a red Mesozoic sandstone. At about 45 m below the surface, stone implements and many

⁴⁶ Wang, 1962; Jia et al., 1964.

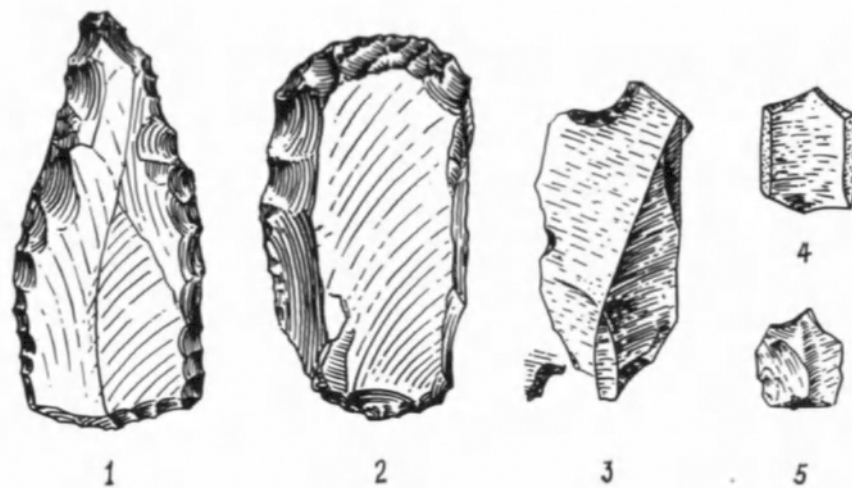


FIG. 6. Stone tools from Shuidonggou, China: 1 – pointed tool; 2 – round-top scraper; 3–5 – burins (Original size).

animal fossils have been discovered. Stone artefacts found on the Sjara-osso-gol river site were not numerous. The material is largely quartzite, with a small amount of black flint. These tools are very small, and there is a characteristic range of microlithic forms, including pointed implements, many kinds of scrapers and cutting implements.

Forty-five species of animal fossils have been found. The more important include the hyena, rhinoceros, Asian wild ass, Mongolian wild horse, wild boar, camel, deer, including the Hetao flat-antler giant deer, gazelle, twisted-horn gazelle, water buffalo, primitive ox, elephant and ostrich. The presence of this range of animals indicates that the Sjara-osso-gol river area was not then as dry as it is now; it suggests a grassy and wooded environment. From the extent of the lake deposits it appears that the lake of that time was larger than at present, and in the light-blue sand layers there is a large quantity of shell fossils, which indicates a proliferation of water plants. The two banks of the Sjara-osso-gol river encompassed a wide stretch of grassland, and by the lakes there grew grass and trees forming the habitat of the water buffalo and the primitive ox. The Hetao flat-antler giant deer, the deer *Cervus canadensis*, the wild boar, gazelle, wild ass and wild horse would have lived on the grassy plains, and this environment must have been an excellent hunting-ground for primitive man.

The Dayao culture includes the stone tools (Fig. 7) of the Late Palaeolithic era found in 1973 in the eastern suburbs of the city of Huhhot in Inner Mongolia. One site is on the Nanshan at Dayao village of Baoheshao commune, 33 km north-east of Huhhot. The second site is at the Naobao bridge of the Qian Naimoban village, Yulin commune, 30 km

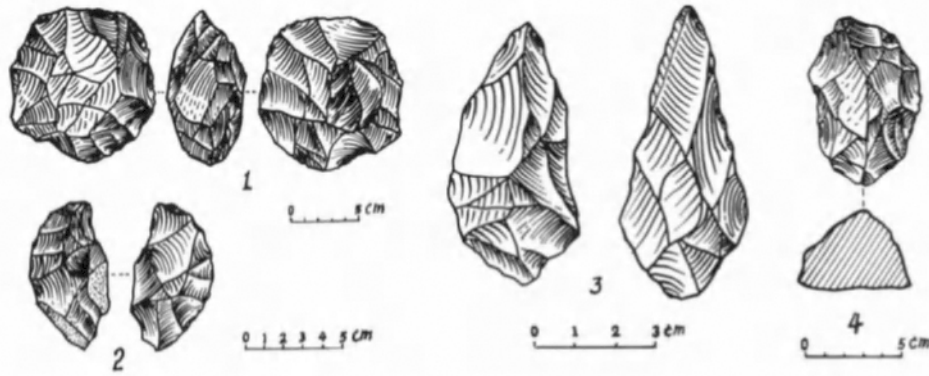


FIG. 7. Stone tools of the Dayao Culture, China: 1- chopping tools; 2 - scrapers; 3 - pointed tools; 4 - turtle-back shaped scraper.

east of Huhhot. Both sites are in the foothills of the Daqing mountain and are separated by 10 km on a north-south axis.

The Nanshan of the Dayao village is formed by granite gneiss of the Archean group: it is 1,420 m above sea-level and rises about 200 m above the river-bed. On the summit and half-way up the hill are scattered flint fragments. On the northern slope at a height of 1,330 m above sea-level loess begins to appear and these deposits increase in thickness as the slope descends, to link up with the plain below the hill. There are two large ravines on the southern slope of the Nanshan: the northern one is called the Tuershan ravine, the southern the Nanliang ravine. The deposits of the two ravines are similar. At both the base and upper-middle part of the loess there is a layer of flint flakes, chips, implements and half-made tools, the products of human labour. At the base it is fairly thick reaching a maximum of 1 m, while the upper layer is rather thin, 5–20 cm. In the loess there were found animal fossils of gazelle, species of deer, and finally hyena and rhinoceros: they are of Late Pleistocene period, which coincides with Late Palaeolithic.

On the slope and summit close to the head of the Nanliang ravine there stand a great number of huge blocks of flint (the largest of them is 4 m high, 3 m broad, and 2 m thick). Virtually all of them bear evidence of stones being chipped against them. Wherever blocks of flint appear the slope around is strewn with pieces of flint, large and small stone flakes, stone chips and broken stone implements, all the result of human work. This is to be found all over a very large area; from a preliminary survey the area is about 3 million m². On the slope between the Nanliang ravine and the northern Tuershan ravine, in the last years of the Qing dynasty and the early years of the Republic the local people opened pits and dug trenches to collect flints of good quality from the culture layers to sell as fire flints and marketed them as far away as Beijing. Today there remain over thirty pits, and their

perimeters are strewn with blocks of flint, stone flakes, and broken stone implements dug from the layers. Dayao village became known through the cutting of pits to collect flints.

At another factory site – Naobaoliang at Naimoban – apart from a layer of purple clay which appeared between the red clay and the base-rock, the geomorphology, stratigraphy and typology of the stone artefacts and their characteristics are otherwise very similar to the Dayao industry.

The Nanshan at Dayao village and the Naobaoling at Qian Naimoban are both ridges extending from the Daqing mountain to the foothills. These face the wide flatlands, and the Dahei and Xiaohei rivers both flow near by. From the loess deposits and an analysis of the spores we can deduce that the climate of that time was comparatively dry and cold, and the environment one of grasslands with grassy marsh and scrub. There was a profusion of forest on the Daqing mountain, while on the foothills there were small patches of forest and woody scrubland, and on the whole area of upland and plain, wild grasses grew thickly. There is no doubt that this environment was suitable for human habitation. In the Dayao culture the numbers of chopping tools and scrapers are greatest: they may have been used to cut down trees, and by hafting on a wooden club they may have become instruments to aid hunting. The stone ball could be a throwing implement to catch wild animals. Every shape of turtle-backed scraper with its thick back and flat base may have served to process animal hides. The Dayao stone tools are lacking in large pointed implements: possibly the gathering economy occupied a secondary position. An analysis of the totality of cultural remains suggests that men of that period lived mainly by hunting and that gathering was a supplementary activity.

The two stone implement factories are separated by 10 km: the breadth of this area and the depth of the cultural strata tell us that the human population of that period was considerable and that they lived in this district for a long time. From the continuity of the cultural strata, which both the base and middle-upper section of the loess have cultural relics of the Late Palaeolithic, and where there is a rich microlithic culture distributed in the topsoil and on the surface, it can be seen that, in this region, from Late Palaeolithic to Neolithic times man was cutting primary rock to make stone artefacts.

From 1963 stone implements and large quantities of animal fossils of the Late Palaeolithic have also been found at Loufangzi, Quzi commune, Huan county, and at Jujiayuan, Wenquan commune, Qingyang county, both places being in Gansu province.

Cultural relics of this period have not yet been found in the Xinjiang Uighur Autonomous Region. However at the time of writing it was learnt that recently, at Agu in Atusha county, Xinjiang, there has been found a human skull and several fragments of skull. A preliminary

estimate has assigned these to the Late Palaeolithic era. There has not yet been any proper survey or research.

At Kekexili in Zhiduo county, Qinghai province, and at Dingri county in Tibet stone implements of the Late Palaeolithic era have also been found. Owing to the paucity of material the question of their cultural origin still awaits further research.

Conclusion

The materials described in this chapter testify to the development of the Central Asian region in Upper Palaeolithic times. Technical progress is very noticeable in methods of production of flint tools, such as thin blades of accurate contours capable of being inserted in handles made of horn or wood. Working edges of such tools were very effective. The cultural particularity of Central Asia manifests itself, where a new technology of tool production combined with the archaic traditions of the Middle Palaeolithic epoch. The development of arts testifying to the noticeable intellectual achievement of humanity was an important feature of the new era. The main sites of cave painting of the Upper Palaeolithic are concentrated in western Europe, but now, as it becomes clear, they are also found in the territory of Central Asia. Soviet archaeologists discovered cave painting in the Urals. The Khoist-Tsenker cave paintings in Mongolia also form an important site in terms of Upper Palaeolithic art. The increasing economic and cultural potential of the ancient inhabitants of Central Asia allowed them to create such outstanding works of art.