

# MIDDLE PALAEOOLITHIC CULTURE<sup>1</sup>

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THE region we shall discuss is one of varying degrees of aridity, ranging from parts of Upper Sind and the Thar desert which have an annual average rainfall of less than 130 mm (in many years they may have no rain at all), to areas such as the northern Punjab, eastern Rajasthan and the mountainous regions of Tajikistan which enjoy a relatively high rainfall. Throughout the Holocene the greater part of the whole region must have been relatively arid, the general pattern of rainfall distribution being similar to that we see today with slight overall and local variations from time to time. In recent decades widespread pressure of human activity, previously confined to limited areas, has tended to affect all marginal areas. As a result a major environmental change is being brought about which makes the countryside of much of the region appear rather as it must have done during the driest phases of the Holocene, or perhaps during the final Pleistocene arid phase.

<sup>1</sup> See Map 3 on pages 46 and 47. Material presented by D. Dorj and A. Z. Yusofzay has also been used in this chapter.

There is abundant evidence that, during the latter part of the Pleistocene, this region was subject to several significant changes of climate that radically altered the environment. The region was subject to worldwide changing patterns of climate and also to massive tectonic activity associated with the uplift of the Himalayas, Hindu Kush and other mountain ranges. How far these two sets of factors coincided in their effects upon the environment, and how far they ran counter to one another to produce conditions unlike the rest of the world we are not yet in a position to estimate. There is a certain broad parallelism in the patterns of change seen in the Indian Desert and in arid regions of Africa,<sup>2</sup> but it also appears highly probable that conditions in the proximity of the major mountain ranges were profoundly affected by other factors,<sup>3</sup> and it is here that unique local conditions may be expected to produce patterns at variance in some respects with those pertaining elsewhere.

What do we mean by the 'Middle Palaeolithic' of this vast climatically and topographically diverse region? In the simplest terms, we mean the stone industries, and the cultures of which they were a part, that succeeded the Lower Palaeolithic and preceded the Upper Palaeolithic. This designation assumes that the technological and typological factors we regard as characteristics of the Middle Palaeolithic follow sequentially, and therefore chronologically, after the hand-axe industries of the Lower Palaeolithic, and are in turn followed by the characteristic blade technology and artefact types of the Upper Palaeolithic. In western Europe this sequential development of technology and typology is more or less clear cut and tends to be taken for granted. In the past, prehistorians dealing with those parts of the world that we are considering have tended to assume that the same situation must be found there also. Therefore they have looked for the established artefact types of the European and western Asiatic Mousterian: edge-trimmed points and scrapers made from flakes struck from prepared cores, denticulate scrapers and various types of burins, accompanied in some cases by small hand-axes, or by blades and blade-flakes anticipating the Upper Palaeolithic.

During the last three decades it has become increasingly clear that while broadly comparable sequences of lithic technology and typology can be traced in various parts of the region, none correspond exactly to that of western Europe. Some indeed differ radically, and this is one of the factors that have held up research in some cases. All that can be said by way of a technological or typological definition of the Middle Palaeolithic of the region is that the manufacture of stone tools is based upon flakes struck from prepared cores of a wide variety of types; that scrapers, again of wide variety, are the predominant

<sup>2</sup> Allchin et al., 1978.

<sup>3</sup> Agrawal, 1982.

artefact type throughout and are made largely upon flakes and blade flakes. Most industries include edge-trimmed points and simple burins. Some also include a varying proportion of choppers and chopping tools.

Throughout the region physical dating for Middle Palaeolithic cultures is almost non-existent, and such dates as there are, are all now subject to serious reservations of one kind or another. Attempts at dating by analogy with culturally or technologically similar sites in adjacent regions, while helpful in giving a general time perspective to the Middle Palaeolithic of certain parts of the region, are of little use for any sort of more precise dating. In particular the very interesting questions of the beginning and end of Middle Palaeolithic or Mousterian cultures in the various parts of the region and their relations in time to one another are at present too vague and problematic to discuss here. In Iraq, C14 dates of around 30, 000 years ago have been obtained from Shanidar and other Mousterian sites. There is every expectation that some Middle Palaeolithic sites may be much earlier, and also that some technologically Middle Palaeolithic industries in all parts of the region may belong to cultures of a much later date, perhaps in some cases almost to the end of the Pleistocene.

The search for anticipated artefact types has sometimes diverted attention from the main issue, namely the study of the development through time of human culture in as many of its aspects as the evidence will allow. This is linked to another of the fundamental problems of the Palaeolithic archaeologist, which is that stone artefacts are frequently all that survive as a cultural record. It is all too easy therefore to over-emphasize their significance or to give it the wrong emphasis. Stone artefacts are of great importance because they are primary indicators of human presence and activity, and because they must have been a fundamental element in the economy and daily life of many of the cultures to which they belonged, but their study is not an end in itself, merely a means to an end. First and foremost, stone artefacts demonstrate the working of the human mind. The choice of suitable stone, and the various stages of core preparation, followed by removal of a suitable flake, for example, secondary trimming of the flake and, ultimately in some cases, giving it a suitable haft or incorporating it into a more complex tool or weapon, all require forethought and conceptual thinking of a high order.

Ethnographic records and archaeological research in relatively recent non-metal-using communities in Australia and Africa show that the degree of dependence upon stone varies greatly. They show that the same artefact type, such as, for example, a bifacially worked or edge-trimmed point, may serve a totally different function in different communities within the same region. Conversely, the same function may be served by totally different lithic artefacts. The situation becomes further complicated when we recognize that the same

basic, and sometimes long established, artefact form can be used as a component part of several different composite tools. Sections of microlithic blades, for example, either untrimmed or trimmed to 'geometrical forms', in combination with suitable mastics, have been recorded as forming the points, barbs and cutting edges of missiles; and they also have been recorded as the component parts of composite sickle blades. Likewise, edge-trimmed flakes (scrapers) are known to have been used for a variety of purposes, again combined with mastics, either held directly in the hand or mounted on wooden shafts or handles, in both instances by Australian Aborigines. All these observations combine to show how careful we must be in making deductions about further technological processes on the basis of stone technology alone; how necessary it is to consider every cultural situation in all its aspects; how rash to attempt detailed or exclusive interpretations based only upon stone artefacts.

Problems of the kind referred to in the preceding paragraphs are encountered particularly when we attempt to define culturally the Middle Palaeolithic of the regions we are considering or to analyse and interpret in broader terms assemblages of Middle Palaeolithic material. Middle Palaeolithic culture and lithic practice show great variation throughout all parts of the Old World where attempts have been made to study them. Where they are preceded by a long sequence of hand-axe industries their contrasting diversity is striking. Soviet Central Asia, north-west India and Pakistan are on the frontier, albeit a fairly broad and flexible frontier, where the hand-axe complex of the Old World loses some of its regularity and universality. Other industries, at present less well known and apparently lacking distinctive formal artefact types, including the so-called chopper/chopping-tool industries of eastern Asia, appear to predominate in certain areas. Therefore we may expect the Middle Palaeolithic tradition of the region to perpetuate and carry on something of a more broadly based tradition. The material we are dealing with is not only intrinsically varied in all kinds of ways, but the sites are very different, and so is the way they have been dealt with. Therefore it is not possible to compare like with like in any systematic way. For the purpose of this chapter we shall confine ourselves to simple, brief descriptions of the available evidence of Middle Palaeolithic cultures in each major sub-region, drawing such inferences of a wider cultural nature as we can from time to time.

Describing the Middle Palaeolithic of Soviet Central Asia, Ranov and Davis write:

Middle Palaeolithic (Mousterian) sites are numerous in Central Asia, and they exhibit great variability in terms of geographical location, stone-tool typology and technology, and preservation of features. Present are industries with and without Leval-lois technique, pebble choppers and chopping tools, and other Palaeolithic blade elements. Although some industries

share some features with the south-western Asian Middle Palaeolithic, it is not at all correct to conclude that they developed as a result of a simple diffusion.<sup>4</sup>

This applies to virtually the whole region under consideration. Throughout there is a marked tendency to technological and typological overlap with the Upper Palaeolithic. In Afghanistan and eastern Iran this appears to take the form of alternating levels of predominantly Mousterian and Upper Palaeolithic artefacts in occupied caves and rock shelters. In north-west Pakistan the two sets of techniques appear to have been practised side by side, and this seems to be the case in Sind and the Punjab too. Throughout we have indications of the increasing predominance of the blade element as time goes on. In southern Asia as a whole the flake tradition seems never to have been wholly lost until the advent of the highly specialized blade industries of the Urban Chalcolithic cultures of the Indus plains in the third millennium B.C. In north-west India, the Thar desert and the arid zone on its south-eastern margins, and indeed most of peninsular India, the distinction between the two technological and cultural stages is rather clearer than in northern Pakistan, but the Middle Palaeolithic tradition of flake production is a persistent minor element throughout the Upper Palaeolithic and even the succeeding microlithic blade industries.

## Northern India

The Middle Palaeolithic of northern and north-west India is probably more easily defined chronologically than that of other parts of the region. But as yet no human remains have been found in association with Indian Middle Palaeolithic artefacts, and only in one instance, in the Bhimbetka group of rock shelters in central India, have Middle Palaeolithic occupation deposits been systematically excavated. The great majority of Middle Palaeolithic sites are in the open, or are geologically stratified within the valley fill laid down by the major rivers of central India and the northern Deccan and between the sands of two arid phases on the margin of the Thar desert during the latter part of the Pleistocene.

The increasing tendency during recent centuries for the rivers, particularly in their middle courses, to cut down earlier alluvial deposits has resulted in the cutting of sections through the valley fill. In general these show later Lower Palaeolithic material (i.e. hand-axes, cleavers, discoids, cores, flakes, pebble choppers, etc.), in a much rolled and weathered condition, incorporated into gravels or conglomerates at the bottom of the section on or near bedrock. Above this is usually found an alluvial deposit of varying depth, frequently 30 m or more, consisting chiefly of fine silts with lenses of sand and gravel, spanning the development of both the Middle and Upper Palaeolithic. Microliths are frequently

<sup>4</sup> Ranov and Davis, 1979, p. 249.

associated with top-soil formed on the surface of the valley alluvium. Concentrations of Middle Palaeolithic material, usually in a rolled and weathered state, occur incorporated into gravels and conglomerates associated with a major break in aggradation about half-way up the section. Artefacts in gravel lenses below this horizon in certain rivers provide evidence of the local development of the Middle Palaeolithic from the preceding Lower Palaeolithic.<sup>5</sup> Sporadic finds in the upper alluvium above the break, and another concentration associated with a thin gravel layer in some north Indian rivers, indicate a further development towards an Upper Palaeolithic blade and burin industry, and thence to a micro-lithic blade industry on the modern surface.<sup>6</sup>

First defined by Allchin<sup>7</sup> the Indian Middle Palaeolithic industries were further described and designated 'Nevasan' by Sankalia five years later. Further research has shown the Middle Palaeolithic industries of northern and central India and the peninsula as a whole to have a remarkably homogeneous character, in spite of certain local variations, and the term 'Nevasan' has been retained, other terms being coined for the Middle Palaeolithic industries of the arid regions north-west of the Aravalli range.

Technologically the Nevasan industries are based upon flakes struck from prepared cores, the methods of core preparation, etc., as already pointed out, being a development of Lower Palaeolithic technology. But the characteristic artefact types of the Lower Palaeolithic, with the exception of occasional small hand-axes, have disappeared and the overall size of the artefacts is reduced. The predominant Nevasan artefact type is a scraper made from a flake. There is a remarkable absence of formal artefact types such as characterize the Mousterian industries of Europe and parts of western Asia. Instead Nevasan artefacts give the impression that their shape was primarily dictated by that of the best available flake, modified to suit the requirements of the job in hand. Scraper edges range from those on thick heavy flakes produced by steep retouch, capable of sustaining forceful use as adze blades or planes, to knife-like edges on thin flakes produced by delicate shallow retouch. The forms include straight, convex, concave and nosed types, and combinations of two or more of these on the same flake, but are not constant (Fig. 1). Middle Palaeolithic material from a series of stratified gravels on the Belan river, a southern tributary of the Ganges system, shows a steady development from the lowest level with 10 percent of cleavers and 90 per cent of scrapers, through a stage where scrapers are virtually the only artefact, to the top where blades and burins are added to the tool kit. There is a steady swing from quartzite to chert as the predominant raw material.<sup>8</sup>

<sup>5</sup> Joshi, 1966.

<sup>6</sup> Sharma et al., 1980, pp. 88–97.

<sup>7</sup> Allchin, B., 1959.

<sup>8</sup> Sharma et al., 1980, p. 95.

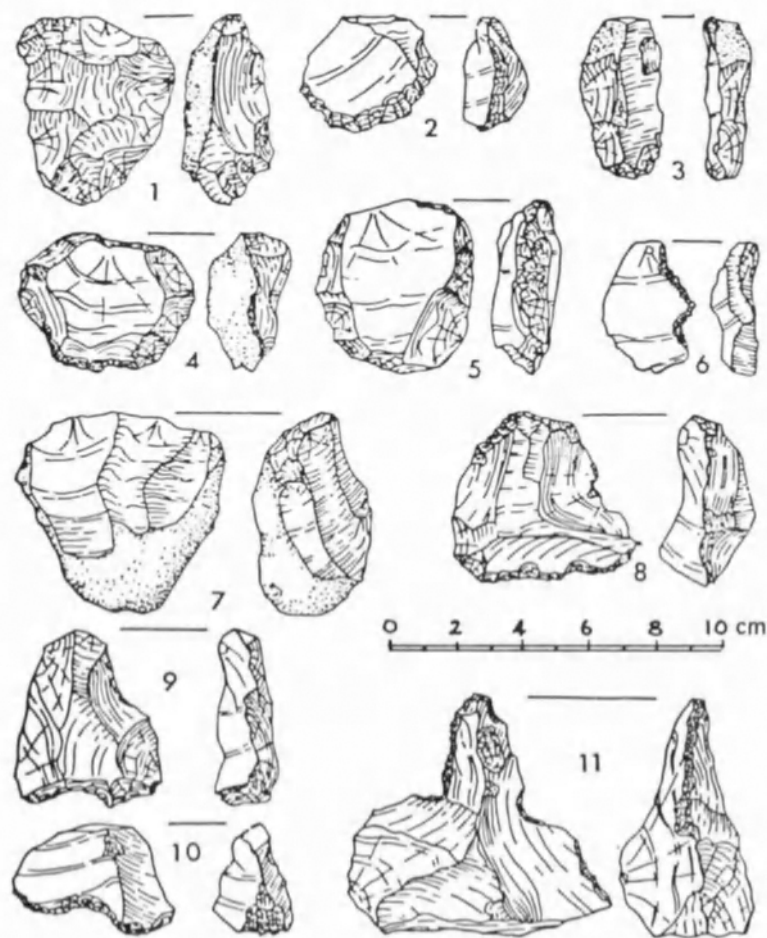


FIG. 1. Nevasan: Middle Palaeolithic tools from Central India and the Deccan: 1 – core unstruck; 2, 6, 8, 9, 10, 11 – scrapers of various types on flakes; 3 – blade-flake; 4, 5, 7 – struck cores. (After Allchin, 1952.)

The Middle Palaeolithic factory sites have been recorded in the same area, the valleys of the Belan and Son rivers in southern Uttar Pradesh. In both cases they are situated on old fans and on the lower slopes of the hills overlooking the river. The material, being *in situ* and therefore unrolled but somewhat weathered, bears out the observations made earlier. The siting of these working, and perhaps living, areas to which some of the stone at any rate was carried from the river gravels, adds a certain cultural dimension to the artefact record. These were selected places within reach of water and raw material providing a good view of the surrounding country. Here the tool-makers could watch the movements of game, the activities of other men or the approach of predators. Of the many rock shelters in central India a considerable proportion were occupied by microlith-makers and some also by Upper Palaeolithic man, but few were regularly inhabited during Middle or Lower Palaeolithic times. The Bhimbetka group of rock shelters mentioned above are an exception

having been regularly occupied by late Lower Palaeolithic and Middle Palaeolithic communities. Publication of the Middle Palaeolithic material is eagerly awaited as this should shed further light on the ecology and daily life of the Middle Palaeolithic inhabitants of the area.

## The Thar desert of north-western India and Pakistan

There are no perennial rivers in the north-west of the Aravalli range, in the Thar desert and the arid or semi-desert zone along its south-eastern margin. The only river system is that of the Luni (meaning salty), and this flows only briefly, following rare heavy rains. Throughout the region there are 'dead' drainage systems which can be observed both from the air and the ground. These must have taken shape under conditions of greater humidity than at present, when somewhat more rain fell and the rate of evaporation was considerably less. Middle Palaeolithic sites are found associated with the courses of dead streams in areas where today people can only maintain life with the help of deep wells. Middle Palaeolithic material is also associated with an ancient fossil soil, which has a deeper and better developed soil profile than modern soil. Both the fossil and contemporary soils are formed upon deep, widespread sand-drifts. The upper, more recent sand sheet has been stripped off by wind action in places, re-exposing the fossil soil (Fig. 2). In certain places Middle Palaeolithic sites including factory areas have been exposed in this way. The archaeologist lucky enough to find a place where this has happened, can study the disposition of cores, flakes, hammerstones, etc., and see Middle Palaeolithic artefacts in a fresh and unweathered condition little changed from that in which their makers left them, as, for example, at Hokra near Ajmer.<sup>9</sup>

The pattern of alternating sands and soils has been interpreted as showing a sequence of two arid phases, each represented by a sand sheet, divided by a humid phase represented by the fossil red soil.<sup>10</sup> Middle Palaeolithic man inhabited the Thar region during the humid phase, living on the banks of streams that no longer flow, and the shores of old lakes, as at Hokra and Bharidani in Rajasthan. Lower Palaeolithic artefacts occur in detritus from the hills stratified below the sands of the penultimate arid phase. Middle Palaeolithic assemblages on the surface of the old red soil range from those that appear to be transitional from Lower to Middle Palaeolithic to those showing a distinctly Mousterian character. Upper Palaeolithic sites also are found on the same horizon. Microlithic sites are associated with the modern soil formed on the sand of the final arid phase. Working floors of

<sup>9</sup> Allchin et al., 1978.

<sup>10</sup> Ibid.



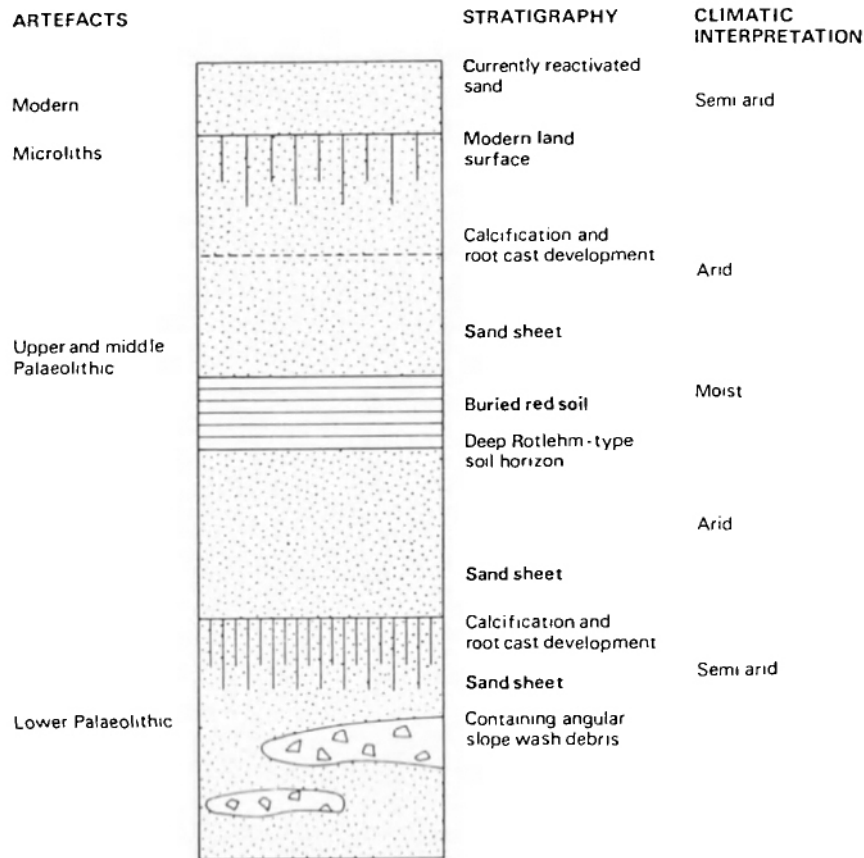


FIG. 2. Schematic diagram of Late Pleistocene stratigraphic and cultural sequence at Pushkar. (After Allchin, Goudie and Hegde, 1978.)

several periods from early Middle Palaeolithic to microlithic are sometimes found in close proximity to isolated outcrops of suitable rock in the desert as for example at Mogra, near Jodhpur, and Nagri, between Jodhpur and Bikaner.

The Middle Palaeolithic tradition of the arid Thar region is quite distinct from Nevasan. This was first pointed out by Misra.<sup>11</sup> This group may be called the Luni industries. As in the Nevasan, scrapers are the predominant artefact type, but, as hand-axes, cleavers and other characteristic Lower Palaeolithic forms decline or disappear, other artefacts make their appearance. These include edge-trimmed points; smaller cleavers of a particular type with a greatly reduced butt suggesting that they were intended for mounting as adze blades; side scrapers and choppers, some with denticulate edges. A further range of type, including burins, carinated scrapers and blades, are found with what appear to be the later Middle Palaeolithic industries. The manner in which these artefact types recur leaves no doubt that they were being deliberately created in accordance with preconceived formulae, as in

<sup>11</sup> Misra, 1968.

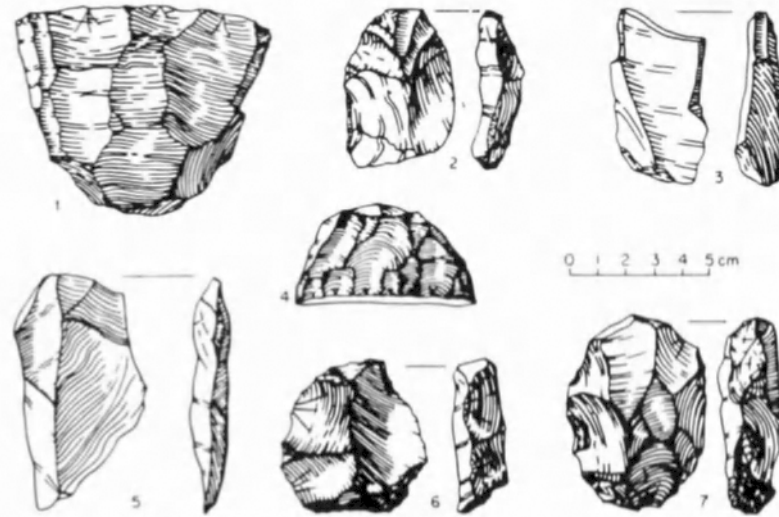


FIG. 3. Hokra: Middle Palaeolithic artefacts: 1 – struck core; 2, 5 – flakes from prepared cores; 3 – burin; 4 – carinated scraper; 6 – scraper made on flake from prepared core; 7 – unstruck core. (After Allchin et al., 1978.)

the Mousterian tradition of Europe and western Asia, or in that of the hand-axe industries (Fig. 3).

These more formal artefacts must have been produced at factory sites and perhaps incorporated into composite tools serving as missile heads, knife blades, adze blades, etc. They were being prepared in advance to meet a whole series of both predictable and unknown situations. On the other hand, many of the scrapers made on flakes struck from prepared cores and utilized flakes were probably produced ‘on site’ to serve the job in hand and discarded on the spot. Indeed, many of the smaller sites in the desert positively suggest this. We have here side by side two approaches to tool-making expressed in the artefact record; two expressions of the working of the human mind. One indicates conceptual thought and forethought of a complex and sophisticated kind; the other represents improvisation. Taken together as part of the same culture, as they appear to be, these two demonstrations of thinking and tool-making represent a wide range of mental competence. No occupied caves or rock shelters and no skeletal remains of Stone Age man so far have been found in the Thar region.

## The lower Indus plains

In its lower course through the province of Sind, in Pakistan, the Indus flows in a shallow channel on or even above the surface of the plain. It is contained by low banks or levies through which the water formerly broke out to inundate large areas of the plain each year

(it is now contained by barrages, etc.). The main channel has changed its course on a number of occasions during historical times, and, seen from the air, the plain is covered with old river courses and cut-off meanders. Silt brought down and deposited each year by the flood-water has caused the plain to be built up by an estimated 1–2 m per millennium for the last 5,000 years, and the process has probably been going on for a much longer period. Therefore there is no means of knowing exactly where in its trough the main course of the Indus flowed in Middle Palaeolithic times. A significant part of the dead drainage system of the Thar, with which Middle Palaeolithic sites are associated, mentioned in the last section, is directed towards the Indus trough and disappears beneath the silts of the plain: this indicates that a major river must have flowed there in Middle Palaeolithic times. There is also a well-established drainage pattern along the north-western margins of the valley. Some tributaries from this direction reach the Indus today, but others do not, becoming lost on entering the plain. Whether the main river of the time carried as much water from the mountain regions of the north and north-east as the present Indus is uncertain, as many changes in the drainage pattern of the Himalayan region have taken place in the Late Pleistocene and even perhaps in recent geological times.

As a result of the accumulation of silt in the plain all the observable Palaeolithic sites in Sind are located either on its edges or on outlying hills that emerge from it. Middle Palaeolithic artefacts have been found in the southern part of Lasbela district on the Sind/Baluchistan border, on a limestone plateau that extends into the plain at Jerruk on the west bank near Hyderabad and on the flat tops of the Rohri hills, also limestone, through which the Indus flows in Upper Sind. In both the latter areas the limestone hills are capped by a layer of large flint nodules which have been used by man for tool-making at many periods, and factory sites cover almost the entire hill-top, an area of many square kilometres in each case. At Jerruk there is a great deal of Lower Palaeolithic material; in Upper Sind this is less in evidence and Middle Palaeolithic material predominates in the Rohri hills. Neither locality has been studied in detail, both groups of sites having been investigated and briefly described in 1975.<sup>12</sup>

The Middle Palaeolithic industry of the Rohri hills shows a similar range of types to that seen in the Luni industries, the principal difference being that the average size of the artefacts appears to be somewhat larger and the proportion of reworked scrapers markedly smaller in the Rohri industry. But these differences could be attributed to the flint occurring in large nodules which were used as cores with only minimal trimming. The shape of some is such that after removal of any major irregularities, flake after flake could be struck off in the same direction without further core preparation, rather like slicing bread or salami.

<sup>12</sup> Allchin, B., 1976.

The flakes sometimes appear to have been trimmed to improve the working edge, but more often seem to have been used as they were.

The vast area covered by working floors and debris indicates that each of these hill-top or plateau factories must have supplied a wide area up and down the course of the Indus, far into what is now desert, over a long period of time. This means that there must have been a network of trade and exchange covering the territories of many groups and families in all directions. Such indications as we have of environmental conditions at this period suggest that the climate of Middle Palaeolithic times was somewhat less severely arid than at present. Several factors point in this direction. The distribution of Middle Palaeolithic factory sites in the Rohri hills, where they are often many kilometres from the Indus, the only source of non-saline water today, suggests that local sources of potable surface water were then available. Associated with the flint layer capping the limestone hills is a reddish soil. H. de Terra<sup>13</sup> described this as ‘ancient soil of “*terrarosa*” type which does not, form under present arid conditions’. The final and perhaps most cogent argument is the evidence of more humid conditions, throughout the Thar desert immediately to the south-east, noted in the previous section. There is some evidence that blade cores and blades characteristic of the Upper Palaeolithic were made alongside the Middle Palaeolithic artefacts at least at one and probably several sites in the Rohri hills.<sup>14</sup>

A major river (the Indus today carries approximately twice as much water as the Nile) flowing through either a desert or through relatively dry open country, such as we envisage in Middle Palaeolithic times, would provide a rich environment for hunter-gatherers. Today the river provides fish and water birds, and many wild animals inhabit the gallery forest along its banks. A more humid environment would mean that the surrounding savannah too would be rich in game. Therefore this was a favourable environment within which Middle Palaeolithic communities could expand and develop new cultural features.

In the Karachi area, the extreme south-eastern corner of the Baluchistan mountain region, a long sequence of Palaeolithic industries, some related to a sequence of Pleistocene deposits, have been recorded.<sup>15</sup> These include Middle Palaeolithic material, very widely distributed on the surface and said to resemble the Nevasan and to be heavily sand-blasted. Its distribution suggests that it was produced during a period of rather more humid conditions than at present and the sand-blasting indicates that arid conditions have prevailed since.

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<sup>13</sup> De Terra and Paterson, 1939, p. 332.

<sup>14</sup> Allchin, B., 1976.

<sup>15</sup> Khan, 1979.

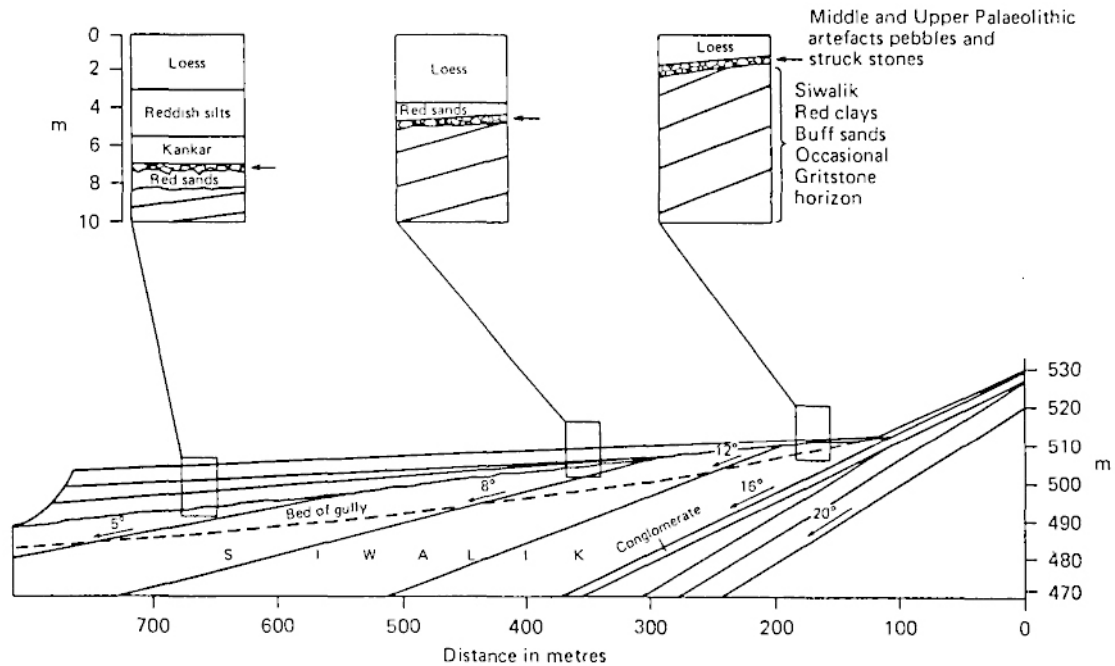


FIG. 4. Potwar plateau, Siwalik and post-Siwalik sections, Rawat. (After Rendell, 1984.)

## The Potwar plateau, Punjab

The association of the Soan industries with a series of terraces as proposed by de Terra and Paterson<sup>16</sup> has recently been shown to be incorrect.<sup>17</sup> The Middle Palaeolithic industries of the Soan valley can now be related to geologically stratified deposits of the final phases of the Pleistocene. The Siwalik silts laid down in the earlier phases of the Pleistocene and preceding geological periods were subject in the later Pleistocene to violent uplift and folding (see Table 1). This was followed by a massive outwash and erosion of material from the Himalayas which resulted in planing off of the folded and uptilted Siwalik strata and deposition of gravels, silts, etc. On the surface of the final layer of material deposited in this way Middle and Upper Palaeolithic sites are found in the Potwar plateau, in association with the present course of the Soan river, and elsewhere. The eroded surface with which the Palaeolithic sites are associated is overlain by a mantle of loess of varying thickness (Fig. 4). Artefacts and associated factory debris can be seen in sections exposed in gulleys and also on the surface where the overlying loess has been stripped off by erosion, accelerated in recent years by the pressure of agriculture, road-building, quarrying and other activities on the land.

<sup>16</sup> De Terra and Paterson, 1939.

<sup>17</sup> Allchin, B., 1981; Rendell, 1984.

TABLE 1. Modified relative chronology of the Siwalik and Pleistocene deposits of the middle Soan valley

		<i>Tentative dates</i>		
	erosion/deposition			
	Loess deposition			
	erosion/warping			
	Lei conglomerate complex (valley fill) includes deposition of loess/uplift partly contemporaneous	– Middle Palaeolithic (0.4 mya) <sup>1</sup>		
	uplift/folding/start of erosion			
	Upper Siwalik conglomerates	0.7-0.5 mya 1.9 mya		
SWALIK GROUP	{	Soan formation	Pinjor beds	2.5 mya
			Tatrot beds	
			diconformity	
		Dhok Pathan formation		
		Nagri formation		
	Chinji formation			

1. Mya = million years ago.

Source: Rendell, 1982

Concentrations of artefacts including Middle and Upper Palaeolithic material, suggesting other activities in addition to tool-making, commensurate with regular temporary or semi-permanent habitation over considerable periods of time, are found extending more or less continuously over many square kilometres in localities that provide water and a supply of raw material. The relationship of Middle and Upper Palaeolithic typology and technology remains to be worked out. Both are present on the same horizon and it is not yet clear whether they are contemporary as appears to be the case in the Rohri hills for example, or represent a chronological sequence. The Soan Middle Palaeolithic material has not yet been fully analysed and described, but it appears to be based upon flakes struck from prepared cores and to include a range of scrapers, trimmed points, small cleavers or axes, larger cleavers or choppers made from split quartzite pebbles and other artefacts, comparable to the range seen in the Luni and Rohri industries (Fig. 5). The source of water for these sites was the Soan river and its tributaries, probably more accessible and flowing more regularly than they do today. The raw material was almost exclusively quartzite, in the form of pebbles, cobbles and small boulders derived from the underlying uptilted Siwalik strata. Sites occur where this material was available on the surface.

The results of a detailed investigation into the climatic and general environmental conditions prevailing during Middle and Upper Palaeolithic times are awaited. The loess deposits

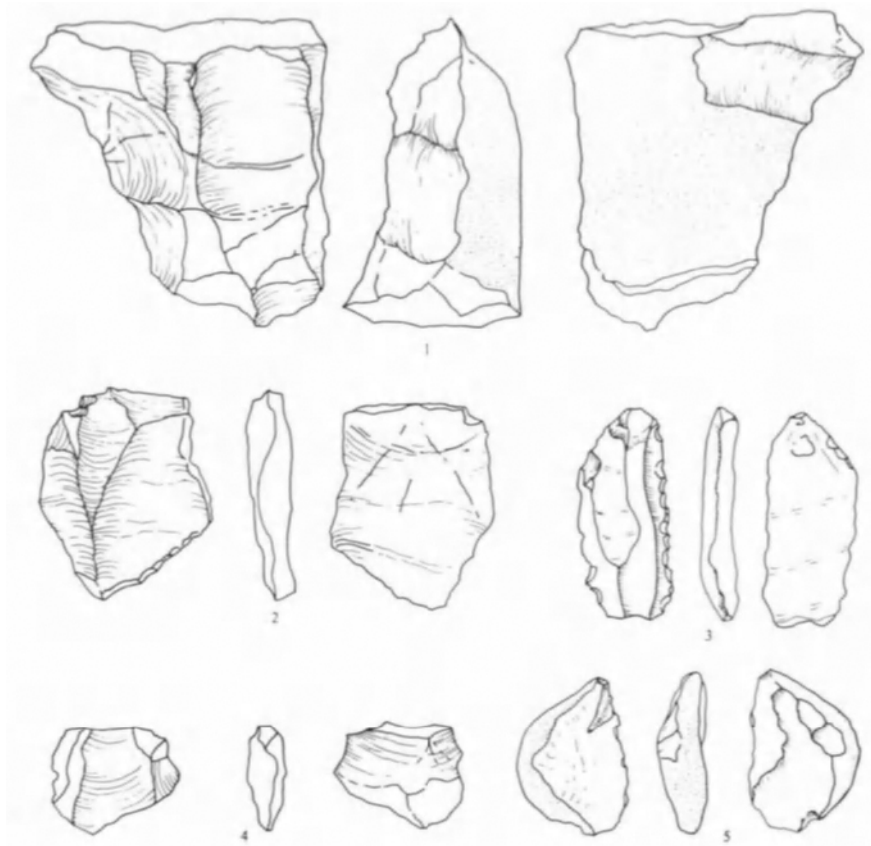


FIG. 5. Middle Palaeolithic of the Soan valley, Pakistan: 1, 2, 4 – prepared core and flakes from group at locality 55; 3, 5 – blade flake with scraper edge and pebble segment from locality 2. (After Cilletus, 1981.)

above the horizon with which the factory sites are associated have been dated by thermoluminescence to between 20,000 and 60,000 years ago. The implications of the extensive sites in the Potwar region once again point to larger communities or more complex inter-community relations than we have been accustomed to infer in the case of Middle Palaeolithic cultures based only upon occupied caves and rock shelters and surface sites of limited dimensions.

## Hindu Kush: the mountain region between the Indus and the Oxus

This region, which extends from the north-west frontier province of Pakistan and eastern Afghanistan to the borders of eastern Iran and Baluchistan, is less fully studied and understood in terms of early prehistory than either the plains and hills of the Indian subcontinent or the mountains and valleys of Soviet Central Asia. Due to the nature of the terrain,

organized programmes of prehistoric research and thorough investigation of excavated sites have so far not been possible. The region appears to be relatively rich in occupiable and occupied caves and rock shelters, a number of which have been excavated in haste and somewhat cursorily described. Middle Palaeolithic material has been reported from caves and rock shelters in Afghanistan, from one rock shelter, Sanghao, in the Northwest frontier province of Pakistan and from open air sites on the shores of saline lakes in the Dasht-i Nawur plateau in Afghanistan.

There is no doubt that Middle Palaeolithic artefact types and technology are present at Sanghao, along with characteristic Upper Palaeolithic blade cores, blades and burins. But the material from the excavation was recorded in such a way that it is impossible to ascertain whether the two sets of stone-working techniques were practised side by side, as they appear to have been in Sind, for example, or have a sequential relationship. While it is unlikely that one totally replaced the other, as there appears to be no absolute break or hiatus in the sequence as seen in the section cut through an occupation deposit of over 3 m by the excavators, it would be interesting to know which element was the dominant one at any stage, and, if change or development took place, where this was most evident.<sup>18</sup>

Sanghao cave is situated in a remote valley with a southern aspect on a minor tributary of the Swat river, providing a sheltered local environment in an otherwise harsh mountain region. The stream provides a perennial supply of excellent water within a few yards of the large rock shelter in which artefacts were made, suggesting winter occupancy and perhaps a colder climate than at present. Analysis of the cave deposits should yield information on the climate and environment, and numerous bones visible in the section should yield dating material and further information regarding diet, environment and possibly human skeletal remains. The material is exclusively milky quartz throughout, and the source of supply is clearly visible within 100 m of the rock shelter. Over 3 m of occupation deposit must represent a considerable period of time throughout which the rock shelter was regularly, if not continuously, occupied; it also indicates cultural if not actual ethnic continuity. The only changes noted by the excavators were expressed in terms of twelve layers or levels numbered from the top downwards: levels 12 to 10 were the richest in terms of quartz artefacts; 9 to 5 yielded similar artefacts but not in such profusion; in levels 3 and 4 the character of the industry changed and quartz microliths predominated and graded into early historic material in levels 1 and 2.<sup>19</sup>

The Middle Palaeolithic artefacts from Sanghao are considerably smaller than those from other regions. This is dictated by the nature of the quartz which tends to break up into

<sup>18</sup> Dani, 1964.

<sup>19</sup> Allchin, B., 1973.



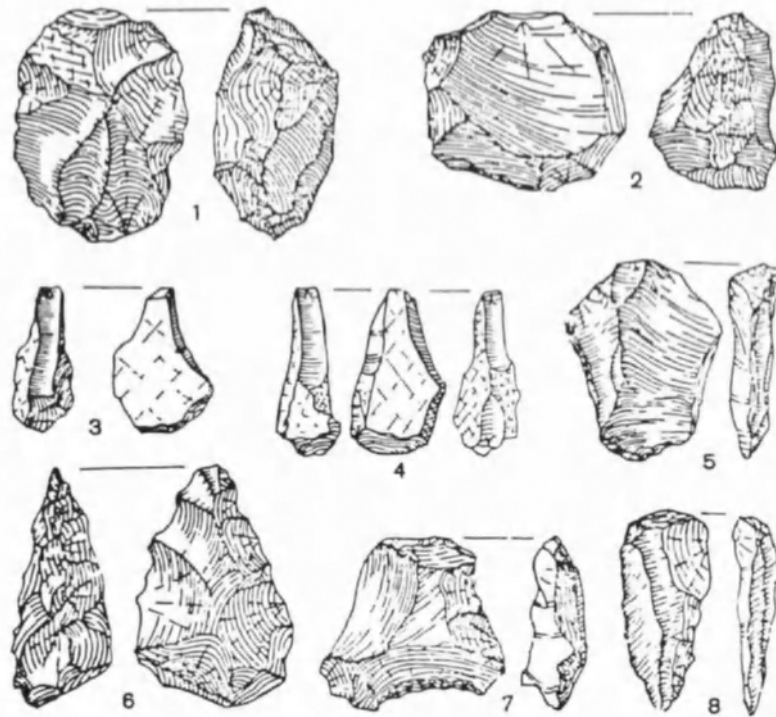


FIG. 6. Sanghao: Middle and Upper Palaeolithic artefacts from the excavation: 1 – unstruck discoidal core; 2 – struck core; 3, 4 – burins; 5 – flake struck from prepared core; 6 – hand-axe; 7 – hollow scraper made on flake; 8 – pointed flake struck from prepared core. (After Allchin and Allchin, 1982.)

nodules, the size of which is dependent upon the natural planes of fracture along which the material tends to break. Therefore it cannot be taken as a factor of chronological or cultural significance. The range of artefacts from levels 12 to 5 is as follows: flake cores, flakes from prepared cores, scrapers (predominantly concave) awls, burins and one small hand-axe; in addition there are blades and blade cores which appear to represent an Upper Palaeolithic tradition (Fig. 6). Although certain minor changes are observable there is a remarkable consistency of size and style throughout levels 12 to 5, further reinforcing the hypothesis of local cultural continuity.

The first Middle Palaeolithic artefact to be found in Afghanistan in 1950 was a Mousterian point in the spoil from a deep irrigation canal on the Oxus plain.<sup>20</sup> In 1954 the caves of Kara Kamar and others were excavated by C. S. Coon<sup>21</sup> who claimed to find both Middle and Upper Palaeolithic artefacts in alternating layers. During the following years Dupree, McBurney, Vinogradov and others all worked on the Palaeolithic of Afghanistan, and each made a contribution to the subject. In a recent survey of the Palaeolithic in Afghanistan,

<sup>20</sup> Allchin, F. R., 1953..

<sup>21</sup> Coon, 1957.

Davis, one of the very few people to have examined all the available material, says that although claims have been made to have identified Middle Palaeolithic material in five excavated caves or rock shelters and on other sites, in the case of only one cave, Dara-i Kur, could he really endorse this.<sup>22</sup>

Dara-i Kur is a large rock shelter high up on the side of a valley with a good view of the surrounding country in Badakhshan province, eastern Afghanistan.<sup>23</sup> The upper levels yielded remains of the ‘goat cult Neolithic’ including stone blades, grinding stones, incised pottery and human burials with goat remains. Immediately below came the Middle Palaeolithic levels in which over 800 artefacts were found, all made of a local basalt which fractures somewhat irregularly. Circumstances prevented the excavators from making a complete analysis of the finds, but they drew up a brief but clear illustrated description of them. The pre-dominant artefact technique was that of striking flakes from a prepared discoidal core and using them as tools, with or without further trimming. Multi-platform and ‘Levallois’ type cores and flakes (i.e. blade flakes and pointed triangular flakes) were in a minority and edge-trimmed points and scrapers were rare. There were no hand-axes and only one or two rather doubtful burins. The same levels produced remains of sheep or goat – both animals would seem to have been of paramount importance to man in this region from that time onwards – and possibly also bovid remains. There was also a fragment of a human skull which has been described.<sup>24</sup> In summary it was said that it ‘would fit into a partly Neanderthal population like that of Skhul (Palestine) just as well as a modern one’. This is the only human skeletal material found so far in a Middle Palaeolithic context in Afghanistan. A C14 date of 30,300 ± 1900–1200 B.C. has been obtained for Dara-i Kur Middle Palaeolithic but is regarded as possibly too young on account of the probability of slight contamination by later material.

Among the Middle Palaeolithic artefact assemblages reported elsewhere in Afghanistan are some from caves where they are claimed to occur alongside or in alternating layers between Upper Palaeolithic blade and burin industries, which appear to be relatively plentiful in Afghanistan. These are described by Davis as being either amorphous collections lacking formal artefact types or parts of Upper Palaeolithic assemblages. The same goes for artefacts and waste materials found on the Dasht-i Nawur plateau in association with old lake shorelines, and in the Dara Dadil and Dara Chakmak valleys where they occur in the gravels of the streams, the source being seams of flint in the surrounding limestone rock. On the basis of illustrations, the present writer is inclined to accept this with regard to

<sup>22</sup> Davis, 1978.

<sup>23</sup> Dupree and Davis, 1972; Davis and Dupree, 1977.

<sup>24</sup> Angel, 1972.

the cave material but to differ regarding that from the river gravels. In any case the question is at present little more than a semantic one, as it depends upon the definition of Middle Palaeolithic we apply. In the Afghan context this is still rather unclear.

The terrain and environmental conditions found in Afghanistan extend into eastern Iran; here also there are occupied caves and rock shelters and remains of Mousterian, Middle Palaeolithic industries. Khunik cave on the western side of the Helmand basin (excavated by Coon in 1950) showed clear evidence of a brief Mousterian presence and, as in Afghanistan, there is every expectation that further research will lead to the discovery of more sites, both occupied caves and open stations. The less arid region of northern Iran between the desert and the Caspian Sea and especially the escarpment falling away to the Caspian is said to be rich in caves. Some, like Ghar-i Kamarband and Hotu<sup>25</sup> were only occupied in later times. This area is part of another region in any case, outside the one we are discussing here. Likewise, Bisitun in the Zagros mountains; Shanidar excavated by Soleki in 1971,<sup>26</sup> with a Mousterian industry and a spectacular Neanderthal burial accompanied by red ochre, ibex horns and flowers; the many other sites of this region and of the Crimea are all part of the major geographical and environmental regions. They do however form part of a continuum of associated Mousterian industries and Neanderthal physical remains that stretch from T'ien Shan through central and western Asia, southern Russia, eastern and western Europe and north Africa to the Atlantic.

## Soviet Central Asia

The Palaeolithic of Soviet Central Asia has been very ably discussed and the current state of knowledge summarized by Ranov and Davis.<sup>27</sup> They emphasize the diversity and local character of the Mousterian or Middle Palaeolithic industries in the region. This parallels the sort of diversity seen in Pakistan and northern India, but is perhaps more readily understandable in view of the great variation in relief as well as other aspects of environment. By 1979 five Mousterian cave sites and thirteen large surface collections had been recorded in addition to fifty-four minor-find spots. They divide the Middle Palaeolithic sites into four varieties and a possible fifth on the basis of typology and technology as follows:

1. Levallois, with single and multiple striking platform cores; triangular and sub-rectangular blades and blade flakes; simple edge-retouched pieces predominating and few formal tool types.

<sup>25</sup> Coon, 1951.

<sup>26</sup> Soleki, 1971.

<sup>27</sup> Ranov and Davis, 1979.

2. Levallois-Mousterian, similar to the above but with more platformed and dis-coidal cores; marginally retouched blades predominating.
3. Typical or Mountain Mousterian, which differs significantly from the first two in having more formal tools of several distinct types, some, such as scrapers and to a lesser extent points, resembling those that characterize western European assemblages.
4. Mousterian of Soan tradition, also including scrapers and points of traditional Mousterian forms, but with them are found a high proportion of choppers and chopping tools made on pebbles.
5. The possible fifth variant is a denticulate Mousterian assemblage from one site, Kulbulak.

As yet there is no traceable developmental link between the Lower and the Middle Palaeolithic of Soviet Central Asia and the way in which the typological variants are related chronologically is also not yet clear. There is, however, a certain regional pattern of distribution. The Levallois and Levallois-Mousterian groups occur in the Ferghana valley and the foothills of the T'ien Shan range in the northern part of the region. The Mountain Mousterian has been found further south in the valleys and spurs of the Hissar range and other mountains, notably at the caves of Teshik-Tash and Ogzi-Kichik, in the former of which it is associated with a Neanderthal burial. The Mousterian of Soan tradition is found only along the course of the Vakhsh river in southern Tajikistan.

The lithic assemblages from many Soviet Central Asian Mousterian sites include Upper Palaeolithic features and for this and other reasons the Middle Palaeolithic has been considered by some to extend forward in time, perhaps even to the end of the Pleistocene. The present writer is inclined to agree with this point of view and also to see the Mousterian of Soan tradition as an adaptation to the utilization of available material (i.e. river pebbles and cobbles) as appears to be the case in the Potwar region of the Punjab. Thus it might be seen as having a fairly direct relationship to the Mountain Mousterian of the adjacent mountains, as both these groups include formal artefact types not found to any significant extent in the Levallois and Levallois-Mousterian groups of industries further north. It seems possible that the two groups in this case may be part of a single complex of which each forms a local occupational facies. This is at present mere speculation, but might be a topic of future research.

There is some evidence regarding the environment of Middle Palaeolithic man in Soviet Central Asia derived from Pleistocene loess and palaeosols and from cave deposits. In general this points towards somewhat more humid conditions than those at present prevailing. Palaeobotanical evidence in particular demonstrates this and faunal remains found in

cave deposits lend support to it. Modern species were already much in evidence, especially various kinds of sheep and goats, and certain now extinct animals, such as the hyena for example, were also present. A clear example of the general pattern of change is seen at Ogzi-Kichik.

The caves occupied by Middle Palaeolithic man in Uzbekistan and Tajikistan have been found to be rich in cultural material and remains of many kinds. The cave of Teshik-Tash is situated in a limestone escarpment on a spur of the Baisun mountain range on a southern extension of the Hissar mountains overlooking the valley of the Surkhan Darya in Uzbekistan. It was excavated by Okladnikov and others in 1938 and yielded the first conclusive evidence of Mousterian or Middle Palaeolithic culture in Central Asia.<sup>28</sup> Here, in five occupation layers, were found not only an extensive Mousterian artefact assemblage including some worked bones, but animal bones, hearths and other evidence of regular occupation.

Associated with the final occupation layer was the burial of a Neanderthal child surrounded by six pairs of horns of a Siberian mountain goat (*Capra sibirica*). The stone industry, now seen as belonging to Ranov and Davis's typical Mountain Mousterian, shows little change throughout. The cave was totally excavated and 329 tools and 2,520 trimming flakes and chips were recovered (Fig. 7). The main artefact types are scrapers of various kinds with steeply trimmed working edges including long blade flakes worked on one or both edges, some almost large enough to be classified as chopping tools made on flakes; characteristic Mousterian points and a small number of simple burins. A variety of locally available types of rock were used, none of the best quality for tool-making. Among the bones of animals evidently used for food those of the Siberian mountain goat predominated forming 83.79 per cent of the total. The wild horse (*Equus caballus*), leopard, brown bear, hyena, and many small mammals and birds were also found. In the same area, also in steep inaccessible valleys, the caves of the Amir-Temir assemblage suggested a brief or occasional occupancy, rather as did that from Khunik cave in eastern Iran. Okladnikov suggested that in the foothills of the Baisun mountains open settlements might be found, which were more continuously occupied by goat-hunters. Perhaps the cave culture represents only one, seasonal, aspect of the life of the Middle Palaeolithic inhabitants.

The cave of Ogzi-Kichik, excavated by Ranov in 1979, is situated in a small sheltered valley on the southern slopes of the Vakhsh range in Tajikistan. It is at the foot of a limestone escarpment in close proximity to what must formerly have been a spring which now no longer flows. Palaeolithic and faunal remains both point to more humid conditions during Mousterian times and there was probably a pool below the cave. The animal remains include those of turtle which probably lived in the pool, horse (*Equus caballus*), red deer

<sup>28</sup> Greymatsky, 1979.

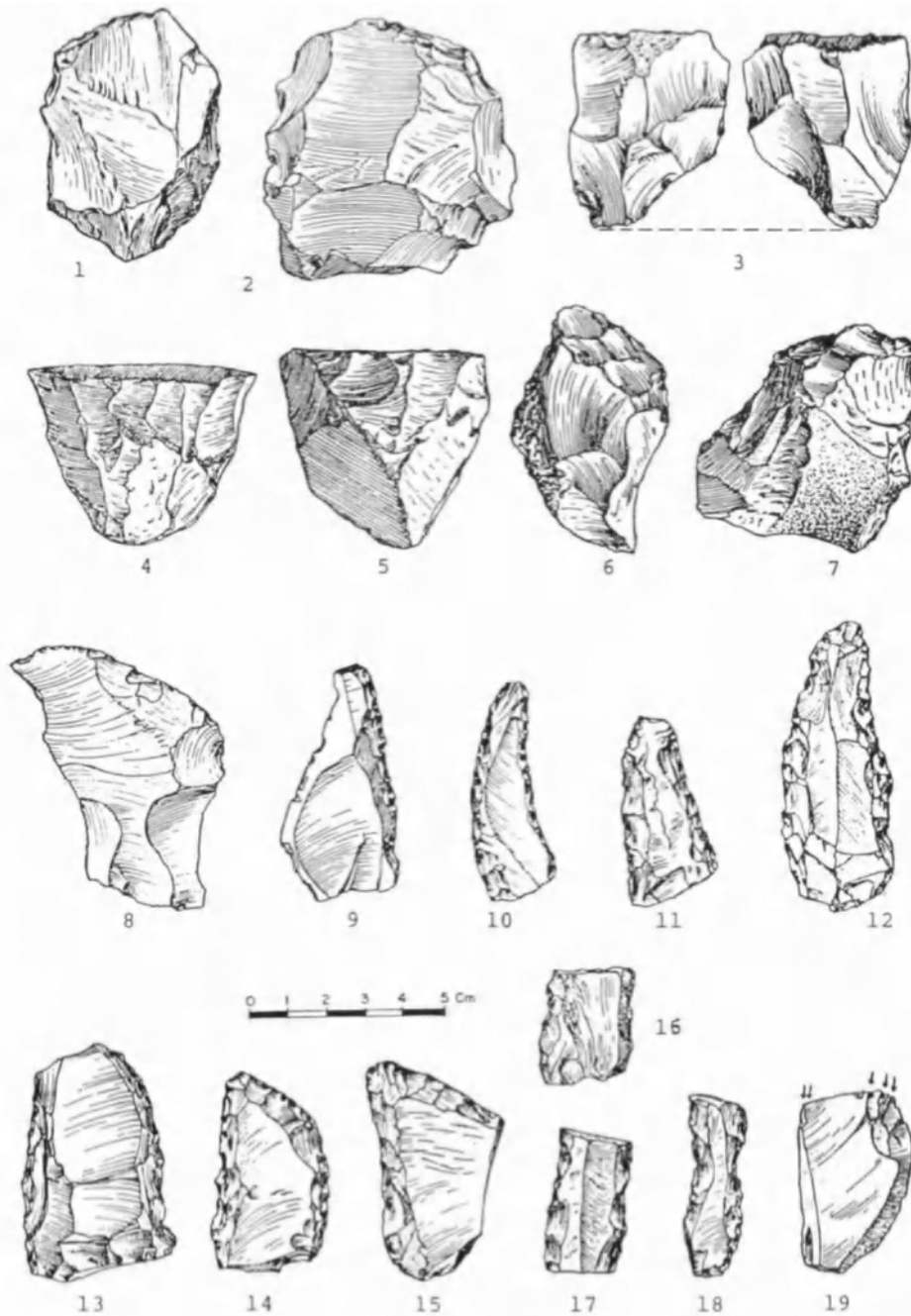


FIG. 7. Artefacts from the cave of Teshik-Tash, Uzbekistan: 1–7 – cores; 8–18 flake, scrapers and points; 19 – burin.

and rhino, and are more or less constant throughout the Middle Palaeolithic occupation. Remains of turtles were found in hearths, suggesting that they were roasted in their shells.

The stone industry is similar to that of Teshik-Tash, belonging to the same typical Mountain Mousterian, but has its own local character. Here again it is based upon a range of locally available types of rock. In contrast to Teshik-Tash the best occupation layers

were in the talus slope immediately outside and below the cave (which was perhaps larger in the past). Approximately 10,000 artefacts, including finished pieces, cores and trimming flakes etc., were recovered from the excavation. Throughout there were fragments of bone, evidently broken by man, and large hearths. There was also an oval arrangement of stones approximately 1.5 m across with a pair of ibex horns at one end. As this was not associated with the burial there seems to be little doubt that it was a shrine.

## Mongolia

Along with the regions discussed above, we may include some newly discovered materials from Mongolia that throw light on the Middle and Upper Palaeolithic of that area. They have been found at Otstonmain and Gurvan-Sikhan in the southern Gobi, Ikh-Bogd in the Gobi-Altai *aimak*, and in the Arts-Bogd area of Uburkhangai *aimak* in Bogd Somon. In the first site typically Levalloisian cores and flakes were discovered. The neighbouring site produced numerous Mousterian tools. A similar Mousterian culture, with implements made of igneous rock, was identified at Ikh-Bogd. Arts-Bogd has revealed a factory site where tools of great variety have been found. Particularly those of red jasper appertain to the Upper Palaeolithic period. Surface materials have also been found in the valley of Sirdzhi in the Gobi-Altai area and at three sites in eastern Mongolia between the towns of Barun-urt and Saynshand in the vicinity of the Somon of Delgerekh as well as at the Moiltyn-am site on the Orkhon river. This last site presents a continuous sequence from the Upper Palaeolithic to Mesolithic. The Levallois- Mousterian material of this region appears to be related to that from the Altai region and Siberia, while the Upper Palaeolithic shows similarity to that from northern Asia.

## Conclusion

The mountain cave sites of Soviet Central Asia thus tell us more about the nature and culture of their occupants than any of the other Middle Palaeolithic sites in the whole region we have covered in this brief survey. We started by pointing out what can be inferred about the working of the human mind from stone artefacts alone. We then saw how the distribution and varying nature of surface sites can add a further cultural dimension to the stone industries, and how the picture obtained by analysis of the nature and distribution of surface sites is extended and given greater meaning by relating it as far as possible to the environmental context of its time. This allows us to comprehend aspects of the life and economy of the communities who made the tools. Once we have reached the stage of considering the culture of Middle Palaeolithic man in these terms the vast factory sites and open living sites

of Sind and other parts of the region can be seen to pose some very interesting problems of community relations. They raise the question as to how far networks of exchange were developed during Middle Palaeolithic times in South and Central Asia.

The cave sites we have looked at, particularly Sanghao, Teshik-Tash and Ogzi-Kichik, give a more intimate insight into the day-to-day cultural life of their occupants and demonstrate interdependence and mutual respect between members of a group, an interest in an after-life and perhaps also indicate religious practices. They also show a quite remarkable local continuity throughout what appear to be long periods of regular or continuous occupation. This in itself suggests stable communities living permanently in these very choice spots, or returning regularly to them in the course of seasonal migrations, making use of different sources of food, such as present-day hunter-gatherers practice. How the conflicting ideas generated by examining the evidence of Middle Palaeolithic cultures in various parts of the region we have covered are to be resolved, and what total picture they will finally enable us to reconstruct of the life and culture of Middle Palaeolithic man in South and Central Asia, are among the outstanding wider problems for future research. One thing is certain, we are only at the beginning. There is a great deal of research and fieldwork to be done and much discussion and controversy lie ahead. The picture that emerges will be a complex one in both ethnic and cultural terms.