

**“Teshik-Tash and Shanidar: Middle
Paleolithic Caves in Uzbekistan
and Iraq Compared”**

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Abstract

The caves of Teshik-Tash (South Uzbekistan) and Shanidar (North Iraq) are considered two of the most important and best known Middle Paleolithic sites in Central Asia and the Near East. Situated in similar topographical localities they yielded famous Neanderthal burials associated with Mousterian stone tools and similar specific faunal remains. Hence the current paper highlights and compares the character of the finds in these caves in order to show if the Teshik-Tash Neanderthal inhabitants came out originally? from the Near East (Shanidar Cave).

Keywords: Teshik-Tash, Shanidar, Neanderthal, Central Asia, Middle Paleolithic Caves

(ملخص)

"تيشيك - تاش وشانيدر: كهفان من العصر الحجري القديم الأوسط في
أوزبكستان والعراق"

(دراسة مقارنة)

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يعتبر كهف تيشيك-تاش (جمهورية أوزبكستان، آسيا الوسطى) وشانيدر (العراق، الشرق الأدنى) اثنين من أهم بل وأشهر المواقع التي ترجع إلى العصر الحجري القديم الأوسط في منطقتي آسيا الوسطى والشرق الأدنى. يقع كلا الكهفين في منطقتين متشابهتين من حيث الظروف الطبوغرافية، وقد كشفت أعمال التنقيب الأثري بهما في ثلاثينيات وخمسينيات القرن الماضي عن بقايا لإنسان نياندرتال والعديد من الأدوات الحجرية المستيرية وبقايا حيوانية مميزة وعلى قدر كبير من التشابه. تضمنت ورقة البحث الحالية دراسة تحليلية مقارنة للقى الأثرية المكتشفة بالكهفين بما في ذلك البقايا البشرية والحيوانية، وذلك لمحاولة الإجابة على التساؤل: هل كان سكان كهف تيشيك-تاش في أوزبكستان من النياندرتال قدموا إلى آسيا الوسطى من منطقة الشرق الأدنى (كهف شانيدر)؟

وقد أوضحت الدراسة أن الكشف عن بقايا إنسان نياندرتال والأدوات المستيرية المصاحبة له في كهف تيشيك-تاش بأوزبكستان جعل منطقة آسيا الوسطى الحد الشرقي لانتشار هذا النوع في القارة الآسيوية، ولو نظرنا لمنطقة آسيا الوسطى لن نجد مواقع تعود للعصر الحجري القديم الأوسط يمكن أن تمثل أصلاً للصناعة المستيرية بها. لذلك واعتماداً على التشابه الكبير بين الكهفين يمكننا القول إن منطقة زاغروس والتي يقع بها كهف شانيدر كانت نقطة البداية أو الأصل لمواقع العصر الحجري القديم الأوسط في آسيا الوسطى ومن ضمنها كهف تيشيك-تاش.

كلمات مفتاحية: تيشيك-تاش، شانيدر، إنسان نياندرتال، آسيا الوسطى، العصر الحجري

القديم الأوسط.

Teshik-Tash Cave: The Teshik-Tash cave is considered one of the best known Paleolithic sites of Central Asia and is the first Paleolithic locality to be scientifically investigated in the whole region of Central Asia. Moreover, the Teshik-Tash child is the best known fossil hominin from the region. It is located in the Baisuntau Mountains and lies 18 km north of Baisun, a town approximately 144 km. to the south of Samarkand (South Uzbekistan) (Fig. 1) at an altitude of 1800 m. above sea level and 6 m. above the gorge bottom and more than 400 m. above the Turgan-Darya, near Machai. Teshik-Tash is located in the middle part of a very narrow canyon-like gorge, known as the Zautolosh-Dara Sai, a left bank tributary of the Turgan-Darya. (Map 1). The cave has a single, broad, more-or-less oval chamber 21 m. long, and its width and height at the mouth are, respectively, 20 and 7 m.¹



Fig. 1: Map with the Neanderthal Range with Shanidar and Teshi-Tash Caves, modified after (Glanz et al., 2009)²

The cave opens to the north-east and has a small opening through the ceiling, and it is because of this feature that the site gets its name, since “Teshik-Tash” means “stone with an opening”.³

Excavations in the cave were carried out in 1938 and 1939 by Okladnikov when he was charged in 1938 to search for remains of the Stone Age in the Bukhara District, Uzbekistan, and to check information received about finds of stone implements of the Neolithic type in the Daria River Valley. His first investigations showed that some caves and rock-shelters containing remains of prehistoric man exist in the Valley. So, systematic excavations were made in one of the newly found caves, the “Teshik-Tash”.⁴

During the course of two seasons work the remaining cultural deposits exposed by Okladnikov totaled 137 sq. m. (the whole area of the cave which was filled with cultural remains), were completely removed. The area dug in 1938 (78 sq. m.) was conveniently separated from that exposed in 1939 (59 sq. m.) by a rocky barrier. In the southern and eastern portions of the cave, behind this barrier, the surface of the deposits was 1.50 m. to 2.00 m. higher than in the northwestern sector to the right of the entrance.⁵ (Fig. 2)

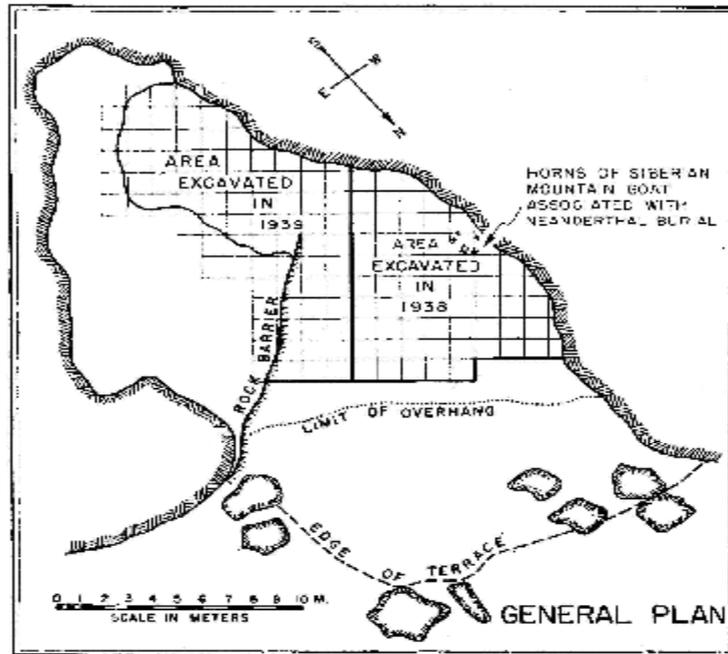


Fig. 2: Ground Plan of Teshik-Tash Cave, after (Movius 1953)⁶

The excavator concluded that Teshik-Tash was briefly occupied on five successive occasions, the culture layers being separated from each other by sterile layers of clay, sand, and coarse silt laid down during intervals when the cave was flooded with water. In general, the total thickness of these deposits did not exceed 1.5 m (varied from 1.20 m. to 1.50 m.). The upper cultural layer - the thickest and richest one, occurred at a depth of 5-20 cm from the present surface.⁷

Each culture layer contained two or three hearths and/or fireplaces, around which most stone artifacts and bones were

concentrated. The five culture layers containing refuse of food, campfires, and artifacts of Mousterian hunters indicate temporary periods of habitation separated by times when Teshik-Tash was vacated and depositional processes were active.⁸

Teshik-Tash became famous for the most unexpected discovery of the remains of a Neanderthal child eight or nine years old (known as Teshik-Tash 1) during the 1938 season near the western wall of the cave. The skull, which lay at a depth of 25 cm. from the surface below one of the hearths in the lowermost part of Culture Layer I, was smashed into more than 150 well-preserved fragments, but it has been almost completely restored. It was flattened in such a way that all the fragments lay almost in the same plane and in natural order. It was lying on the left parietal with the foramen magnum uppermost. Several more human bones belonging to this burial (a mandible, a vertebra, a scapula, clavicles, rib and long bone fragments) were found slightly below the cranium, occurring roughly on the same level, close to each other, but not in anatomical order.⁹ These were associated with some irregularly-placed limestone slabs at a slightly lower level in the deposits than the skull. Apparently the body originally lay more-or-less parallel to the western wall of the cave with the feet towards the entrance.¹⁰

According to Okladnikov, the Neanderthal remains were surrounded by several (five or six) pairs of goat (*Capra sibirica*) large horns arranged in circular fashion with the points downward and slightly inclined toward the skull. Apparently this burial had been disturbed by a beast of prey- perhaps a Cave Hyena- but the skull had been left pretty well in situ. This would explain why some of the parts, including the epiphyses of the long bones, are missing. In fact, marks of the teeth of the predator were observed on some of the bones, and in the burial the only coprolite of a carnivore found in the cave came to light.¹¹ However, Ullrich in 1958 has pointed out that the marks on the bones of Teshik-Tash child have a different nature than to be result of the predator teeth.¹² Moreover, he, later on (1982) noticed that there are were some obvious rifling marks on some bones (tibia) made by special tools. Accordingly, he concluded that in the Teshik-Tash Cave were buried bones of dismembered child body.¹³

Both its orientation and stratigraphic position served subsequently as the major argument to prove that the body had been intentionally buried in a shallow grave pit excavated in the sterile deposits directly below Culture Layer I and the existence of a rather complex burial rite.¹⁴ Although, there were no artifacts found in this grave pit, especially in view of the fact that Culture Layer I was extremely rich of them.¹⁵

Teshik-Tash 1 is of special significance because it represents the only relatively complete cranium from its developmental group and the Middle Paleolithic that is associated with well represented lithic and faunal assemblages from east of the Aral Sea to the Pacific Ocean.¹⁶

But recently, a reanalysis of the Neanderthal status of the Teshik-Tash child¹⁷ showed that the linear variables, taken from areas of the cranium and mandible of Teshik-Tash that were not heavily reconstructed, more closely aligned this fossil with an Upper Paleolithic modern human sample rather than that of Neanderthal juveniles.¹⁸ Moreover, according to Wolpoff (2014) Teshik-Tash child appeared as a Neandertal with a number of East Asian facial features.¹⁹

According to the distribution of the archaeological materials, the five culture layers in the Teshik-Tash Cave were restricted mainly to the central part of the area excavated in 1938. Only during the most recent occupation (Culture Layer I) was the rear portion of the chamber occupied.²⁰

According to Okladnikov Teshik-Tash assemblage may be considered homogeneous and treated as a whole, as there is no indication of a significant typological change²¹. Such conclusion was confirmed by a detailed analysis of the industry from Culture Layers I-V.²²

The principal material used in the manufacture of most of stone artifacts was the local siliceous limestone, two types of which were readily accessible, as they occur in the Jurassic formation of mountain and the walls of the cave itself. In addition, there are several light green jasper and quartzite, quartz and hard compact types of igneous rocks were also used. True flint is exceptionally rare in this region, and only two specimens made of this material were found.²³ Despite the lack of good material the technique of stone manufacture does not show any special rudeness and looks like the technique typical for classic Mousterian sites.²⁴ Thus, the Mousterian inhabitants of the cave could successfully adapt themselves to the local environmental conditions using the local raw material even it was of low quality. This could also indirectly show how they had enough skills and efficient technical methods to manufacture it.

The large number of cores and the quantities of refuse material (trimming flakes and chips) may indicate that the stone tools were manufactured at the site.²⁵ The total items found in the cave are 2,859, among them 339 (nearly 12%) are classified as tools, whereas 2,520 are considered to be trimming flakes²⁶ (crude unretouched flakes) and chips followed by trial cores (pieces of rock with single flake scars).²⁷

Nearly one-third (total: 134 items)²⁸ of the artifacts from Teshik-Tash falls in the core or nucleus category. The leading type is a very characteristic Mousterian form; it is carefully prepared bifacial, discoidal core.²⁹ In addition, there are some roughly triangular and elongated oval cores, a few prismatic type, and a fairly large series of irregularly-shaped examples.³⁰ Blades and Levallois flakes are extremely rare.³¹

Tools (Fig. 3) are represented nearly exclusively by side-scrapers, often transverse, and retouched flakes. Except for two or three convergent side-scrapers,³² all the other tools in this category have only one retouched edge.³³ There are also several retouched blades³⁴ and objects with burin facets, but on the whole the tool set is very poor and monotonous. Contrary to what is sometimes asserted in the literature, neither end-scrapers nor hand-axes are present among the tools, nor is there any observable difference in inventory composition between layers.³⁵

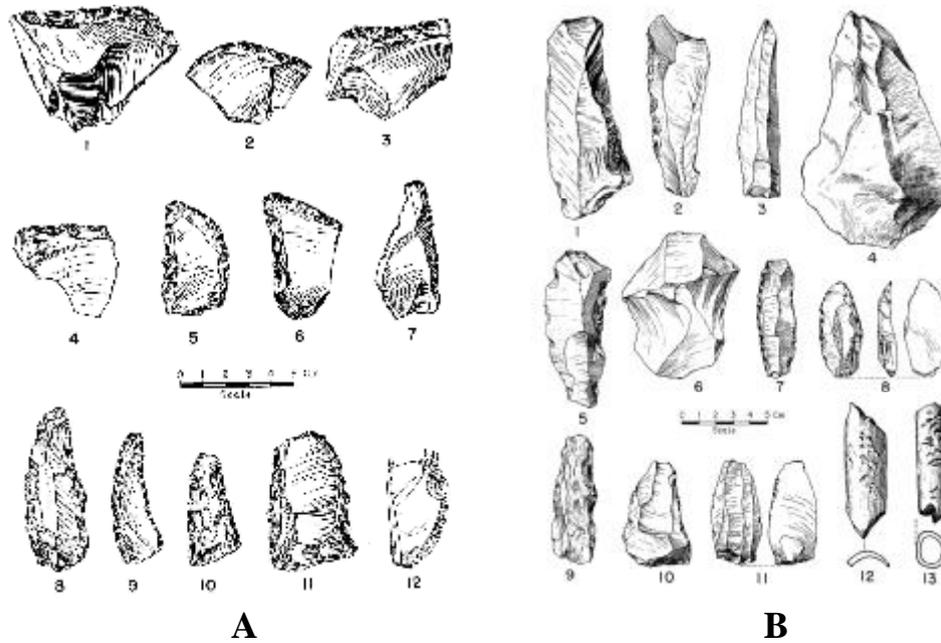


Fig. 3: Tools from Teshik-Tash - A: Side-scrapers, points, and flake with graver-type retouch Nos. 9 and 12 from Layer I; nos. 1-6, 8, 10 and 11 from Layer IV; and no. 7 from Layer V (? or IV). B- Flakes and Flakes-blades, "retouchers" of bone (nos. 12' and 13), nos. 1-4, 6, 9, 12 and 13 from Layer I; no. 8 from Layer, (After Movius, 1953)³⁶

Moreover, several water-rolled limestone pebbles with marks of percussion on them discovered in the culture layers of the cave, which the excavator believed to be hammer-stones. He further suggests that one small egg-shaped example, which exhibits no traces of use, may in fact represent a bolas stone.³⁷

Finally, there is one more characteristic feature of the cave assemblage; unlike other Mousterian sites (Chokurcha cave in Crimea) at Teshik-Tash there are no real bone artifacts, although many of the animal bones were found at Teshik-Tash with incisions, scratches, and cuts. They were very probably produced during the process of separating meat from the bone and cannot be considered as artifacts.³⁸ But there are some typically Mousterian "retouchers" or "flakers"³⁹ (Fig. 3: B, 12-13), made of large fragments of long bone of the Siberian Mountain Goat and one pointed bone artifact (crude awl) was found at the base of Culture Layer I just above the Neanderthal child's burial.⁴⁰

Although from the very beginning it was clear that we are dealing with a Mousterian industry, a great controversy still exists regarding its precise definition. It has been classified as Charentian and Typical Mousterian, considered to be Levallois and non-Levallois, early and evolved, and similar to or different from the other Central Asian Mousterian sites.⁴¹

According to Vishnyatsky the character of the industry is determined, first, by the low quality of the raw material and, second, by its abundance and the rarity of tools resulting from repeated resharpening (points, limaces, double and convergent side-scrapers) may be due to the fact that it was more expedient to make new tools than to renew worn ones.⁴²

The faunal remains from the culture layers at Teshik-Tash, identified by V. I. Gromova (1940; 1949)⁴³, indicate that there was no significant change during the time the cave was occupied, which agrees with the evidence of the stone assemblage. The fauna is composed of forms which today are typical of the alpine and boreal-scrub zones of the Baisun region (even the Leopard and the Wild Horse still live in Central Asia) and only the Hyena is now extinct.

On this basis it is apparent that environmental conditions in this part of Central Asia were substantially the same during the time of the Mousterian occupation of Teshik-Tash as those obtaining at present.⁴⁴

Faunal remains are dominated by *Capra sibirica* (Siberian Mountain Goat), which make up 83% of the whole assemblage (or 99% if rodents are excluded).⁴⁵ Such percentage indicates that the main activity of the Mousterian occupants of the cave was hunting this kind of animal. So, the Baisuntau Mountains must have been an ideal place during Mousterian times for the Siberian Mountain Goat, and for this reason the Neanderthal occupants of the cave were attracted to settle here in order to obtain meat, which was their chief source of livelihood.⁴⁶ There were found some 38 individuals of it represented by 761 fragments of bones, teeth, and horns.⁴⁷

In addition, there are single bones of horse (*Equus caballus*), deer (*Cervus elaphus*), brown bear (*Ursus cf. arctos*), leopard (*Felis pardus*), and, supposedly, cave hyaena (*Hyaena sp.?*). Rodents are represented by hare, marmot, field vole, dormouse, and several other species. No substantial difference can be observed between layers in faunal remains.⁴⁸

Concerning the bird bones⁴⁹ from Teshik-Tash, all of them are of typical forms now living in the alpine, scrub-forest zones of this region. The avifauna supports the conclusion, therefore, that the environment at the time of the Mousterian occupation of this site seems to have differed in no very marked degree from that of the present.⁵⁰

Certainly, there is similarity of cultural and faunal materials from the five culture layers at Teshik-Tash, so, the assemblages may be very close in time, but their date remains unknown and no serious attempts have been made to date the deposits.⁵¹ But the prevailing view in the literature is that the archaeological and paleoanthropological materials of Teshik-Tash date from the Last Interglacial or early Last Interglacial or early Last Glaciation.⁵² However, the date of the cave likely derives from OIS 4.⁵³ Unfortunately, recent attempts to radiometrically date the site have been unsuccessful.⁵⁴

Shanidar Cave: This is one of the largest limestone caves located in (36°50' N, 44°13' E) the Zagros Mountains of northeastern Iraq. It is situated about 400 km. to the north of Baghdad, and is about 2.5 km. from the Greater Zab River. The cave is approximately 740m. above sea level facing south. It has a triangular mouth (about 25 m. wide and 8 m. high), and the cave extends about 45 m. to the rear, with a maximum width of about 53 meters. Its earthen floor is about 1200 square meters in area.⁵⁵ Nearly 14 meters of cultural deposits were excavated in the cave during the four seasons of archaeological work (1951-1960). They were divided from top to bottom to five layers (A, B1, B2, C, D).⁵⁶

Here we will deal only with the middle Paleolithic Layer (D) of Shanidar to be compared with Teshik-Task. This layer is the thickest one in the cave (about 8.5 m). Although the hearths, animal remains, and stone tools are distributed throughout layer D, there is evidence of two heavy occupational concentrations toward the top and the middle of the layer.

The Mousterian assemblage from Shanidar cave was relatively homogeneous throughout layer D. it contains mainly Mousterian elements with a preponderance of Mousterian pointed tools; the most common artifact category (Fig. 4) in Mousterian deposits (layer D) from Shanidar Cave that include

Mousterian Points, Pointed Flakes and Blades, Limaces, Pointed Limaces, Side-Scrapers and Perforators. They all together make up 48% (381) from the 798 studied tools from the layer D at Shanidar.⁵⁷ The Levallois technique was rarely used for manufacturing Shanidar assemblage.⁵⁸

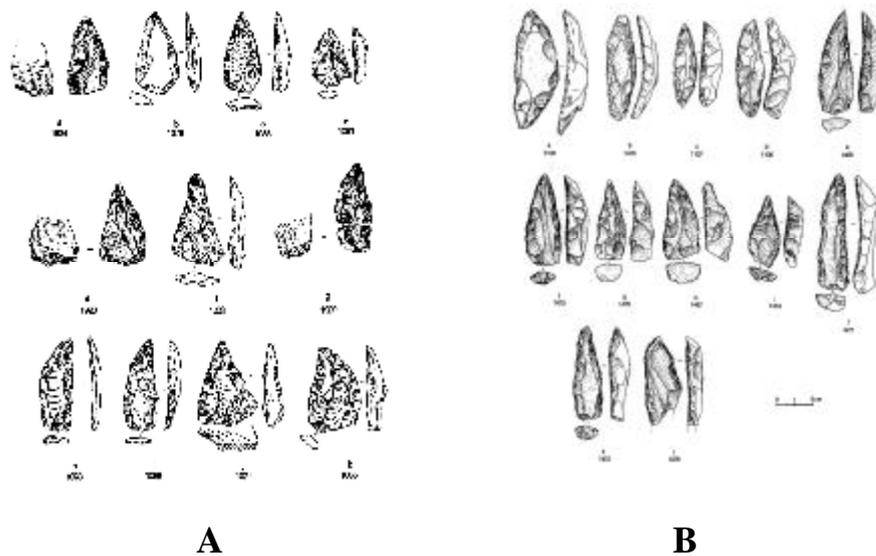


Fig. 4: Tools from Shanidar Cave, A- Limaces, B- Mousterian points, after (Solecki and Solecki 1993)⁵⁹

Trinkaus has pointed out that the characteristics of Shanidar D assemblage are similar to other Zagros Mountain Mousterian sites assemblages (Bisitun E+ to F-, Hazar Merd C and Kunji), where tools are dominated by points and side-scrapers and tend to be widely retouched. Hence we could assume that they all belong to one “cultural area” in Zagros Mountains during Middle Paleolithic.⁶⁰

Nine Neanderthal skeletons were recovered in the Mousterian deposits at Shanidar, and were numbered from Shanidar I till IX; three adult males (Shanidar I, III, V) were unearthed in the upper part of the layer D and were accidentally killed under rockfalls, they were killed across the hearth from each other. This fate was also for Shanidar II (single male individual). The other Neanderthals were unearthed in the dark-stained occupation zone. The Shanidar IX (baby or child, less than a year) had been buried in the occupation deposits. Another male (Shanidar IV) was recovered in affixed position in a kind of crypt among the rocks, associated with the skeletal remains of an adult female, a young adult female and a child.⁶¹

According to Soleckis⁶² the remains of the Sahinadar Neanderthals I, III, V were members of roving hunter-forager group, who used Shanidar Cave as a way station on a seasonal round. While the other Neanderthals found in the stained occupation zone, could represent more a family situation, with children and two females in the group. Such two different burial situations that discovered in the cave could confirm the belief that Shanidar Cave was a true camp during this period (about an estimated 60,000 years ago).⁶³

The faunal remains from layer D at Shanidar are dominated by *Capra aegagrus* (wild goat), then come *Testudo graeca* (tortoise), *Sus scrofa* (wild boar), *Cervus elaphus* (red deer), *Capreolus capreolus* (roe deer) and *Vulpes vulpes* (red fox). According to Trinkaus (1983) despite the little variation in species and their relative proportions through the levels of layer D, there was considerable climatic fluctuation in the region during the Upper Pleistocene.⁶⁴

Shanidar Cave deposits were dated by using different techniques including radiocarbon, palyonological analysis, trace-element analysis and reconstruction of climatic sequences compared with other estimated climatic sequences from the Near East and eastern Mediterranean. Consequently, the age suggested for the middle of the Mousterian layer D in Shanidar Cave was about 60,000-70,000 years B.P, while for the bottom of Layer D was about 100,000 B.P.⁶⁵ But Trinkaus (1983) believes that these age estimations give a general chronological framework of the Shanidar Mousterian deposits and with the Neanderthals they contained span considerable geological time. Moreover, he pointed out that the Shanidar fossils were probably roughly contemporary with the other Near Eastern Neanderthals from Amud and Tabun and with many of the European last glacial Neanderthals.⁶⁶

Recently (2014-2015), new investigations were conducted at Shanidar cave and resulted at discovering around the findpost of Shanidar V further Neanderthal remains including a hamate, the distal ends of the right tibia and fibula, and some articulated ankle bones, scattered fragments of two vertebrae, a rib and long bone fragments. The tibia and fibula are missing from the list presented by Trinkhaus (1983), making it probable that they belong to Shanidar V.⁶⁷

Comparative Analysis: Comparing the Central Asian Mousterian industry in general with the Middle Paleolithic industries of surrounding regions, we can observe the absence or kind of extreme rarity of close analogies to the north and the south, while such analogies are clearly existing to the west and the east.⁶⁸

As for the western analogies, the Mousterian of Central Asia does have much in common with the approximately contemporary industries of the Middle East (the Zagros caves). Particularly, an interesting parallel can be drawn between Teshik-Tash and Shanidar Caves. From the other side, the Shanidar Mousterian is considered a reasonably good example of the Mousterian culture horizon⁶⁹ from the Middle East to Central Asia including Teshik-Tash.

Okladnikov was the first to notice⁷⁰ these parallels between the two caves within the two regions more than 60 year ago, and the materials gathered since this time are confirming his observation. The similarities appear not only in the characters of the stone industry discovered in the caves, but also in the topography of the sites, in the composition of the faunal assemblages, and in some features of the Neanderthal burials.

Concerning the sites topography, it is clearly that the two caves are located in similar mountainous environments however they are situated at different elevations (1800-765 m.), but in general most Mousterian sites in both regions are situated at heights of 1200-1400 m.⁷¹

The faunal remains discovered in both caves are dominated by the mountain goat (*Capra sibirica* and *Capra aegagrus*), thus the principal animals hunted there were wild goats. Viewed broadly, one can say that the faunas of Mousterian sites in both regions are usually dominated by either wild goat, wild sheep, or both.⁷²

According to Vishnyatsky (1999) there are several parallels could be traced in the characteristics of the stone industries of these two caves, for example: the blade-oriented but still Middle Paleolithic technologies; the presence of truncated-faceted pieces; a substantial degree of core reduction and tool

resharpening (with one or two exceptions); a total absence of hand-axes and total or near-total absence of other bifacial tools; the ubiquitous presence of various side scrapers, including double and convergent but, very rarely, transverse or Quina scrapers; frequent retouched points (including elongated ones); the presence of limaces; and the rarity or absence of Upper Paleolithic tool types.⁷³

However, there are also clear differences between the Mousterian industries of the two regions, for example:⁷⁴ the so-called "rods" are typical of the Zagros but are completely unknown in Central Asia. Moreover, it is important here to point out that while the Mousterian toolmakers of the Zagros used mainly rather good-quality flint, those of the Central Asia usually had to rely on more coarse-grained and therefore less tractable rocks such as quartz, sandstone, and silicified limestone. But sometimes there are some differences that could not be accounted for by specific site functions or the peculiarities of available raw materials (type, quality, abundance, size of nodules, and so forth).

As for the Neanderthal burials in the caves one can find parallels in the fact that the Mousterian burials in Palestine – for example – are located in front of the cave entrance to which some skeletons were oriented, while at Shanidar and Teshik-Tash

the Neanderthal burials are located inside the cave and again some of the skeletons were oriented to the cave entrance. In addition, in Palestine (Skhul V, Kafzeh 11) there were funeral offerings? and traces of ochre (Kafzeh 8, 11), but this was not fixed in Shanidar and Teshik-Tash.⁷⁵

In both Teshik-Tash and Shanidar we have skeletons (Shanidar II and Teshik-Tash I) that were found not in an anatomical order, which could mean that they were fully dismembered before burying them.⁷⁶

However, in fact, in both Teshik-Tash and Shanidar there were no examples of primitive art and jewelry associated with Neanderthal burials (as in the French site of Pech de l'Aze, scratched lines were found on an ox rib that could be called symbolic).⁷⁷ But here we find examples of Neanderthals taking special care⁷⁸ at burying their dead that evidenced by the “flower burial” at Shanidar (Shanidar IV)⁷⁹ and the Teshik-Tash child (Teshik-Tash I) was buried with a ring of ibex horns. Although such modern behavior is synonymous with the Upper Paleolithic and associated with modern humans, it is clear that early forms of modern behavior were present in Neanderthals.

Finally, it is important here to point out that to the east of Teshik-Tash, in the Altai Mountains, there are sites that yielded Mousterian industries.⁸⁰

Concluding Remarks: Undoubtedly, the Neanderthal child discovery in Teshik-Tash Cave (Teshik-Tash 1) in association with the Mousterian stone industry has placed Central Asian region long time ago on the Neanderthals range as a possible eastern border for their expansion.

When looking to Central Asia, one will find that there were no Middle Paleolithic sites which could serve as direct predecessors where Mousterian industry could have evolved. But depending on similarities provided before between the Zagros-Taurus (Shanidar Cave) and Central Asian (Teshik-Tash) sites, it would be possible to conclude that the Zagros Mousterian sites (Shanidar Cave in particular located in Iraq) that were occupied by Neanderthals moving eastward out of western Asia could serve as an origin or starting point for the Central Asian Neanderthal Sites (Teshik-Tash first of all), since from the geographical point of view Shanidar is the closest Neanderthal site to Central Asia. Moreover, the Neanderthal expansion out of the Near East could reach the Altai Mountains region, to the east of Central Asia.

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