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ABSTRACT

The micro-blade stone-tool industry produced by the pressure technique that emerged in Siberia during the Late Upper Paleolithic Age, spread over wide areas in Eurasia. One of these spreading lines was via Silk Road. Micro-blade stone-tool industries traced from Southern Siberia to Northern Afghanistan at the end of the Pleistocene reached Zagros and Eastern Anatolia via Northern Iraq at the beginning of PPN. It is also proven by the results of genetic studies that the traces of migrations from Siberia reached the Near East. It has been calculated that Ancient North Asian peoples have a genetic contribution of 20-25% in the genetic cluster formed by genomes dated to PPN in Zagros region. Therefore, it has been understood that the carriers of the pressure-micro-blade technology which set out from Southern Siberia, are intertwined enough to transfer their genes to the Zagros region. The same situation is true for the Caucasian Hunter-Gatherers genetic cluster. It is well known that the amazing depicted-art and architectural style of the PPN Göbeklitepe Culture in Southeastern Anatolia emerged suddenly without pre-development process. There is no other dominant culture in the immediate vicinity that can lead this interesting development. In this case it should be emphasized that a dominant cultural influence came from outside created the PPN Göbeklitepe Culture by mixing with native Anatolian communities. In the circumstances we should look for the dominant culture candidate among the Ancient North Asian immigration groups that using the pressure technique.

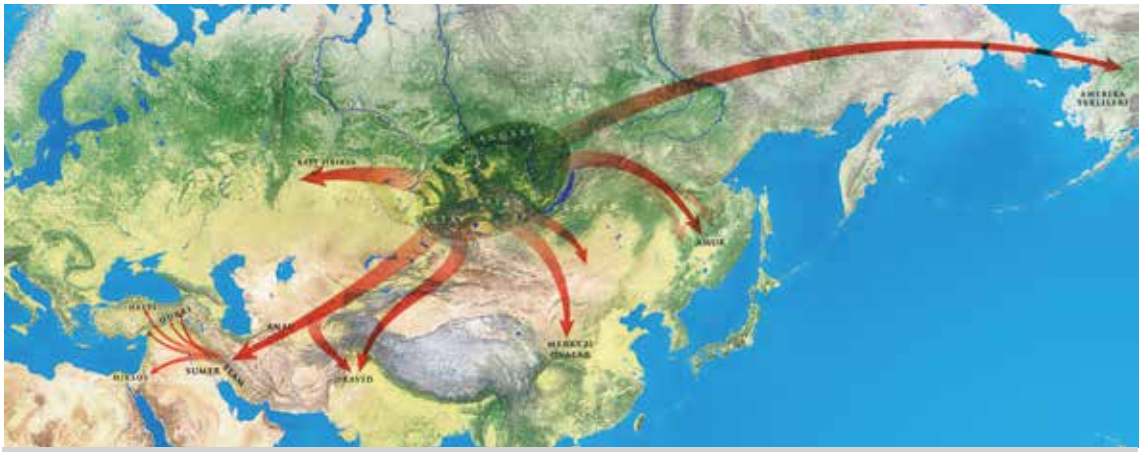
Keywords: Göbeklitepe PPN culture, long walk hypothesis, pressure microblade stone industries, Silk Road, upper paleolithic migrations

Introduction

"THE LONG WALK HYPOTHESIS", WHICH was developed in one of the recent theoretical studies (Güneri, 2022) based on the information that at the end of The Last Glacial Maximum (18.000-14.000 BP) in Yenisey-Lena region there had been small groups of people who spoke 'only one' language, predicts that at the end of this time period a part of these groups of people had spread to various regions through migration (Güneri, 2022). According to the results of these studies (Güneri, 2022) before 14.000s BP, the mass migrations - leaving from the area restricted by Yenisey in the West, Angara River which fed Yenisey in the North and Baykal region in the South- arrived at the Near East walking west. The majority of the distance traveled between Syberia – East Anatolia passes through the Silk Road line. (Fig. 1): Angara-Baykal→Yenisey Valley→Xinjiang-Uyghur→East Kazakhstan→Southern Kyrgyzstan→Southern Turkmenia→Northern Iran→South Caspian Coast→Zagros Mountains→-Southern Mesopotamia→Northern Iraq→Southeastern Anatolia.

'The theory', based on the available data in the Upper Paleolithic, defines the 'only one' language spoken in the Angara-Baykal (Yenisey-Lena) region as the 'Archaic Yenisey-Lena Culture/ Language'. (Güneri, 2022). Until 14.000 BP, only one language was spoken in the region, but after this point of time, the peoples of the 'Archaic Yenisey-Lena Culture', aiming for different geographies, developed their languages in different lands and in different directions over a long period of time. So, while it was a single language before 14.000 BP, in about five to six thousand years until the Neolithic Ages, the 'Archaic Yenisey-Lena Language' would turn into different languages that developed in different directions both in North Asia and in distant geographies. At the end of the development processes of the languages, there will be nothing shared in between those languages, except for

Figure 1. The Long Walk Hypothesis



Source: Bayburt, n.d.

the agglutinative language feature and plenty of common words. The group of people from 'Archaic Yenisey-Lena culture' seeking a way in the West must have developed their languages in different directions in different lands after leaving their own regions. In the Near East, they arrived at during the Epi-Paleolithic period, these peoples (such as Sumerians, Elamite, Hurrians, Hyksos, Kassite, Guti, 'Luristan Blacksmiths' etc.) (Fig. 2) would have spoken their own agglutinative languages over time.[1]

Recent studies confirm the conclusion that the migrations targeting the 'New World (North America)' at the latest 14.000 BP were indigenous peoples from the Altai. According to the results of these studies, the migrations from the Altai targeting North America did not take place long before 14.000 BP.

Stone tool industries using the pressure technique that emerged without pre-development and suddenly in Central Asia, Eastern Europe, Scandinavia, and finally the Near East since the end of the Upper Paleolithic period -which is widely accepted as originating from the 'cultural territory of the Altai' [2]- are considered to be a development in parallel with the simultaneous

Figure 2. The Long Walk Hypothesis

Source: Bayburt, n.d.

Figure 3. Pressure microblading technique

Source: Clark, 2012.

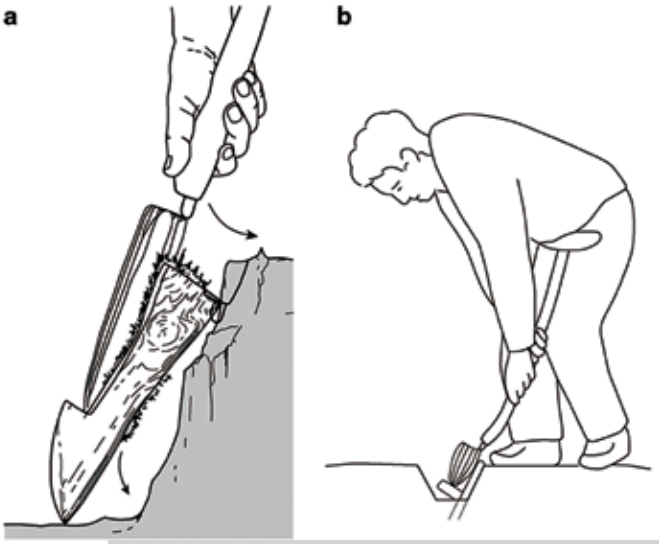
extensive expansion of 'Ancient North Eurasians' hunter-gatherers, which are the technology's carriers (Figs. 3-13). In the early periods of the Pre-pottery Neolithic (PPN), the 'pressure technique stone tool industries' that abruptly emerged on the eastern flank of the Fertile Crescent in the Near East, formed a pillar of the regional expansion. We briefly describe this development as follows: We can think that one of the components of the 'PPN Göbeklitepe Culture', which emerged without a pre-development process in Southeastern Anatolia, is related to a hunter-gatherer community coming from outside. The results of recent aDNA studies--discussed below--interestingly support the said spread. In this context, we hypothetically think that the existence of cultural groups speaking Sumerian, Elamite, Hurrian, Hiksos, Kassite, Gutian, 'Luristan Blacksmiths' and other regional agglutinative languages, almost all of which are understood to be of Zagros origin, may be related to these earliest migrations.

We can trace the migrations in question and the cultural mixes with communities of different origins that Early North Asian peoples encountered in distant geographies, through the findings of both archaeological and genetics researches. The identification of these cultural and biological mixtures offers an important way out in determining the identities of the successor cultures that emerged in the Holocene. Thus, these scientific inferences will bring together the presentation of earliest evidence to illuminate the belonging related to language families, where intense debates took place in the scientific world (Berkant, 2020).

A group of academics who consider themselves interested in the subject, especially the authors of this article, think that the creators of the Southeastern Anatolian 'PPN Göbeklitepe Culture' may have come from outside. We should think that the 'PPN Göbeklitepe Culture', which suddenly emerged with a developed understanding of depictive art, was at least shaped as a result of strong cultural influences from outside. According to the authors of this article, this cultural phenomenon, which probably moved from Northern Asia and followed the Southern shores of the Caspian to the Zagros region, must have landed in the Southeast Anatolian region via the Zagros-Northern Iraq. The pressure micro-blade tradition, which has a special place among the Epi-Paleolithic stone tool industries in the Zagros-Northern Iraq region, spread to the region, most probably as a result of this Northern Asian cultural movement.

Because the climate was mild until 25.000 BP, the Western slopes of the Zagros harbored many hunter-gatherer groups,[3] and many of these camps were abandoned in the end of this period due to the dry and cold climate. After 17.000 BP, the Zagros were resettled, which lasted until the dry and cold climate wave called the "Younger Dryas"[4]. At the beginning of this period, hunter-gatherers who evacuated themselves from the Zagros must have started to migrate towards the Northern part

Figure 4. Pressure microblading technique



Source: Clark, 2012.

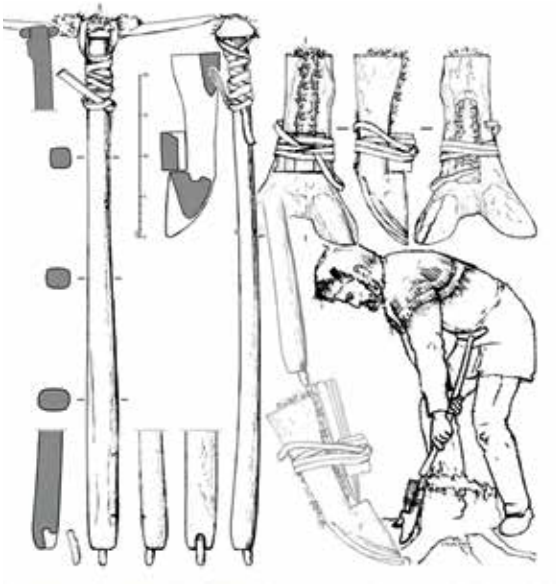
of the Fertile Crescent, namely the Southeastern Anatolian 'PPN Göbeklitepe Culture' region. Before the food production, the only inhabited area in Iran other than the western slopes of the Zagros was the Southern Caspian. Except for the Zagros and Northwest Iran, the regions were largely vacant due to unfavorable climate conditions. On the other hand, in the western parts of the Fertile Crescent, we see the Natufian culture, completely different from the Zarzi culture. Therefore, at the beginning of the "Younger Dryas" dry and cold climate wave, with the possible effects of North Asian migrations, the point where the march from the Zagros-Northern Iraq region came to an end was probably the Southeastern Anatolia region.

Pressure Technique of Micro-blade Stone Industries Traveling to the Near East via Silk Road

There has not been a deep, detailed, comprehensive research about the production of micro-blades by using the pressure technique in various cultural regions in Eurasia until the Bronze Ages. Therefore, we would like to define the findings that we have reached by evaluating the results of the existing research, as only the movements in front of the light beams that leak through the small windows opened by the limited material, but as vivid as possible. Systematic research to be carried out between Siberia and Anatolia will bring different expansions together. Now, we move on to the details of the main idea that we have included in this general framework.

The Fertile Crescent, the core region of the Aceramic Neolithic period in the Near East, has been known to consist of two main cultural regions as the Eastern and Western wings, so far. We divide the region today into three main parts, according to new data: The Zagros (Eastern part), the Southeastern Anatolia (Northern part) and the Levantine (Western part) and . Archaeological studies are much more detailed in the Western part than the others. The Zagros and the Levantine parts are interestingly culturally different. Cultural disconnections are severe. The border is in the Northern part of the Tigris and Euphrates, around

Figure 5. Pressure microblading technique

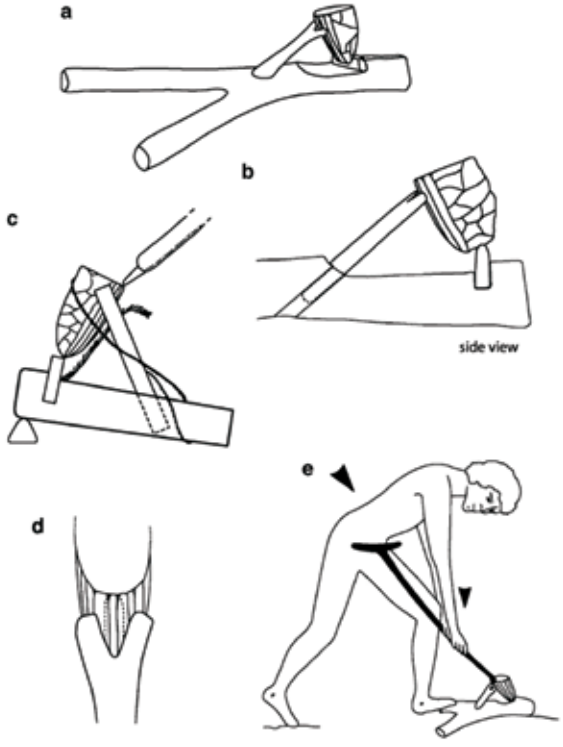


Source: Pelegrin, 2012.

Northeast Syria (Nishiaki & Darabi 2018, p. 1-2).

PPN Göbeklitepe Culture developed relations mainly with the Zagros-Northern Iraqi cultural environment and was influenced by this environment throughout the period. In addition, it is understood that it has local characteristics. The Zagros-Levantine-Eastern Anatolian Epi-paleolithic shows similarities and differences in some respects. One of the culturally differentiating aspects of the Zagros and Levantine is determined by the identities of the stone tools industries (Kozlowski 1994, pp. 143-144)[5]. In the Levantine part, blades and micro-blades are extracted by the 'direct percussion technique' and from the bipolar naviform cores. In the Eastern part, the cores from which blade/bladelets/micro-blades were extracted are generally conical or sub-conical with a single percusion platform. While direct percussion technique was used to pre-form such cores, indirect percussion technique was used to open percussion platform and chipping surface, followed by 'pressure technique' for systematic extraction of blanks (Kozlowski, 1994, pp. 148-149; Olszewski, 1994, p. 86. -87; Inizan, Lechevallier & Plumet, 1992, pp. 671-672, 675; Inizan & Lechevallier, 1994, pp. 23-29). The earliest evidence for the use of pressure technique, which appeared abruptly in the Zagros region, despite some problems with radio-carbon dating, came from the M'lefaat settlement on the Northwest outskirts of the Zagros (Szymczak, 2002, p. 230). The use of the pressure technique was spread along the Zagros in the South[6], in the North and West directions to the Tigris basin in Northern Iraq[7], to the Euphrates basin in Northern Syria[8], to Southeastern Anatolia[9] and although it is a singular and fugacious example, even to Kaletepe in Central Anatolia (8300-8200 BC) (Kozlowski, 1989, p. 30; Kozlowski, 1994, pp. 156-158; Binder, 2007, pp. 236-241; Tsuneki, Zeidi & Ohnuma, 2007, p. 19; Altınbilek-Algül et al. , 2012, pp. 158-159; Nishiaki & Nagai, 2011, pp. 91-93; Nishiaki & Darabi, 2018, pp. 9-11; Kayacan, 2015, pp. 331-342; Milic & Horejs, 2017, p. .31-32). The widespread use of the pressure technique in Central and Western Anatolia[10] started with the spread of the "Neolithic Package" from the 7th millennium BC (Erdoğdu and Çevik, 2020, p. 50 ff.) (Binder, 2007, p. 241; Binder et al., 2012, pp. 212-213; Kayacan, 2015, pp. 326, 343, 348-358; Milic & Horejs, 2017, pp. 38-40; Gatsov & Özdogan, 1994, pp. 102-110; Gatsov, 2016, p. 107; Gatsov et al., 2017, p. 308).

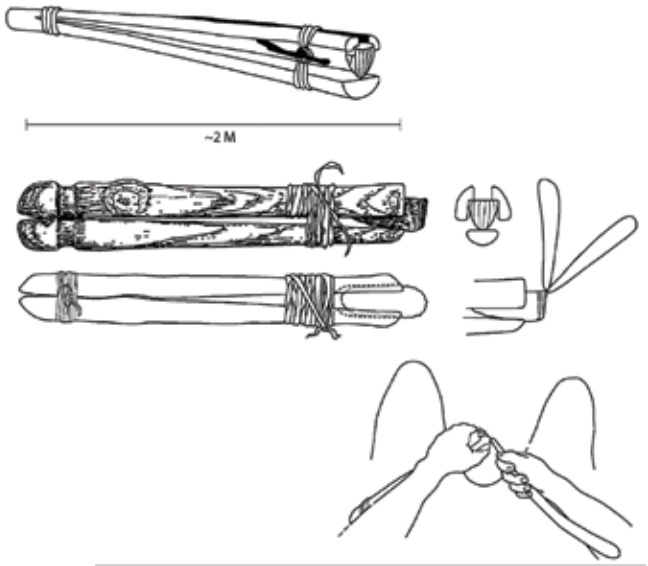
Figure 6. Pressure microblading technique



Source: Clark, 2012.

The emergence of the pressure technique in the Near East has survived to the present day as a controversial issue. Some researchers tend to see the origin of stone industries using this technique in the Epi-paleolithic Zarzi culture in the Zagros (Olszewski, 1994, p. 87; Kozlowski, 1994, p. 169). On the other hand, the connection

Figure 7. Pressure microblading technique

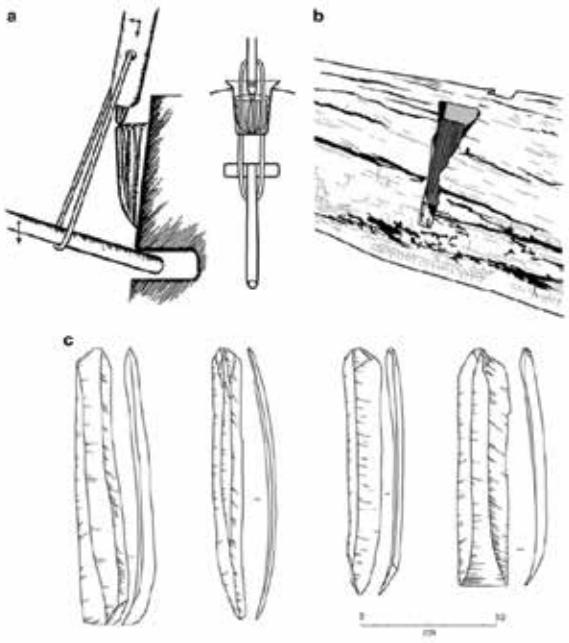


Source: Clark, 2012.

between Zarzi and M'lefaat stone industries is broken; both the absence of cultural layers that are expected to show local development and the time difference (Nishiaki & Darabi, 2018, p. 9) prevent this connection. Some researchers (Inizan & Lechevallier, 1994, p. 23; Binder, 2007, pp. 240-241; Altınbilek-Algül et al., 2012; Milic & Horejs, 2017, pp. 42-43; Nishiaki & Darabi, 2018, p. 9) cautiously attribute this development to the Near East to the Caucasus-Central Asia and even North Asia, considering the possibility that the origin of this technique may be 'outside'. However, the problem of the origin of the pressure technique seen in the Near East is briefly overlooked and expressed in a few sentences. The clearest view on the origin of the pressure technique seen in the Near East belongs to M.L. Inizan (Inizan, 2012, pp. 35-37). The author claims that the roots of this technique are in North Asia, and from there it spread to the surrounding geographies[11]. The author has not made a clear judgment about through which socio-cultural processes this spread may have taken place[12].

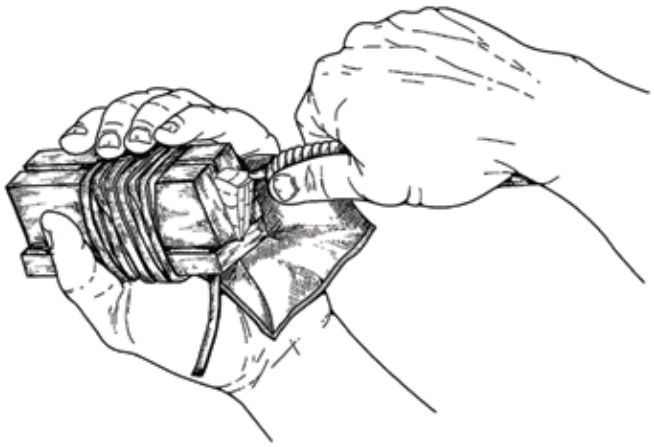
The use of the pressure technique in the Upper Paleolithic stone industries in North Asia has a long tradition. The earliest examples of the systematic use of pressure technique in stone industries in North Asia are in Northern China[13]. It is emphasized to look for the origin of these stone industries, which appeared abruptly in Northern China, in the Siberian Early Upper Paleolithic (ca. 39.000/38.000-31.000/30.000 / Heinrich-4 to Heinrich-3) stone industries (Ust'-Karakol Tradition; "Proto-Micro-blade Technology") (Kuzmin, 2007, pp. 115-118; Keates, 2007, pp. 125-129; Berkant, 2020, pp. 419-425). Blade-based stone industries in Mongolia disappeared at the beginning of the Sartan Phase (OIS-2), which started after the Heinrich-3 (approximately 31.000/30.000 BP)[14] event and experienced adverse climate conditions (Gladyshev et al., 2010, p. 39; Rybin et al.., 2016, p. 6). The situation is the same in the Northwest Altai. According to the findings, communities in Southern Siberia withdrew to micro-climate areas where environmental

Figure 8. Pressure microblading technique



Source: Clark, 2012.

Figure 9. Pressure microblading technique



Source: Clark, 2012.

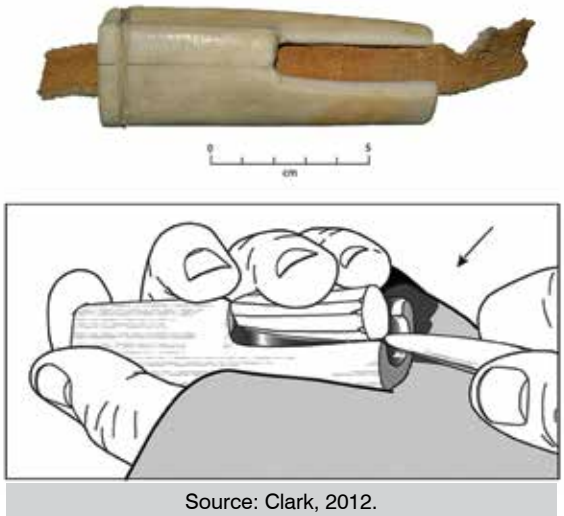
conditions were more suitable such as the Yenisey-Angara basins, in Southern Siberia, during the Last Glacial Maximum (26.500-19.000 BP) , which includes the coldest part of the Sartan Phase (about 30.000-11,800 years ago). Under these conditions, we can say that the communities that formed the earliest true micro-blade industries in North China did not remain in Southern Siberia but left there and migrated to the East[15].

Blade-based stone industries, which began to appear in Southern Siberia and Mongolia after about 39.000/38.000 (Heinrich-4) BP, must be connected to the spread of Aurignacian stone industries in Western Eurasia in a broad sense (Berkant, 2020). We can also define the communities living the stone industries processes, which had cultural continuity with some technological developments in the process from the beginning of this phase to the end of the Pleistocene, as "Early North Asian Peoples / Ancient North Asian Populations" or "Archaic Altaic Peoples" (Berkant, 2020, p. 13 et al). This culture group is genetically represented in aDNA studies by the "Ancient North Eurasians" genetic cluster, which consists of genomes[16] dated to the Upper Paleolithic found in the Baykal region and its 1000 km Northwest of Krasnoyarsk (Raghavan et al., 2014, p. 7). Two genomes of approximately 32.000 years from the Yana-RHS settlement in the Arctic make up the "North Siberians" genetic cluster. The ancestors of these two genetic clusters probably descended from an ancestral population that lived in the Angara-Baykal region around 38.000 BP (Sikora et al., 2018, p. 7, Supp. 66).

Stone industries using the pressure technique were found in Korea without a premise (Bae & Bae, 2012, pp. 27-33; Coutouly, 2018, pp. 14-16) and Hokkaido Island in Japan (Sato & Tsutsumi, 2007, p. 55), after the earliest examples appeared in Northern China. After the GS-3 (27,500-23,300 BP), with relatively favorable climatic development, in Central Amur[17], Yakutia[18] and Sakhalin[19], true micro-blade industries using the pressure technique have emerged in Southern Siberia and Northern Mongolia. In TransBaykal[20] and Cis-Baykal[21], Yenisey[22], Northern Mongolia[23] and Northwest Altai[24], Late Upper Paleolithic stone industries, in which the pressure technique was used, began to appear (Berkant, 2020).

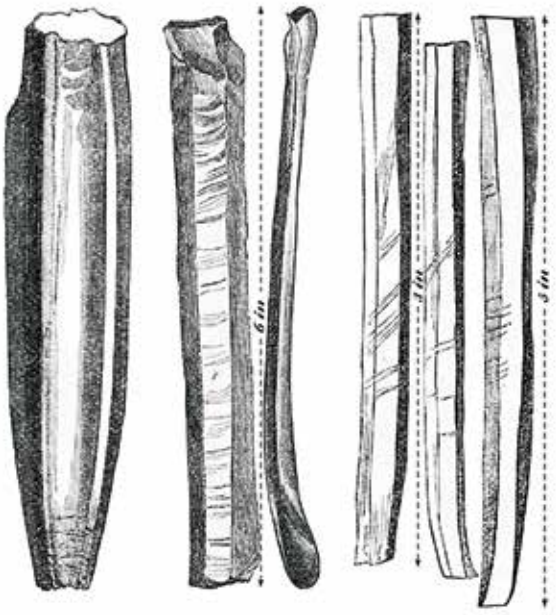
As in the "Last Glacial Maximum", the population in Southern Siberia migrated to the Yenisey basin during the period defined as the "N'iapan Cooling Stage (N'iapan Stade)" according to the traditional climatic scheme of Siberia, which

Figure 10. Pressure microblading technique



Source: Clark, 2012.

Figure 11. Pressure microblading technique



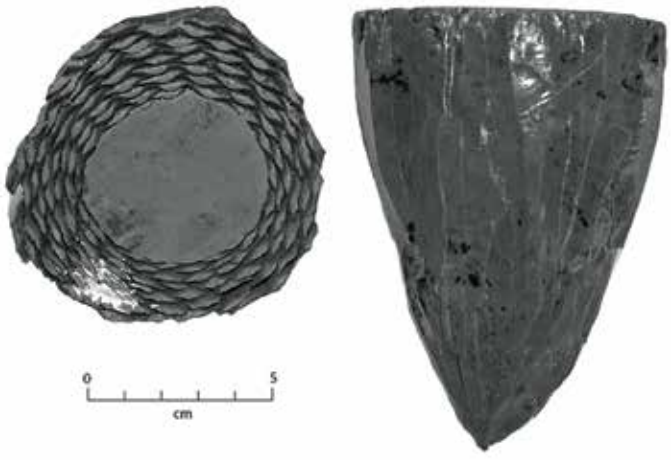
Source: Clark, 2012.

corresponds to the period between 18.000-16.000 BP in the Late Upper Paleolithic. (Graf, 2008, p. 136, Table 3.19). Considering the increase in the number of settlements in other parts of Southern Siberia (Northwest Altai, Cis-Baykal, Trans-Baykal), it can be said that the population clustered in Yenisey during the warming phase (Kokorevo warming) following this process spread to the environment (Berkant, 2020, pp. 486-492).

However, it can be said based on the archaeological and genetic data that the true micro-blade industries, in which the pressure technique was used, and the communities that created them began to spread towards "Western Eurasia". The use of the pressure technique that emerged in the Urals (Pavlov, 2008, p. 42) after about 16.000/15.000 BP - "Final Upper Paleolithic" for the Urals - originates many cultures (Yangelka, Romanovka-Ilmursin, Kama, Butovo et al.) that emerged around the Urals and in Eastern Europe during the Pleistocene-Holocene transition (Pavlov, 2008, p. 42). (Hartz, Terberger & Zhilin, 2010, pp. 158-164; Sorensen, 2012, pp. 254-256; Sorensen et al., 2013, pp. 6-13; Berkant, 2020, pp. 635-642). It is supported by both archaeological and genetic findings that communities using the pressure technique reached Scandinavia at the beginning of the Holocene (Sorensen et al., 2013, pp. 14-25). Mesolithic genomes from Eastern Europe form the "Eastern European Hunter-Gatherers" genetic cluster.

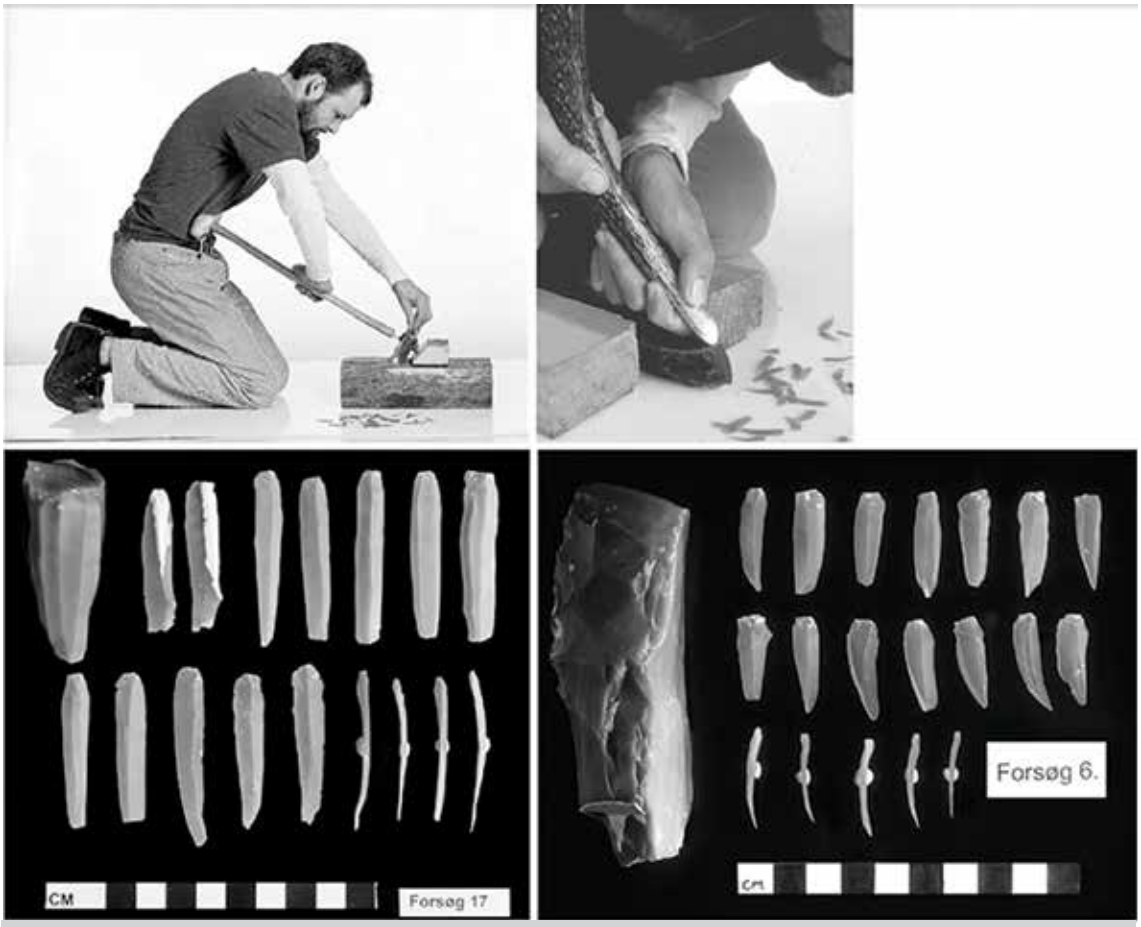
The southern branch of the spread from Southern Siberia is formed by the stone industries in Central Asia using the pressure technique dated to the Late Pleistocene - Early Holocene. Archaeological research carried out in the former Soviet period until the 1980s revealed the find area, which is mostly represented by surface materials and a small number of excavated settlements (Sorensen et al., 2018, p. 1). Recent archaeological research has started to reveal that the mentioned industries spread from the South of the Altai to Northeast Kazakhstan along the "Central Asian Mountain Corridor" to Northern Afghanistan (Sorensen et al., 2017, p. 4). This process is considered as between 16.000/15.000-13.000/11.000 BP (Berkant, 2020, pp. 610-634).

Figure 12. Pressure microblading technique



Source: Clark, 2012.

Figure 13· Pressure microblading technique



Source: Clark 2012.

Back to the beginning, the wide spread of the stone industries using the pressure technique, traced from Southern Siberia to Northern Afghanistan at the end of the Pleistocene, must be related to the sudden emergence of pressure techniques in the Near East in the East Part of the Fertile Crescent (in the Zagros). Today, we lack evidence in the Iranian Plateau due to the lack of research. On the other hand, we can fill this gap in a more interesting way with findings from aDNA studies: In the genetic cluster of genomes dated to PPN in Zagros (Ganj Dareh, Wezmeh Cave, Tepe Abdul-Husein), North Asian peoples have a calculated genetic contribution of 20-25%. Therefore, it is obvious that the carriers of the pressure-micro-blade technology, which set out from Southern Siberia, are so intertwined and 'integrated' that they pass on their genes to the Zagros. The dates of this should be early PPN in the least. The same is true for the Caucasian Hunter-Gatherers genetic cluster[25].

The result is: The PPN Göbeklitepe Culture in Southeastern Anatolia emerged suddenly without a pre-development process. There is no other potential cultural system in the immediate vicinity that can be a triggering to this special development (Özdoğan, 2014, p. 1511). It has always come to us as an interesting, 'unexpected observation' that the Eastern Mediterranean Epi-paleolithic cultural fenomenon have almost no influence on

the Southeastern Anatolian PPN cultures during our Near Eastern Prehistory lectures, seminars that we have been teaching for years. Therefore, in this case, we cannot talk about the influence of Eastern Mediterranean Epi-paleolithic dominant cultures on the formation and development of Göbeklitepe culture. However, it should be focused on that a dominant cultural influence from outside created the advanced PPN Göbeklitepe Culture by mixing with local communities. Since the Eastern Mediterranean Epi-paleolithic local cultural groups are out of picture, we must look for the dominant culture candidate among the Early North Asian cultural groups using the pressure technique.

It was mentioned above. We know that the dominant culture in question influenced not only Eastern Anatolia but also different territories. It seems unlikely that a complex technology such as blade, micro-blade production with the pressure technique will be transferred without a master-apprentice relationship (Sorensen et al., 2013, p. 26). Current research results show that this route was generally vacant in the Epi-paleolithic (Berkant, 2020). Therefore, this suggests that the transfer of pressure technology from Siberia to Göbeklitepe may have been carried out directly by North Asian hunter-gatherers. Thus, the carriers/masters of pressure-micro-blade technology, which set out from North Asia, must have reached Eastern Anatolia via the Zagros-Northern Iraq wing of the Fertile Crescent, as in the examples of Eastern Europe and Scandinavia. Genetic research results also support this situation (Berkant, 2020).

Therefore, we think that the PPN Göbeklitepe Culture is related to the migration of North Asian Late Upper Paleolithic hunter-gatherers to the Near East. In this context, we think that the cultures of other dominant cultures with Near Eastern agglutinative languages, such as Sumer, Elam, Hurri, Hiksos, Kassit, Guti, 'Luristan Blacksmiths' etc., emerged from the groups that had passed through the Zagros within the scope of the North Asian Upper Paleolithic migrations to Mesopotamia and completed their development in certain directions over time.

Consequently, we think that the rise of the Göbeklitepe culture might be related to the migrations of North Asian Late Upper Paleolithic hunter-gatherers to the Near East. In this context, it is also considered that the other Near Eastern late cultures such as Sumer, Elamite, Hurri, Hyksos (?), Kasite, Guti, 'Luristan smiths' (Khorasani, 2009, 185 pp) may be directly connected with these migrations.

Notes

1. We may not know exactly what language the cultures mentioned here speak, but general information may still require us to collect all these ethnicities in the same cluster.

2. The terminology was used for the first time in Türk-Altay Kurami (Türk-Altai Theory) (Güneri, 2018, p. 915). It is defined as follows: '…The territory covering the Altai mountains, the areas between Sayan and Altai, the Yenisei valley regions and the second-degree Yenisei-Lena habitats. The reader should not confuse the 'Sayan-Altay cultural territory' with the 'Altai cultural territory'. The former gains importance and meaning especially during and after the Okunyev culture period. The latter covers the cultural structures in both Sayan-Altai and Angara-Baikal cultural regions from the earliest stages…'. "South Siberia", which includes the Angara-Baikal region, may be the first of the other technical expressions describing this cultural geography, but it is not very useful in terms of evoking "Minusinsk valley" and "Middle Yenisei" at first hearing. Another appropriate term is 'North Asia', which is included in the name of Türk-Altay Kurami (Güneri 2018; Güneri 2022). The only problem is that it has no clear boundaries. This is because it is thought that perhaps we should not set boundaries when describing the life areas of Turkic-speaking communities in general. It is a phrase that our Russian colleagues also use. According to us "North Asia is also Baikal. This area is also the center of Upper Paleolithic findings. It is here that pressure micro-blades and early forms associated with the origin of wedge-shaped cores first and most intensively appear. In this respect, it is the correct terminology. Accordingly, the terminology of early culture carriers can be put forward as "Древние народы Северной Азии / Ancient Northern Asian Populations". The terminology used by B. Berkant, the owner of one of the latest studies on the subject, is "Archaic Altaic Peoples". "Human communities living in Southern Siberia in the Upper Paleolithic Age, which created the material culture starting with the Early Upper Paleolithic Age in Southern Siberia and is genetically represented by the Ancient Northern Eurasians genetic cluster" (Berkant 2015: 13). It is one of the appropriate idioms. The time period in which the 'original material culture' and/or 'archaeological style' is about to form in North Asia is the Late Upper Paleolithic-Neolithic period. At this stage, we clearly follow the development of cultural material traditions through ceramic production. The correct place is

the Amur-Lena-Yenisei line in the East-West direction: Baikal region. Later, it is possible to observe how the Neolithic-Eneolithic cultural continuities flowed from the Baikal region ('Angara basin') to the Sayan-Altays ('Minusinsk basin') only in this region and in this time period (Güneri, 2022).

3. Baradostian culture (BP 36.000-18.000) (Olszeweski, 2012).

4. At the end of the Epi-palaeolithic, the Zagros are represented by the settlements of Zarzi and Warwasi. According to the palynology and micro-faunal analyzes on the samples obtained from the find centers, it was stated that the Zagros region had a harsher climate during this period. This situation did not change until 14.000 BC. Warwasi and Zarzi settlements were used before this change and the Palegavra and Şanidar (B2) caves were used at the end of the Zarzi phase after the climate got fit. Many settlements belonging to the Zarzi culture, especially Warwasi rock shelter, Palegavra cave and Pa-Sangar rock shelter, are temporary camps. Settlements such as Şanidar cave and Mar-Gurgalan are considered as long-use base camps (Aghalari, 2017, p. 63 et al.).

5. There are also some developmental similarities between the micro-blades between the Zagros and the Levant. (Olszewski, 2012).

6. Pa Sangar, Karim Shahir, Asiab, Ali Kosh, Choga Golan, Choga Sefid, East Chia Sabz, Ganj Dareh, Tang-i Bolaghi, Rahmatabad et al.

7. Nemrik-9, Qermez Dere, Tell Magzaliyah, Jarmo, Tell Shimshara et al.

8. Tell Seker al-Aheimar, Khashkashok-2, Bouqras, Tell Sabi Abyad-2, Damishliyyah et al.

9. Çayönü Early PPNB; Caferhöyük, Boncuklu Field, Akarçay Hill, Mezraa Teleilat, Hayaz Höyük, Gritille et al.

10. Çatalhöyük, Yümüktepe, Hacılar, Kuruçay, Höyücek, Çukuriçi, Ulucak, Yeşilova, Ege Gübre, Aktopraklık, Barçın, Ilıpınar, Menteşe, Fikirtepe, Pendik, Ağaçlı, Gümüşdere, Domalı et al.

11. Alaska, Eastern Europe, Scandinavia, Central Asia, Near East.

12. B. Berkant examined this hypothesis in detail in his Phd thesis (Berkant, 2020).

13. BP approx. 28.000/27,-26.000, Youfang-Xishahe-Longwangchan-Shizitan-29 etc.; (Nian et al., 2014, p. 5-8; Zhang et al., 2011, p. 1546; Song et al., 2017, p. 25, 33; Guan et al., 2019, p. 15; Berkant, 2020, p. 350-366).

14. Last Glacial Maximum BP approx. 27,300-22,900/ approx. GS-3, common opinion 26,500-19.000 BP (Clark et al., 2009, p. 710-714).

15. These determinations (Berkant, 2020) draws our attention to an extremely important point.

16. Sample MA-1 dated to about 24.000 BP and Afontova Gora-II samples dated to about 17.000 BP.

17. Ust'-Ulma/Selemca culture (Tabarev, 2012, p. 332).

18. Ikhine-2, Verkhne-Troitskaya vs./Dyuktai culture (Coutouly, 2018, pp. 19-20).

19. Ogonki-5 (Coutouly, 2018, pp. 17-18).

20. Studenoe-2, Ust'-Menza-2.

21. Krasny Yar-1, about 23.000/22.000 years ago (Kuzmin, 2007, p. 120; Keates, 2007, p. 137).

22. Nizhni Ijir-1, Listvenka about 21.000/20.000 years ago (Vasil'ev, 2001, pp. 6-8; Graf, 2008, p. 161, Table 4.5).

23. Tolbor-4, 15, 16, ca. 19/18.000 years ago (Gladyshev, Tabarev & Olsen, 2010, p. 38-40).

24. Kaminnaya Cave, Dmitrievka, about 18.000 years ago (Derevianko, Volkov & Markin, 2009, pp. 38-41; Vasil'ev, 2001, p. 6; Vasil'ev et al., 2002, p. 522, Table 1).

25. For the examination and interpretation of 2 samples from the Wezmeh cave in Zagroslar and 3 from Tepe Abdül Hüseyin and their interpretation in the general landscape (Broushaki et al., 2016, p. 44, Supp.); For the examination of the Hotu Cave sample at the eastern end of the Southeast Caspian-Elbrus Mountains and the Ganges Dareh / Zagros samples (6 samples) and interpretation of their location in the current landscape, see (Lazaridis et al., 2016, pp. 69-70, Supp.); For the interpretation of the previously studied Iranian and Caucasian samples, and the two newly studied samples from the Caucasia-Dzudzuana cave, within the framework of the table that emerged during their research and calculations, see (Lazaridis et al., 2018, p. 7; 54, Supp., Table S4.3).

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