

The Stone Age of the Chukchi Peninsula

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**ASIA**  
**at the JUNCTURE**  
**with AMERICA**  
**in ANTIQUITY**

by  
N. N. Dikov

Russian Academy of Sciences (RAS), Department of History  
Far-Eastern Branch of RAS  
Northeastern Interdisciplinary Research Institute

Nauka  
St. Petersburg  
1993

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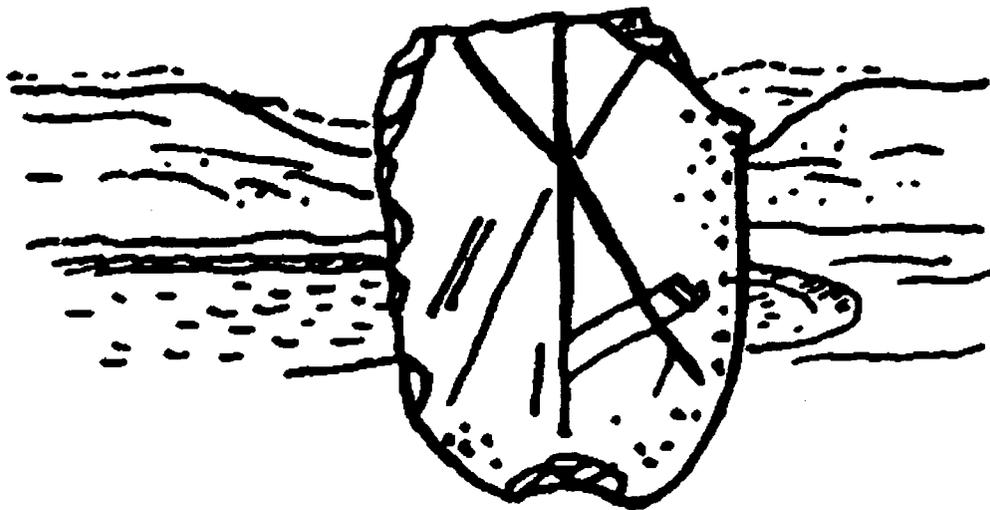


Image of a dwelling on a sandstone slab. Igel'khveem VII (139).

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Editing and production preparation - Thetus Herndon Smith



## **Translator's Introduction**

Everyone who reads this book will realize how unfortunate the passing of N. N. Dikov is for the study of prehistory in Northeast Asia and Northwest America. He devoted a great amount of time, energy, and knowledge to revealing the past in this region. Professor Dikov is probably best known for his excavations at the Ushki sites in Kamchatka. However, his work in Chukotka is no less important and will certainly be one of the major stepping stones in writing the prehistory of Beringia.

I would like to thank Bob Gerhard and Peter Richter for guidance and the Beringian Program for funding the printing of this translation. Also deserving a great deal of gratitude are the efforts of Katerina Solovjova Wessels for proofreading the translation and Frank Broderick for doing the graphics, all under severe time constraints. And last, but most certainly not least, Professor M. A. Dikova for granting the National Park Service permission to print the translation.

*R.L.B.*



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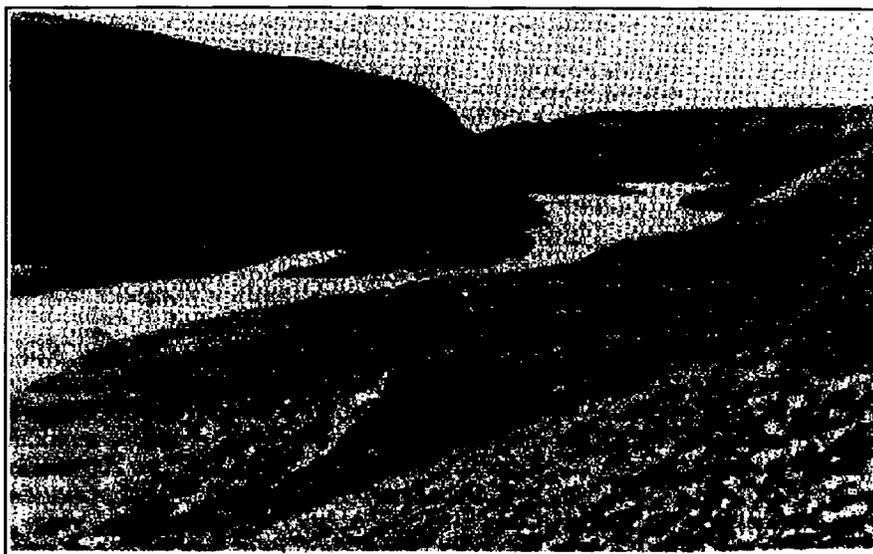


Figure 1. On the route through the mountainous part of the Chukchi Peninsula (Getlianen River, 1982).

## INTRODUCTION

The problem of the original settlement of America is complex and fascinating. Many scholars (both American and Soviet) have been occupied with it for a long time (from nearly the eighteenth century); and the results obtained are many, though up to now this problem has not been satisfactorily cleared up. Only one thing is clear: the American continent began to be settled from Northeast Asia from the land "bridge" joining them - ancient Beringia, which appeared periodically during the glacial periods. But no one knows very definitely when people first penetrated American territory. Yet not long ago it was considered, and such an opinion prevails, that this possibly occurred no earlier than 40,000 years ago, after the formation of reasoning humans (*Homo sapiens*), for probably only in this stage of human development were the necessary prerequisites attained (dwellings, warm clothing, and so on) that permitted passage through the severe Arctic zone along the route to America. The condition of archaeological research and an immeasurably critical attitude toward the presently well-known earliest archaeological sites both in North Asia and America limit this chronology even more - to approximately 25,000 years. A curious and quite essential detail is noted with this: the earliest cultures of America do not use bifacial manufacture of stone points of spears and darts (this specific and, for archaeologists, quite significant so-called bifacial manufacture appears in Northeast Asia for the first time only 17,000 years ago, and in America approximately 2,000 years later, such points being entirely absent in the earlier American sites). Thus, an important and quite timely aspect stands out in the problem. Leaving the establishment of the earliest date of human presence in America to the future, scholars now concentrate their attention on the appearance there of hunters with, by then, the most complete weapons and on the spread of this progressive technological tradition into America for which archaeologists have amassed sufficient archaeological material.

Another circumstance is quite interesting. Although the role of Beringia has long been recognized in the settlement of America, the search for the earliest sites has predominantly been carried out quite far from this juncture of the continents: in the territory of the distant United States of America (except Alaska), in the south of the Russian Far East, in Yakutia, in central, western, and northern Chukotka, or in Kamchatka. But not here, on the Chukchi Peninsula, at the very threshold of America - in a territory immediately adjacent to it, stretching out opposite it beyond the narrow Bering Strait. It was not until 1946 that S. I. Rudenko (1947) carried out surveys of Old Eskimo sites of the first to second millennium A.D. along the sea coast, and N. N. Dikov (1977, 1979), the author of this book, reconnoitered the Neolithic situation in 1957 in the intra-continental regions of the basin of the Amguema River, in the near approaches to the Chukchi Peninsula. It is amazing but true, no special archaeological investigation was undertaken in the intra-continental regions of the peninsula until 1979, though it is precisely this territory immediately across from America that is extremely important in determining the original settlement of the American continent.

Considering this circumstance, I returned to search for traces of the Stone Age on the eastern Chukchi Peninsula with the hope of finding the intermediate link between the early American cultures and the Paleolithic cultures of Kamchatka. Many years ago (beginning in 1961), I investigated traces of the Stone Age in the deposits of the Ushki multi-component sites. Not ceasing from this work - it was conducted in the fall in Kamchatka - each summer from 1979 through 1986, I made this systematic survey on the Chukchi Peninsula: in an all-terrain vehicle (ATV) (Fig. 1) I traveled along routes without any roads at all, along the valleys of the largest rivers of the peninsula - the Kurupka, Ioniveem, Getlianen, Marich, Chaatam'e, Kus'iuveem, and Kym'nyanonvyvaam (the last two rivers form the origin for the Uliuveem River, which falls into Koliuchin Bay of the Chukchi Sea) - and to the shores of lakes - Ioni, Koolen', Naurech'e, Chuvaigytkhyn, Achchen, and others. This work was generously repaid - on river terraces, on glaciofluvial hills, on the banks of numerous lakes, and in some cases even in the mountain passes - everywhere early sites of various ages were found, Paleolithic, Mesolithic, Neolithic, and later. The total number of sites is 170 (Fig. 2), many of which are quite interesting and informative. Among them distinctly Paleolithic sites were found (Ul'khum, Kurupka I, Chaatam'e, Kym'nyanonvyvaam VII, VIII, XIV, and others), as well as Mesolithic (for example, Itkhat I, II, III; Tkachen; Puturak; Chel'kun IV). This once again permitted presenting the stages of the early settlement of America and the initial, demonstrated role, in this regard, of the part of the Asian continent closest to it, extending somewhat into the boundaries of the Russian-American International Preserve recently formed here.

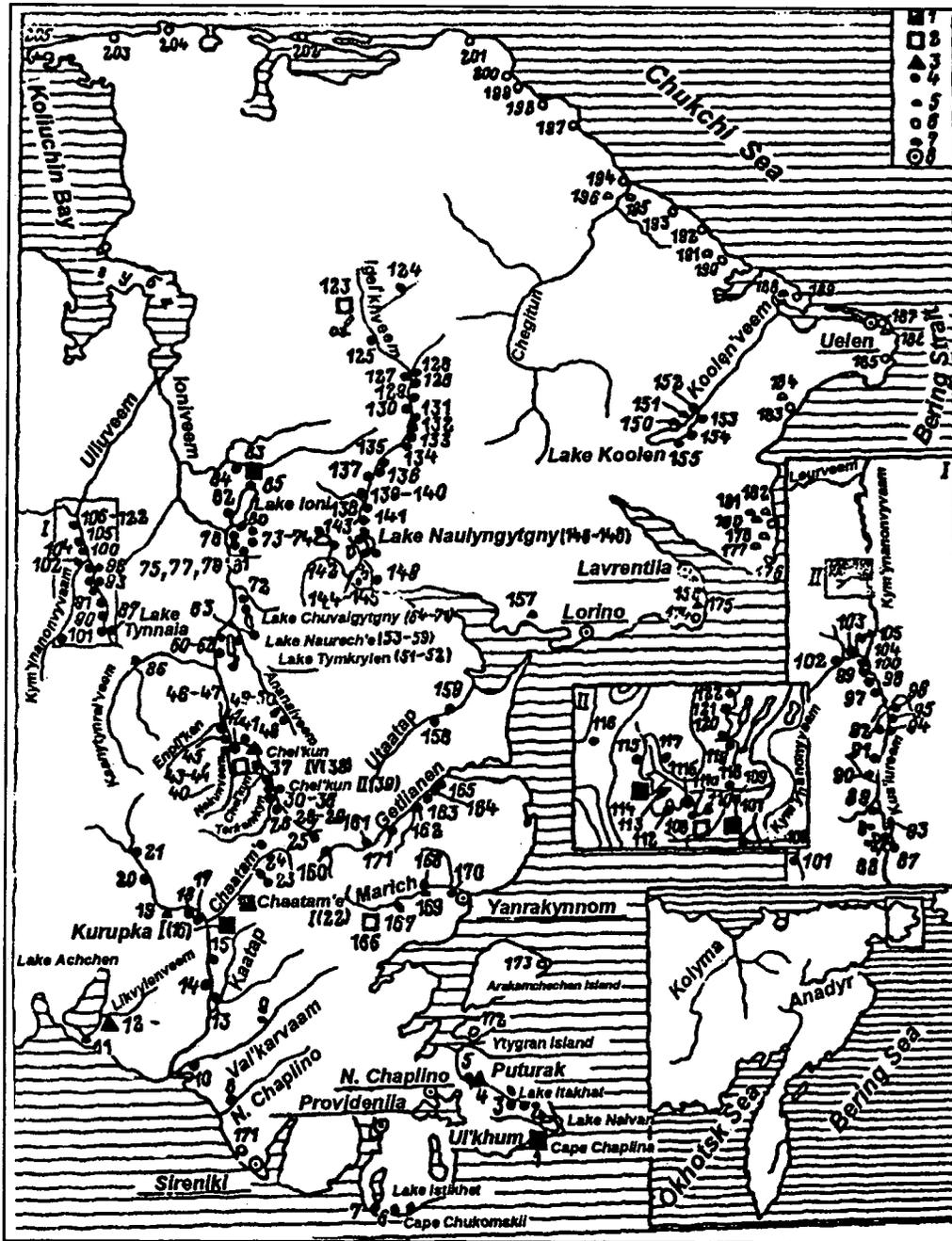


Figure 2. (Map). Sites investigated by the author in the eastern part of the Chukchi Peninsula.

The informational significance of the new sites discovered in the vicinity of America are all the more important in that they can be investigated now in the context of an intermediate link between the most recent discoveries in Paleolithic northern China and America. Thereby, archaeology of the Paleolithic of farthest Northeast Asia, it seems, begins to appear in a new higher level of development.

It is necessary, however, to keep in mind that in this book the reader will find a survey and summary of the materials of only the first, incompletely concluded, due to other circumstances, archaeological survey and partial excavations, which were conducted at accelerated tempos under conditions of severe time limits and almost always under abominable weather conditions in the heavily broken up mountainous part of the Chukchi Peninsula. The survey and excavations, of course, should be followed by more detailed multi-year field investigations.

It should be remembered, as well, that the survey was conducted with a predominate concern for Paleolithic sites, and some of them might actually be considered such. The Paleolithic association of other sites requires additional substantiation during future fieldwork. The search for the earliest and, consequently, in the first instance, traces of Paleolithic man on the peninsula - that was the sense and basic task of our Chukotsk Division of the Northeast Asian Interdisciplinary Archaeological Expedition SVKNII DVO AN.<sup>1</sup>

The entirely new archaeological material acquired during the course of our trip through the eastern part of the Chukchi Peninsula permits going beyond the limits of the basic question posed by the author and illuminating not only the Paleolithic past of the Chukchi Peninsula, but later cultures as well. However, this additional problem is still not resolved in a satisfactory manner. Meanwhile, regarding Neolithic development, only the most general, and in many respects not always sufficiently definite, outlines were discovered here. Nevertheless, I consider it expedient not to postpone introducing into the scientific literature this later and quite valuable material, inasmuch as it is the first of its kind, and absolutely unique for the territory of the Russian-American preserve. This material will later permit introducing the role of the preserve in the early cultural connections at the juncture of the two continents.

I hope this book will contribute to the knowledge of the historical past residing here and in the broader surrounding region of northern peoples: the Eskimos, Chukchi, Yukagir, Aleuts, Athapaskans, and other Indians, the distant ancestors of whom ultimately arrived from here. They have the right to their history, they expect it, and they should, finally, receive it.

Enjoying the pleasant possibility, I thank the most active participants of my expedition through the Chukchi Peninsula: I. D. Batsaev, V. I. Voropaev, V. I. Ushkalov, A. Alikov, and the self-sacrifice of the ATV drivers V. V. Petlevannyi, P. G. Kniazev, and N. G. Kozitskii. I extend cordial gratitude and thanks as well in the achievement of the graphic illustrations of this book by the artist L. N. Korshkova and photographs by S. I. Ivanova and T. I. Golubeva. Special and great are my thanks for the active help on the material by the security division and for the unswerving moral support of the remarkable polar expert and scholar, director of the Provedeniya Hydrobase Yu. M. Babaev and his successor in this duty, I. Ya. Koblenets, as well as the wonderful responsive people, workers of the garage of the most eastern polar hydrobase of this country.

And of course, the author remains in continual pleasant debt to the editor of the publishing house for conscientious and talented editorial work on this book, which is technically quite complex. Therefore, the sincere gratitude of the author goes to Antonina Fedorovna Varustina.

The author is cordially and deeply thankful also to Academician I. D. Koval'chenko and associate member of the Russian Academy of Science A. A. Sidorov.

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<sup>1</sup>SVKNII DVO AN = Severo-Vostochnoi kompleksnyi nauchno-issledovatel'skii institut, Dal'nevostochnoe otdelenie, Akademiia nauka [Northeastern Interdisciplinary Science-Research Institute, Far Eastern Division, Academy of Science]. - *Trans.*



## I. THE ROUTE AND RESULTS OF ARCHAEOLOGICAL EXPLORATIONS, 1979 Through 1986

The following presents suitably brief information about the basic archaeological route the author followed on the Chukchi Peninsula. Survey routes totaling a distance of several thousand kilometers traversed the intra-continental regions of the eastern part of the peninsula in absolutely roadless conditions. With the aid of a small ATV GAZ-71 and a rubber inflatable boat, the expedition spent eight seasons (July and August) intently investigating the valleys of the mountainous Kurupka, Ioniveem, Getlianen, Marich, Chaatam'e, Igel'khveem, Kus'iuveem, and Kym`ynanonvyvaam rivers, as well as the shores of the largest lakes: Ioni, Koolen', Chuvaitytkhyn, Naurech'e, Achchen, and others. The map (Fig. 2) shows the geographic positions of the 170 archaeological sites found at those locations. Each of them is noted by a distinct ordinal number corresponding to the number in the complete list (Appendix 2). The following text about each site is referenced in parentheses to its ordinal number on the map.

The material of this chapter follows the succession of field seasons from 1979 through 1986.

In 1979 the survey was conducted from the end of July to the beginning of August along the route from the Kurupka River to the source of the Ioniveem River and beyond to Lake Ioni. On the left bank of the Kurupka River near, where it enters the Chaatam'e River, on a 15-m-to-20-m glaciofluvial terrace, a Stone Age site was investigated - Kurupka I (16). The first materials from this site were found in 1978 by geologist G. I. Kazinskaia. Here an Upper Paleolithic bifacial complex of stone artifacts was found that consisted of wedge-shaped cores (some had a peculiar, quite archaic look in the form of flat slab-like flakes from the ends of which flaked knife-like microblades had been removed), leaf-shaped biface knives, coarsely worked scrapers, burins - all these of gray flint. At the same time, stone artifacts were found in the site (prismatic cores, finely retouched scrapers) of another material - of red and yellow flint, associated with a later complex, and fragments of gray, fired ceramics (Dikov 1980). On this same left bank of the Kurupka River, 10 km downstream near Izumrudnaia Mountain, on the right near the mouth of an unnamed stream<sup>2</sup> the Kurupka II site (15) was found, in the cultural layer of which were coarse thick ceramics and small triangular biface arrow points.

On the Ioniveem River and on lakes (Chuvaitytkhyn, Naurech'e, and Ioni)<sup>3</sup> in its valley were found 24 Neolithic sites. They almost all were in the surface layer of glaciofluvial terraces and were represented in large part by surface material. The earliest of them - Chel'kun IV (38), Chuvaitytkhyn I (64), II (65), and V (68), Naurech'e II (54), Ioni IB (74), and Ioni VII (86) - are characterized by industries of knife-like lamellae (blade-like flakes), flaked from prismatic and conical cores, and the lack of ceramics. At the Chuvaitytkhyn II site (65) were found a leaf-shaped arrow point and artifacts reminiscent of a wedge-shaped core, thus further investigation in the site may turn up a Paleolithic complex. At the Naurech'e V site (57), with carefully retouched biface arrow points (stemmed and elongate triangular with grooved base) and a few knife-like lamellae, fragments of thin-walled ceramics with "waffle" impressions were found. At the Ioni IA site (73), with a flattened prismatic core and massive scraper, fragments of clay vessels with stripe impressions in relief were found. And at the Ioni II site (75) a conical flattened core, knife-like lamellae, bifacially retouched stemmed, and rhomboid arrow points were combined with coarsely modeled thick-walled, gray ceramics, just as at the Kurupka II site (15). These two sites are probably Late Neolithic and chronologically close to the sites of Chel'kun I (37) (on the right bank of the Ioniveem River, just above the Chel'kun River), Naurech'e III (55) and VI (58), and Chuvaitytkhyn III (66) are without ceramics. The complex of artifacts found there was entirely without features of the knife-like lamellae industry, though triangular arrow points retouched on both sides were present.

The age is not clear for the Chel'kun II site (39), where on the surface of the 8-m terrace, coarsely made, triangular stemmed arrow points (close to the British Mountain type in America) were found and where with an abundance of flakes there were neither ceramics nor knife-like lamellae (Dikov 1980).

The reconnaissance investigations undertaken in 1979 revealed dense settlement during the Neolithic of the Ioniveem River valley, which up to that date was considered little settled or even entirely unsettled, since to the

<sup>2</sup>Dikov identifies this as Kanelenvaam Creek in Appendix 2. - *Trans.*

<sup>3</sup>Seven sites were found on Lake Ioni for the first time in 1977 by botanist A. E. Katenin (Dikov and Katenin 1980).

east of the Amguema River there allegedly was no pasturage for reindeer (Arutiunov and Sergeev 1975). The basis of life of the Neolithic population in the investigated region of the Chukchi Peninsula, besides reindeer hunting (there were excellent summer pastures on the watershed plateau), was lake fishing.

In 1980 investigations were oriented toward two primary areas - the Kurupka (Kurupkan) River valley and toward the shores of Lake Koolen'. In addition, small excavations of some burials were conducted near Lavrentiia village, where the crew based its helicopter flights to the Kurupka River and Lake Koolen'. Also in 1980 the investigation of the Paleolithic Kurupka I site (16) was continued, located on a 20-m glaciofluvial terrace of Zyriansk age on the left of the mouth of the Chaatam'e River where it entered into it [the Kurupka River - *Trans.*]. Among other stone artifacts, two wedge-shaped cores, knives, scrapers, flakes, and knife-like lamellae of light-gray siliceous slate were found. At a depth of 10 cm, connected with the find of a wedge-shaped core, a weakly carbonaceous fireplace lens was discovered. In the western part of the site, where Neolithic finds predominated, a test pit held some fragments of black smooth-walled ceramics. Up the Kurupka River were found four more Stone Age sites, predominantly Neolithic, with black smooth-walled ceramics, but one of them, Kurupka III (17), judging by the character of the flakes, may turn out to be Paleolithic with further investigation.

On the northeastern shore of large Lake Koolen', located 50 km from Cape Dezhnev, were found five Neolithic sites of various periods, predominantly Late Neolithic (second millennium B.C.) also with black, smooth-walled ceramics and various stone tools. In the excavation, placed in one of them (Koolen' III, 155), a stone hearth was found, as well as traces of a workshop for the production of knife-like lamellae around it. It should be noted that both the Kurupka sites and the Koolen' sites, sites of lake fishermen, have ceramics which differ from the so-called Ymyiakhtakh culture. Fragments of such smooth, black ceramics were also found in one of the burials, which was in a stone vault on a slope of the hill nearest the Koolen' sites. Similar, quite distinct burials of cremations containing ground slate and flaked flint tools were found for the first time for this intra-continental Neolithic culture of the Chukchi Peninsula. They join in being distinctive like the coastal burials (rectangular stone enclosure) and intra-continental ones (cremation). It is interesting that a shrine with bears' skulls turned out to be close by, as well as later burials of deer herders, on the top of another hill to the west, in oval enclosures (*paliakvyny*), the outlines of which resemble whales.

A site of Old Eskimo maritime culture in Yandogae was also investigated. New finds revealed the presence there of two layers: Old Bering Sea (beginning of the second millennium B.C.) and later. Survey in the territory of Nuniamo - of another deserted coastal settlement of the Eskimos on the shore of Bering Strait - led to the discovery of an early burial site. It was found on a high hill, to the right of the mouth of the Nuniamoveem River. In the burial opened here, noted from without by the intrusive wall under several layers of whale and walrus scapulas, were discovered, together with isolated bones of a human skeleton, a stone spear point, picks of walrus tusk, the handle of a *yarar* (drum), various other articles of walrus tusk, and among them a remarkably significant, in artistic execution, sculptural representation of two seals' heads joined in one whole, with graphite encrusted eyes and decorated with typical Punuk ornamentation, which has decisive significance for dating the whole complex.

In 1981 our Northeastern Asiatic Interdisciplinary Archaeological Expedition continued a survey in the central and southeastern parts of the Chukchi Peninsula along the following route: Provideniya - Kurupka River - Lake Achchen - Kurupka River (in the vicinity of the Kurupka I and II sites) and from there to the source of the Ioniveem River and farther down its valley to Lake Ioni, around it and back up along the Ioniveem River, and through Kurupka to Sireniki village and the settlement of Provideniya. Two Paleolithic sites were examined, and several Neolithic (?) camps<sup>4</sup> were discovered, about 30 Neolithic sites, and several later sites connected with the Eskimos and Chukchi.

In a site on the lower course of the Ul'khum River, which falls into Lake Naivan near Cape Chaplino, on the rubble surface of a 12-m-high glaciofluvial terrace and in the surficial mixed cultural layer 15 cm to 20 cm thick were found stone artifacts characteristic of the Beringian Paleolithic tradition: a bipolar core and an ordinary wedge-shaped core, fragments of bifacially worked knives and points, burins, scrapers, knife-like lamellae, and microblades of gray siliceous slate. A stemmed arrow point is analogous to similar artifacts of Paleolithic Layer VII of the Ushki sites in Kamchatka: with triangular blade, with a stem slightly concave on the sides, coarsely worked on both sides by pressure retouch. We noted also small pointed tools that had been sharpened on the working ends.

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<sup>4</sup>Russian archaeologists distinguish three different types of archaeological sites: *pamiatniki* and *stoianki*, both translated here as "site," and *mestonakhozhdenii* translated here as "camp" or "campsite." - *Trans.*

retouch. We noted also small pointed tools that had been sharpened on the working ends. In the site, judging by the presence in its surface material of wedge-shaped cores and a stemmed point, two different complexes are probably represented, consisting of Early and Late Uskhi Paleolithic cultures (Dikov 1985).

The second, possibly also Paleolithic, site - Ioni X (83) - was found on the northern side of Lake Ioni, in the intra-continental part of the Chukchi Peninsula, on the surface of the 25-m-to-30-m terrace. Flakes, microblades, scrapers, fragments of bifaces, burins of various kinds of stone, including some of gray slate, were found here, together with double ended cores. Presumably Ioniveem VII (45), on the 25-m terrace of the left bank of the Ioniveem River, where in the debitage of a stone-working area the end spall from a wedge-shaped core and a spall from its striking platform were found, can be considered a Paleolithic site, as well as campsites at the mouths of the Kaatap and Val'karvaam rivers (on 8-m-to-10-m and 12-m-to-15-m terraces).

The majority of new Neolithic sites were discovered on the shores of lakes Chuvaigytkhyn V-VIII (68-71), Naurech'e VII (59)-IX, and Tynnaia I-III (60-62) in the Ioniveem River valley. They were also discovered along the banks of this river (Ioniveem I (25)-IX [47]) below the Nekunveem River, on the tributaries of the Kurupka River - Slavutin (23), Uskhetveem - on the Siniveem River (8), as well as on Ioni Lake (Ioni VIII (81), IX (82), XII (85), and Achchen Lake (12) at the mouth of the Likvylenveem River.

In 1982 the expedition surveyed on the southeastern extremity of the Chukchi Peninsula in mountainous river valleys. The route started at the settlement of Provideniya and went to the Paleolithic Ul'khum site, discovered by us in 1981 near Cape Chaplino, and then again from the settlement of Provideniya through the village of Sireniki and the Kurupka River to the Getlianen River, and from there across the Marich River to the coastal Chukchi settlement of Yanrakynnot, then back across the Getlianen River to the Ioniveem River and again to the Kurupka River. The return trip to the base at the settlement of Provideniya went through mountain passes with difficult access (Fig. 2) in order to avoid transportation of the ATV by barge from the village of Siriniki across Provideniya Fjord. The route went through the sparsely settled intra-continental part of the Chukchi Peninsula, where only once, on the Kurupka River, a camp of nomadic Chukchi was encountered.

As a result, in the immediate vicinity of America, along with several Neolithic sites, a new Paleolithic camp of Chaatam'e I (22) was found; and investigations were continued at the Paleolithic sites of Ul'khum (1) and Kurupka I (16), as well as the Stone Age site of Chel'kun II (39a).

The new Paleolithic camp of Chaatam'e I (22) is located on the left bank of the Chaatam'e River, 5 km from its entrance into the Kurupka River from the left bank. Here on a rubble surface of the 50-m glaciofluvial terrace several stone artifacts and flakes of Late Paleolithic appearance were collected, including end cores of a rare variety of siliceous material - white opal-like quartz typical for the Late Paleolithic culture of Northern Asia.

In the Paleolithic site of Ul'khum (1), near Cape Chaplino, opposite the American island of St. Lawrence, additional collections of surface material were made that provided many new stone artifacts, including end cores, blanks and fragments of blanks, scrapers, and burins. In the excavation examined, in the surface cultural layer, a cluster of similar artifacts and flakes of gray flint - traces of a "workshop" - was revealed.

In the Paleolithic site of Kurupka I (16) additional material (scrapers and flakes) was also collected from the surface, and the excavation was expanded in the surface cultural layer upon finding the remains of a Paleolithic lithic workshop (flakes and blanks).

New finds were made at the Stone Age site of Chel'kun II (39A) on the 8-m-to-12-m terrace of Kargin'sk age where primitive stemmed points, which prompted us at one time to associate it by analogy with the Sedna Creek site of the British Mountain culture in Alaska to Paleolithic times (approximately 18,000 years or later). With reservation, it is true, since the Paleolithic age of the named Alaska site is as yet insufficiently convincingly substantiated by American archaeologists. Now we again found here the same primitive stemmed point (and primitive end scraper), as well as a small subprismatic core split in half.

A large number of regular knife-like lamellae (as in 1979) were found at this time at the Chel'kun IV site (38), associated, as was noted above, to the early Late Paleolithic culture of the Chukchi Peninsula. Among the other sites found in 1982 on the Chukchi Peninsula should be noted above all the Neolithic sites with knife-like lamellae and in one case with coarse smooth-walled ceramics (two on the Getlianen River, one on the Marich River, one on the Kurupka River, and three on the Ioniveem River, one of them on the Ioniveem River having knife-like lamellae similar to the Chel'kun IV site (38), and at another - Getlianen I - a Paleolithic wedge-shaped core was found), as well as later

sites - early Chukchi graves - *paliakvyny* (stone enclosures) - and Old Chukchi cultural layers on the Getlianen and Marich rivers.

In 1983 a long route of more than 1,000 km was traversed in an ATV from the settlement of Provideniya along the Marich, Getlianen, Utaatap, and Igel'khveem rivers, and back through Krasnaia Yaranga to the settlement of Provideniya. Of 93 newly discovered sites, perhaps only seven might turn out to be Paleolithic: both by their geomorphological position, and by the character of their stone artifacts - Marich I (166), Marich II (167a), Igel'khveem V (141), IX (137), XVI (131), XX (126), and XXII (123).

The Marich II site (167a), on the surface of a 25-m terrace of the right bank of the Marich River, contained leaf-shaped bifaces, blanks, and flakes of light-gray siliceous slate, among which a spall (ski-shaped) from the upper platform of a large wedge-shaped core was found. A ski-shaped spall from the wedge-shaped core of smaller dimension was found also at Igel'khveem V site (141) on the surface of a 20-m glaciofluvial terrace of the left bank of the Igel'khveem River together with fragments of knife-like lamellae, a side burin on one of them, and a skreblo [a large crude scraper - *Trans.*] of light-gray siliceous slate.

One more, similar to a ski-shaped spall from a wedge-shaped core, as well as middle burins, scrapers, and one microblade, were also found at the Igel'khveem XXII site (123) on the surface of the cultural layer at an elevation of 10 m to 12 m among numerous flakes of reddish-brown siliceous slate. This site is located near a stream entering a large lake (on the right bank of the upper course of the Igel'khveem River). With less exactness a Paleolithic association can be suggested for the Igel'khveem IX site (137) with an axe-shaped artifact and two archaic flint flakes in a trench on the 8-m-to-9-m terrace, as well as the Igel'khveem XVI site (131), where in trenches on the 8-m-to-9-m terrace abundant finds of knife blanks and skreblos of dark-gray siliceous slate were encountered. Finally, there is a very intriguing find in the form of a stemmed biface point, similar to those in the seventh Paleolithic layer at the Ushki site in Kamchatka. This point was found on the surface of a high (20-m-to-25-m) glaciofluvial terrace in the upper reaches of the Igel'khveem River - Igel'khveem XX (126).

The remaining sites are clearly Neolithic. The most significant of them are: Marich III (167b); Utaatap I (158); Utaatap II (159) - with miniature truncated leaf-shaped arrow points; Getlianen I (162) - two more prismatic cores and core-like burins were found there; three sites on Lake Naulyngytgyn in the lower reaches of the Igel'khveem River - Naulyngytgyn I (146), II (147), III (148) - with flakes, knife-like lamellae and core-like tools of yellow flint; Igel'khveem VIII (138); XV (130); XXVII (149); and the site of Igel'khveem XIV (132) - on the point of a 10-m terrace at the mouth of the Linkyl'khveem River, where, on the surface layer together with a fragment of a curved biface flint knife, many fragments of coarsely modeled and badly fired, gray, thin-walled ceramics with weak, furrowed-lined impressions on the surface (evidently from round-bottomed vessels) were found. Thus, as a result of investigations, conducted by the division in 1983, valuable new archaeological materials were obtained, regarding both the problem of the original population of Chukotka in the Paleolithic, as well as the problem of the development of the Neolithic culture there.

In 1984 investigations were carried out primarily in the center of the Chukchi Peninsula, in the middle part of the Uliuveem lowland (along the Kus'iuveem and Kym`nyanonvyvaam rivers) and, to a lesser degree, along the route to it from the settlement of Provideniya - on the Getlianen, Ananaiveem, and Ioniveem Rivers, as well as on Lake Tymkrylen. Considering that we had investigated the region close to the settlement of Provideniya in previous seasons, we were able to cover it rapidly, and only on the Getlianen River were we delayed a day for investigations of the Neolithic Getlianen I site (162). From the upper course of the Getlianen the survey team crossed over to the valley of the Ioniveem, where it spent some time at a Neolithic site we had investigated earlier at the mouth of the Terkemkyn River (26). The route continued farther along the Ananaiveem River - in its middle course a new Neolithic site was found (48) - toward Lake Naurech'e, from where, thoroughly refueled with gas at the intermediate *sovkhos* [collective farm - *Trans.*] base, the detachment went to the first locations along the primary route of investigation in an area with an archaeological "white blot," that is, toward the Kus'iuveem and Kym`nyanonvyvaam rivers, all the way up to the confluence of the latter with the Leurvaam River, where the Uliuveem River begins, which empties into Koliuchin Bay. And in this last area, the team found large numbers (about 40) of new Stone Age camps, including some Paleolithic ones. The earliest are probably the sites of Kus'iuveem IV (90) and VI (92) with coarsely worked skreblo- and axe-like tools in the surface layer of the left-bank terrace of the Kus'iuveem River and the sites of Kym`nyanonvyvaam IX (109), XII (112), XIII (113) with even more clearly expressed axe-like tools on the same high left-bank terrace of the

river of the same name, on a point along the canyon, through which passes Verblud Creek. In its bed the geologist Nov in 1983 found a significant deposit of pretty, but flimsy, jasper-like flint. Numerous fragments of this material (some of them bear traces of human use) were seen everywhere on the upper reaches of the stream at the edges of the ice. Traces of use of this raw material are present as well at sites (Kym`ynanonvyvaam VII [107] - XXI [121-122]) around the stream, one of them - Kym`ynanonvyvaam XVI (116) which is located above the source of the stream in the pass, - being the largest and represented by the usual Late Neolithic finds in the sub-sod cultural layer (at a depth to 0.5 m). The most reliable of the most archaic artifacts of all these sites is an axe-shaped object from Kym`ynanonvyvaam XIII camp (113) with traces of use in the form of a striking instrument (defined by N. A. Kononenko).

The campsites of Kym`ynanonvyvaam VII (107) and XIV (114) with wedge-shaped cores and bifaces, as well as the Kym`ynanonvyvaam VIII site (108) with an archaic end core on a flake of red flint, a scraper, a burin, and knife-like lamellae, being compared with cultural Layer VI of the Ushki I site in Kamchatka, are late Sartan Upper Paleolithic. They are associated with the same left-bank terrace. On the small-rubble terrace of the Kus`iueem X site (100), which is located on a high point at the confluence of the Kus`iueem and Kym`ynanonvyvaam rivers, flint flakes and a blank of a wedge-shaped core with spalls taken from two ends were collected.

The Kus`iueem XI (95) - XIII (94) sites can more probably be considered Late Paleolithic than Neolithic. They were arranged along the right bank terrace opposite and somewhat below the Kus`iueem VI site (92). The coarse flint flakes and blanks collected on the small-rubble surface are technologically very similar to those found at the Upper Paleolithic Ul`khum site (1).

Most interesting are the Neolithic Kus`iueem XIV (93) and Kym`ynanonvyvaam V (105), IX (109), XI (111), XVI (116), and XVIII (118) sites on the terraces of the right bank of the Kus`iueem River and the left bank of the Kym`ynanonvyvaam River. In the last two sites - XVI (116) and XVIII (118) - in the surface cultural layer a polyhedral burin, scrapers, and points of Late Neolithic appearance were found.

Two Late Neolithic sites - Tymkrylen I (51) and II (52) - were found on Lake Tymkrylen in the valley of the Ioniveem River and one - Mesolithic or Early Neolithic (48) - on its main tributary, the Ananaiveem. Additional material was collected at the Neolithic Getlianen I site (162) where a charcoal sample was taken from a hearth for carbon determination of age. One was also taken at the Chel`kun II site (30a).

In 1985 investigations were concentrated in the southeastern part of the Chukchi Peninsula in an area between the settlement of Provideniya and Cape Chaplino. Four new intra-continental sites of early Late Paleolithic times - Puturak (4), Tkachen (5), and Itkhat I and II (3) - and two of coastal Old Eskimo of the Puduk period - Karpovka I and II (6) - were found there. In addition, limited excavations were conducted at the Old Eskimo settlement found in 1946 by S. I. Rudenko on the shore of Lake Istikhet (7) (Rudenko 1947).

At the sites in the upper reaches of the Itkhat River, on the south bank of the upper lake - Itkhat I (3) - and near the eastern end of the lower lake - Itkhat II (2), through which this river passes, early Mesolithic surface material was found on the rubble surface of points of the 10-m-to-20-m terrace: numerous knife-like lamellae, leaf-shaped bifaces, and ski-shaped spalls. While at the Tkachen site (5) on the surface of a hill (on the route from Tkachen valley to Puturak Pass and 4 km from it) less significant flakes and articles of siliceous slate, also generally of Late Paleolithic appearance, were found. Finally, at the Paleolithic campsite of Ul`khum (1) limited excavations were conducted that revealed a Neolithic cultural layer with prismatic cores and two cultural layers with Late Paleolithic remains and with artifacts of late maritime culture on the northeastern slope of Ul`khum Hill.

The richest find, and probably equivalent to the latest Paleolithic, was the Stone Age workshop site at Puturak Pass (4) in the watershed between the basins of the Tkachen and Itkhat Rivers. It is situated on a flat and broad (about 100 m across) small-rubble area on the top of a hill that rises 10 to 20 meters between the sources of the two named stream basins. Here surface material in the form of the abundant debitage of a lithic workshop was collected, in which lamellar flakes of very flimsy, light-gray hornfels-like slate predominated, as well as various tools on similar lamellar flakes and large knife-like lamellae. In the first excavation a cultural layer 40 cm to 60 cm deep with the remains of a rounded, slightly charred humic area was found. A large part of the finds was concentrated within the borders of the latter, around a fire pit. Among the finds were about 10 large subprismatic and conical cores and tools on lamellae: gravers, scrapers, knives, and others.

In 1986, excavations of the Puturak camp were continued. As a result, after taking the cultural layer apart in excavation (8 m<sup>2</sup>), which adjoined the excavation of 1985, the continuation of a charred living area in the base of

other artifacts; and 3) the lower, Late Paleolithic with boat-like cores.

Finally, also in 1986 were continued collections of the abundant surface material (artifacts of a lamellar industry) in the Late Paleolithic or early Mesolithic sites of Itkhat IA and B (3) and Itkhat II (3), and also, close to them in time or perhaps earlier, the new campsites of Itkhat IC, ID, IE (3) were found at a higher level of elevation, overlooking upper Lake Itkhat.

The chief results of all the archaeological surveys conducted on the Chukchi Peninsula from 1979 through 1986 are archaeological sources that are not only entirely new in themselves, but also the experience of finding and distinguishing them under the distinctive geomorphological conditions of the mountainous eastern part of the Chukchi Peninsula, which we gained during this time and which undoubtedly will promote the effectiveness of subsequent archaeological fieldwork in this region. In all the stages of the surveys we strove to use geological data of the Quaternary deposits. But they had very little systematic form in the interior regions of the Chukchi Peninsula, and I was able to prompt the senior geologist of Eastern Chukotka Geological Survey expedition, Yu. V. Kriukov, to summarize them. I had reported to him the necessary information about the first archaeological sites that I discovered and investigated on the Chukchi Peninsula, along with the fact that with a study of them in geomorphological and stratigraphic connection it might be possible to set out the strategy of further investigations. However, the summary article I requested of Yu. V. Kriukov (Kriukov 1985) was written and published when my surveys had already approached the end. The value of this work of Yu. V. Kriukov is very great. I used in part his observations and summaries in sections of this book dedicated to a detailed characterization of new archaeological sources that are introduced into scientific circulation for the first time.

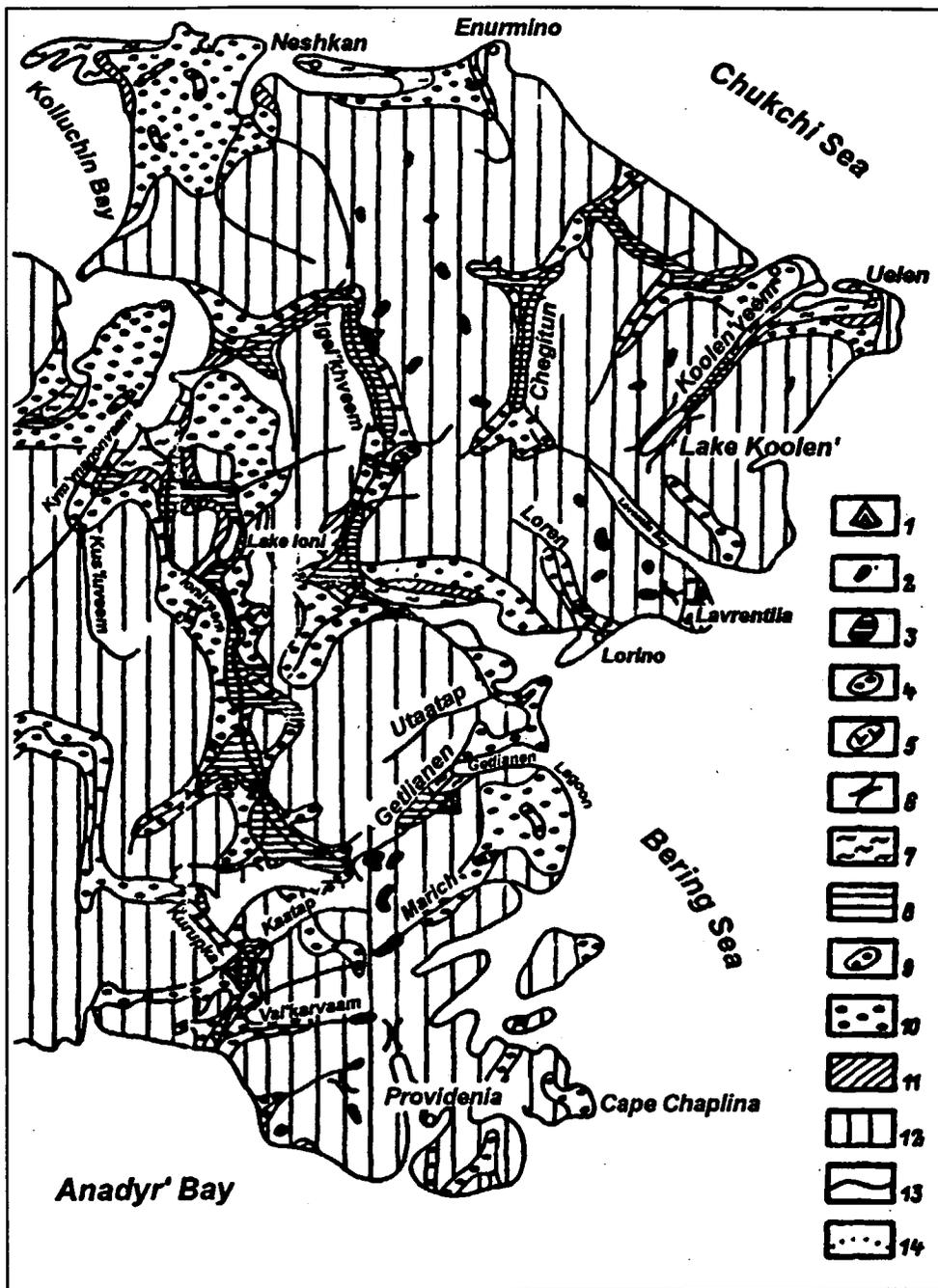


Figure 3. Scheme of the distribution of late Pleistocene and Holocene deposits in the eastern part of the Chukchi Peninsula (according to Yu. V. Kriukov).

- 1 -- Holocene, cones and strings of rock that have come to the surface
- 2-5 -- deposits of the Sartan glacial epoch: 2 -- glacial; 3 -- alluvial; 4 -- lake; 5 -- swamp
- 6 -- trogi
- 7-8 -- deposits of the Karginik interglacial epoch: 7 -- maritime; 8 -- alluvial
- 9-10 -- deposits of the Zyriansk glacial epoch: 9 -- glacial; 10 -- glaciofluvial
- 11 -- maritime deposits of the Kazantsev interglacial epoch
- 12 -- pre-Upper Pleistocene formations
- 13-14 -- geological boundaries: 13 -- between deposits of different ages;
- 14 -- between facial varieties of on age.

## II. NEW ARCHAEOLOGICAL SOURCES

New archaeological sources are examined in detail in three chapters of this section. The first concerns Paleolithic sites, the second - Mesolithic, and the third - Neolithic and later. Within the limits of each chapter the description of the sites yields their geographic succession as far as possible, which accounts, with rare exception, for their numeration on the map (Fig. 2) and in the list of sites (Appendix 2). This number is in parentheses following the name of each site. Detailed description of the various artifacts found in the early campsites is supplied by specific reference to their illustrations in tables 1-109 at the end of the book (Appendix 1).

Thus, we begin the characterization of the sources with the earliest, the Paleolithic.

### 1. Paleolithic Sites

The Ul'khum site (1) - was found by us in 1981 on a rainy fall evening in blustery wind from the sea and in whipping rain with snow, on the regular ATV route. As a vague silhouette, a hill suddenly emerged before us and at once attracted attention. It turned out to be very alluring archaeologically. We drove up onto it and, bending to the ground, threw ourselves into examining its surface. And there we were immediately rewarded: the first stone flake I picked up was archaic and inspiring. The next morning we began to search and examine the location carefully, then followed the routine of the general surveys on the Chukchi Peninsula, which had occurred for several days each field season in 1982, 1985, and 1986. Both the necessity and long-term prospect of excavations of the site, as well as the stratigraphic study, became all the more evident. Thus, it would be necessary to devote significantly more time and means than we then had at our disposal.

The site is located on a pointed knoll of 12-m-to-20-m glaciofluvial terrace on the right bank of the Ul'khum River, which empties into large Lake Naivan two kilometers below. The lake is separated on the south side from the sea (from which it is only 3 km to the site) by a narrow and long (10 km) gravel-spit bridge, and immediately beyond which (at the end of the spit) is famous Cape Chaplino, the farthest southeastern extremity of the Chukchi Peninsula (Fig. 2). In clear weather from here, from the site, mountainous St. Lawrence Island (USA) can be seen as a blue spot on the horizon. This site is the closest to America, as well as possibly the earliest Paleolithic camp on the Asian side of Beringia and the place from which the American continent was settled in the Paleolithic. Stretching along the river at the mouth of a stream Ul'khum Hill, low (as much as 20 m high) and oblong (200 m x 80 m), has a flattened top and a broad (25 m-to-35 m) slanted point on the slope on the side toward the river (Fig. 4).

In general, traces of Paleolithic settlement were noted here principally in the form of so-called surface material - flakes and various objects predominantly of siliceous tuff - in rubble on the top of a hill without any vegetation. Light gray from many thousands of years of patina, they can scarcely be distinguished in the gray rubble of the hill. Only a dim, scarcely noticeable luster of fragments of some of them gives away their presence to the skillful sweep of the archaeologist's eye. They were found on the top of the hill and in the compact surface layer (in the small excavation and four tests pits) of rubble intermixed with sandy loam, to a depth of 20 cm to 40 cm (Fig. 5).

Below, along the northeastern slope, which is oriented toward the river, on a gently sloping area of its terrace-like point, we found in three shallow sod-covered depressions (in one of them we dug an excavation, in another - a trench, and in a third - a test pit) at an even deeper (60 cm to 80 cm) and less rubbly cultural layer with Paleolithic and later horizons. It is notable that at this low level of the hill there were no surface finds distinguishable from those on top where the cultural layer had been buffeted on all sides, and especially from the sea, for thousands of years. Here below, all the early cultural remains were covered by slope and diluvial deposits.

In the trench (No. 2) and the test pit (No. 4) on the gently sloping part of the northeast side (Fig. 4), Neolithic finds were made which will be discussed later - pp. \*. In the excavation (3 m x 6 m) here, under a layer of late Stone Age mortuary stone work (with coarse thick-walled ceramics and an artifact of walrus tusk), two horizons with artifacts of Paleolithic appearance (Fig. 6) were found.

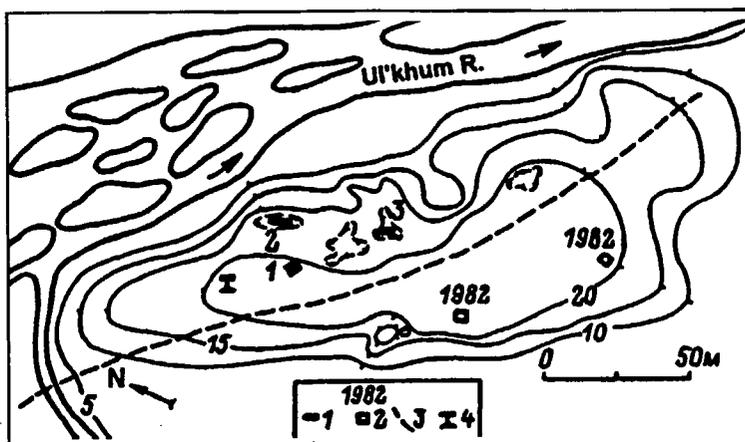


Figure 4. Plan of the Ul'khum site (1), 1982.

1 - Trench and pits; 2 - test pit; 3 - road; 4 - bench mark.



Figure 5. Excavations at the Ul'khum site (1), 1982.

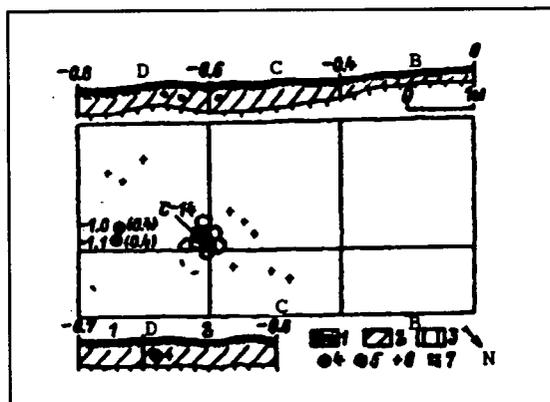


Figure 6. Plan and profile of excavation on the lower Ul'khum site (1), 1986 (lower layer).

In the upper horizon at a depth of 40 cm were two hearths, each with a semicircular facing of stone (the charcoal from them was unfortunately lost in the radiocarbon laboratory MAG). At the level of the hearths 101 flakes and one microblade (Plate 1:4)<sup>5</sup> of gray, siliceous tuffite and brown, siliceous slate were found, as well as the following artifacts: a boat-shaped core of brown siliceous tuffite (Plate 1:2), a prismatic single-platform core of light-gray, siliceous slate (Plate 1:8), a blank of a core (possibly wedge-shaped) of brown siliceous tuffite (Plate 1:1), a blank of a scraper in the form of a spall from a prismatic core of gray, siliceous slate (Plate 1:9), a blank possibly of a stemmed arrow point (Plate 1:9), a fragment of a unifacial lamellar artifact (point?) of gray, siliceous tuffite (Plate 1:3), and skreblos on a cobble spall (Plate 1:13) and on a large flake (Plate 1:6) of the same tuffite.

Especially notable is the curiously shaped object found here of dark-gray andesite in the form of a slightly modified cobble spall, reminiscent of a trimmed down representation of a mammoth (Plate 1:14). It was executed in a very generalized but concise way: on the side with cobble cortex the animal's trunk was delineated from the body by the removal from below of two micro-flakes, while the plain surface of the split [side without cortex - *Trans.*] was worked from below, producing a series of negative bulbs, successfully imitating the long, hanging wool of a mammoth. Despite the brevity of this figure, it is a quite significant specimen of Native art.

In the lower horizon of the excavation at a depth of 70 cm to 80 cm (to permafrost) in brown, sandy loam, two cobble fragments of brown, siliceous tuffite were found, one of them resembling a chopper with lightly worked edges (Plate 2:2); nine flakes, of which five are lamellar (Plate 2:6-7, 9); two microblades (Plate 2:4-5); two artifacts resembling graters (Plate 2:8, 11); a worked amorphous core (Plate 2:10); and a quite characteristic, pointed, in some way axe-shaped artifact (Plate 2:1) (encountered also, as we will see below, in the surface material) - all of the same brown hornfels-like tuffite.

It is quite evident that this excavation (unfortunately made only to permafrost in 1986) has extraordinary prospects for further excavations. The stratigraphy here should be clarified. New cultural complexes may be discovered or, in any case, that already found in the two above-named levels should be completed and dated.

We conducted another excavation (13.5 m<sup>2</sup>) as early as 1981-1982 on the top of Ul'khum Hill, between the southwest slope and the road, approximately in the middle of the richest surface finds of the area (length to 50 m, width to 20 m), where the artifacts encountered were exclusively archaic in their appearance (later Neolithic finds - an isolated fragment of a thick-walled clay vessel and a prismatic core (Plate 7:4) were found far from here, on the opposite, eastern side of the hill). On both sides of the excavation quite remarkable things were found: on the west side - a biface, stemmed point of gray siliceous slate, and on the east - a cluster (20 cm across) of tiny flint flakes (about 100 pieces), attesting to the secondary work (retouch) of stone artifacts being produced in this place.

From within this excavation (Fig. 7) of dense sandy loam thickly mixed with rubble, 539 flakes were extracted, including lamellae (36 large, 210 medium, 257 small) and 21 microblades of gray, siliceous slate, tuffite, and chalcedony (only one specimen), as well as the following things made of these same materials: a large and a smaller ski-shaped spall from the platform of wedge-shaped cores (Plate 4:12), a blank of an oblong ("Gobi") wedge-shaped core (Plate 3:1), two conical fragments of multi-platformed cores (Plate 4:5-6), a large core-like blank of a spokeshave (Plate 4:3), two skreblo blanks (Plate 3:3), a scraper on a flake thinly retouched along the convex edge (Plate 5:13), small rounded scrapers in the form of flakes slightly retouched along the edge (Plate 3:11; 5:18), blade-like flakes retouched along the edges (Plate 5:8-9, 11-12), five burins - middle (Plate 3:4) and side (Plate 3:2, 5; 5:4, 6-7), a fragment of a bifacial, probably leaf-shaped, point, and two blanks of quite primitive stemmed points, possible prototypes of the common bifacial, stemmed points known in the early Ushki Paleolithic culture (Plate 5:1-2).

The largest quantity of remains of the worked-stone industry is represented in the site by the surface material, collected, as has already been indicated above, on the flat crest of Ul'khum Hill and concentrated in a large area predominantly around the excavation (Fig. 4). Numerous flakes were collected here, 1,024 specimens in all (294 large, 423 medium, and 307 small), knife-like lamellae (21 specimens), and microblades (3

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<sup>5</sup>For all plates, see Appendix 1.

specimens), as well as a variety of other items. They all are predominantly of dark-gray, siliceous tuffite (light on the outside owing to intensive patinization), as well as gray, siliceous slate and in some instances jasper.

Among the prepared artifacts and other objects collected here (78 specimens in all) are represented cobble cores (2 specimens), as well as wedge-shaped (3), end (1), biface projectile points (2), knives (9), scrapers (34), burins (12), gravers (6 specimens), and some other categories of tools. By their typological characters they generally correspond to the complexes of artifacts of the upper and lower Paleolithic horizons in the excavation on the northeast slope of Ul'khum Hill. Thus, in the surface material were found not only a ski-shaped spall from a wedge-shaped core (Plate 7:4), but the wedge-shaped cores themselves (3 specimens), which are of various types: high and narrow with retouched "wedge" (Plate 6:1); more massive with slightly retouched crest, broad striking platform, and the "wedge" trimmed from below by the removal of two transverse spalls (Plate 6:5); similar but with percussion flaked upper part and the "wedge" retouched from below (Plate 7:1); an end core on a flake with retouched platform (Plate 6:2); a blank of an ordinary high and narrow core (Plate 6:8); and a blank of an elongate ("Gobi" type) core (7:1). There were also fragments of the end parts of wedge-shaped cores (Plate 6:3, 9; 7:3).

The microblades that correspond to these cores should be noted here, as well as the lamellar flakes with and without retouch along the edges.

For a characterization of the primary stoneworking, two cobble cores (Plate 9:4-5) are also important in the number of surface finds; and probably connected by their technology are distinctive pointed axe-like, skreblo-like/punch/cutting tools (Plate 9:1-3), one of which (Plate 9:2) is quite similar to the above-noted axe-like artifact from the lower horizon in the excavation in the lower Ul'khum site (Plate 2:1). The characteristic feature of these basically biface instruments is their transverse asymmetry: the flatness of one side, usually formed by the removal of flakes, and the convexity of the opposite side, always completely covered by facets of continuous flaking and retouch. Bifacial technology was especially clearly shown in the preparation of the points and knives. There are two points here: one of gray, siliceous slate, with subtriangular blade and rectangular, slightly concave on the sides of the stem, carefully retouched on both sides by fine flattening retouch, and similar to points of the 7th Paleolithic level of the Ushki I site in Kamchatka (Plate 10:1); the second has only the pointed end of the same kind of blade preserved (Plate 10:2). It should be remembered that in the upper excavation only a fragment of a biface point or knife (Plate 5:5) was found. Here in the same place two more leaf-shaped biface knives (Plate 10:7, 9) and seven large fragments of similar knives (Plate 10:3-6, 8, 10-11) were encountered. It should be recognized that their bifacial work is rather coarse and careless, that it was caused in significant measure by the inferiority of the material itself - hornfels-like tuffite.

Only one patinized artifact on a flake of tuffite (Plate 11:4) can be assigned with confidence to the class of primitive, stemmed points of coarsely trimmed flakes, similar to those found in the upper Ul'khum excavation (Plate 5:1-2). The second is only a blank of a similar point (Plate 11:3). It was coarsely struck from both sides and is still insufficiently sharpened on the end for use as a projectile point.

The category of burins and gravers is quite imposing in the Ul'khum surface material, 10 of which definitely have burin scars and are assigned to the middle burin (Plate 12:2, 5-7) and side burin (Plate 11:1, 7-8; 12:2, 8-9, 12, 17) varieties. The remaining are similar in appearance to burins but do not have special burin scars (Plate 11:2; 12:1, 3, 13-16). Ordinary gravers were also found (Plate 11:6, 9-10, 12-13; 12:4). Only one of the burins and gravers was made of gray, siliceous slate (Plate 12:5); the remaining were of silicified tuff.

Among the possible burins was one quite distinctive fragment of some kind of tool of unknown use, with two projections, one of which might have served for cutting (Plate 11:5).

Finally, about scrapers. They are almost all of silicified tuff, strongly patinized, except two (Plate 7:7;

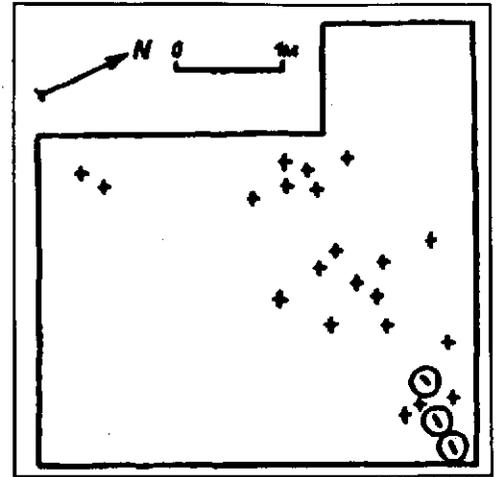


Figure 7. Plan of excavation on the upper Ul'khum site (1), 1986.

14), and made of dark-gray, siliceous slate. Among them are six-end scrapers on lamellar flakes (Plate 7:5; 13:1, 8, 9), three subtriangular end scrapers (Plate 7:13; 13:18), four end scrapers on large flakes of drawn out form (Plate 7:6; 13:8), three trapezoidal end scrapers (Plate 7:10-12), two discoid scrapers (Plate 13:7, 11), five side scrapers on flakes (Plate 13:5-6, 10, 13, 17), one segment-like scraper (Plate 13:2), and 10 atypical scrapers on flakes (Plate 7:7, 13:3-4, 12, 15, 17 and others).

On the whole, in appraising the picture of the distribution of surface material on the top of Ul'khum Hill, it should be recognized that it is almost exclusively Paleolithic. Additional testing (Test Pits 5, 6, 7 - see Fig. 6) showed that, though found primarily in a blowout, this broken up Paleolithic layer can be traced to a depth of 20 cm to 30 cm, and in places even deeper (as in Test Pit No. 5) in the compact rubble with sandy loam. Sometimes quite interesting details of the cultural layer had been revealed and preserved on the surface, for example, a small group of tiny flint flakes close to the upper excavation (on its east side), or such unique artifacts as a stemmed point on the other side of the excavation, within the limits of which the cultural layer turned out to be quite saturated [with artifacts - *Trans.*].

The combination in the Ul'khum surface cultural layer of artifacts characteristic of two different Paleolithic cultures of the Far Northeast (wedge-shaped cores and leaf-shaped points, on the one hand, and a stemmed point with subprismatic cores, on the other) make it possible to suppose the superposition in the upper site of the remains of at least two non-contemporary Paleolithic cultures similar to early Ushki and late Ushki cultures of Levels VI and VII of the Ushki I and V sites in Kamchatka.

At the same time, owing to the presence of the stemmed point of a clearly Ushki Paleolithic type, the Ul'khum mixed Paleolithic complex from the upper area of Ul'khum Hill is on the whole closer in its appearance to the Kamchatka late Paleolithic of approximately 14,000 to 15,000 years ago, than to the Diuktai in Yakutia, where stemmed points in Paleolithic sites are completely absent.

Kurupka I (16). This mixed site contains a definitely Paleolithic complex, which is the prototype for the study of the Paleolithic of the Chukchi Peninsula. It was found in 1978 by geologist G. I. Kazinskaia, who collected surface material there again in 1981 (Dikov and Kazinskaia 1980). I examined it in 1979, 1980, and 1992 (Dikov 1980, 1991).

The site is located on the left bank of the Kurupka River approximately 50 km from the mouth, at the entrance of the Chaatam'e River (Fig. 8). The Kurupka is one of the largest rivers of the Chukchi Peninsula. The valley of this river is continuous pasture for deer. There are many hares and ptarmigans here, and wolves and bears come here. At 10 km above the sites is a spawning ground. Shrubs grow in the broad floodlands (Fig. 9a).

Traces of early human activity were found for a distance of 200 m in a strip 20 m to 50 m wide on the brow of an 80-m terrace. The stratigraphy of the Quaternary deposits of this region are still not worked out and the age of the terrace is tentatively accepted as being marine in origin. The edge of the terrace, 15 m to 20 m high, is stepped and sod-covered. The surface of the terrace is flat, devoid of vegetation, and on the edge has occasional small knolls. The deposits are represented by homogeneous cobble-gravel material with yellow-gray, sandy loam to a depth of two meters. The cultural layer is probably dispersed. On the surface of the terrace within the boundaries of the site there are no cobbles or hearth stones, but numerous flakes were found. The maximum area of their concentration is recorded in a sketch (see Fig. 9).

In 1979 a profile was made of the stratigraphic exposure of the terrace in a geological test probe in the western part of the site. Palynological samples for determinations were taken from the different levels - from the sod, from the gray soil layer with a small number of coarsely rounded gravels (15 cm to 25 cm thick), and from the grayish-yellow, sandy loam with a wealth of coarsely rounded gravels, transforming below into a heavier and unsorted cobble-gravel aggregate. They were turned over for examination to A. V. Lozhkin, but, unfortunately, they were lost. At the same time three test pits were dug in the site (Fig. 9b).

In Test Pit No. 1 (2 m x 1 m), on the western edge of the site, in the sub-sod layer at a depth of approximately 10 cm, 10 fragments of coarse, flat-walled ceramics and 15 pieces of red, siliceous slate were encountered, while deeper (at a depth of 15 cm) there were a few very small pieces of charcoal from an ancient hearth.

Test Pit No. 2 (2 m x 2 m) was placed where a wedge-shaped core had been found on the surface in the central part of the site. In its grayish-yellow, sandy loam with coarsely rounded gravels, only six small flakes of gray, siliceous slate were found close to a burned, weakly carbonaceous stain at a depth of about 25 cm.

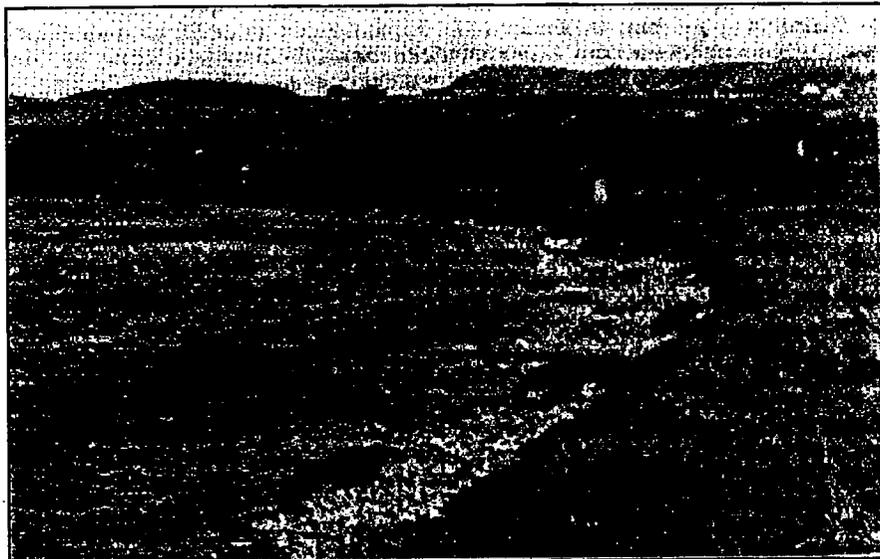


Figure 8. View of the Paleolithic Kurupka I site (on the high bank of the river).

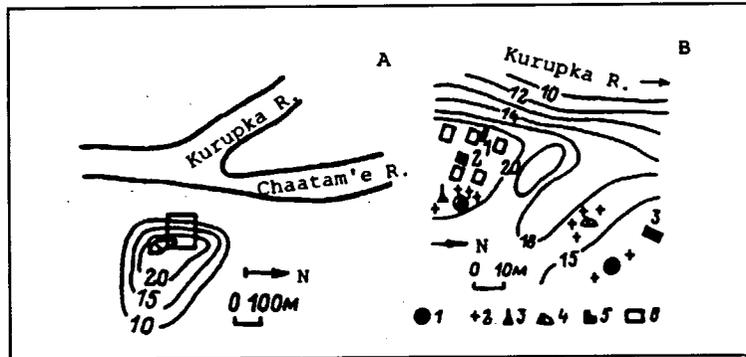


Figure 9. Plan of the Kurupka I site (16).  
a - General location of the site; b - principal part of the site.

The richest finds were in Test Pit No. 3 on the north side of the site between the two geodetic markers located there. The test pit was given a T-shaped form in the plan, 3 m long with widths of 2 m and 1 m (Fig. 10). Under the sod at a depth to 15 cm in a layer of grayish-yellow, sandy loam with coarsely rounded gravels was a large cluster of flakes of gray, siliceous and hornfels-like slate, silicified tuff (222 specimens), and gray flint (22 specimens), with about 200 of the smallest flakes of siliceous stone. There were also microblades of gray, siliceous slate (3 specimens) and five stone artifacts, for the most part fragmented, and two blanks. The artifacts are: an end core on a flake of light-brown silicified slate (Plate 14:1), a blank of an end core (Plate 14:5), and two broken bifaces of the same slate (Plate 14:2), a blank of a broad scraper in the form of a slab-like flake of brownish silicified slate (Plate 14:4), and two fragments of one distinctive skreblo-like/adze-like tool of gray, siliceous slate (Plate 14:3).

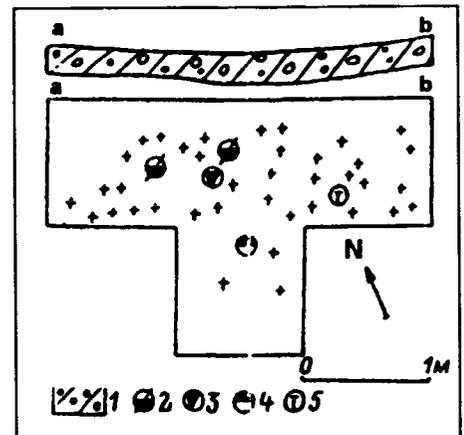


Figure 10. Excavation and profile of the Paleolithic Kurupka I site (16).

In 1982 this test pit was enlarged by six square meters, within which and in the same surface layer was found, in addition to a leaf-shaped, siliceous knife (Plate 14:7), a fragment of a blade of an adze-like instrument of brown, siliceous slate (Plate 14:6). All this undoubtedly represents a single, chronological complex - the remains of a "workshop."

We note that of the 104 prepared stone artifacts collected from the site, 36 were found by G. I. Kazinskaia in 1978 (Plate 16:3-4-6, 8-12) and in 1981 (Plate 17; Plate 18:9-10; Plate 19:4, 6, 9): The author found the remaining 68 artifacts in 1979 (Plate 14:1-5; Plate 15; 18:1-8, 11-14; 18:3; 19:1-3), 1980 (Plate 16:1, 2, 5, 7), and 1982 (Plate 19:5, 7-8, 10; Plate 14:6-7).

Based on the technical-typological features of the archaeological material from the test pits and from the surface of the site, considering as well the material which was used in the preparation of stone artifacts, it is probably possible to isolate two basic chronological groups of finds in this site: a Neolithic complex, which we will characterize in more detail below in the chapter on the Neolithic (pp. \*), and a Paleolithic complex.

The majority of the artifacts here are assigned to the Paleolithic: all the end-like cores and, in particular, wedge-shaped cores, and the microblades flaked from them (Plates 14-17), biface knives (Plate 18:1-4), skreblos (Plate 19), scrapers (Plate 9), burins (Plate 18:9-14) and some other kinds of tools. They were all made of gray flint, siliceous and silicified slate, and tuffite.

On the site, surface material was collected as well, which amounted to 104 stone artifacts and 981 flakes (not counting several hundred collected by G. I. Kazinskaia in 1978), including 3 specimens of gray flint; 260 of gray, siliceous slate; 143 of brownish, silicified slate; 16 of white flint; 15 of yellowish flint; 13 of red, siliceous slate; 3 of chalcedony; 28 of white silicified tuffite; 1 of pink tuffite; 485 of dark-gray tuff; 2 of obsidian; 5 of quartz; and 1 of andesite-basalt. The material also included 68 knife-like microblades of which 39 are gray flint; 2 of white flint; 1 is black silicified slate; 9 are gray siliceous slate; 3 are chalcedony; 3 are red-brown flint; and 1 is a yellowish specimen.

We will dwell in more detail on the characteristics of this Paleolithic complex.

Of 30 end and wedge-shaped cores, 9 are typical of the comparatively late stage of the Beringian tradition (and in particular for Layer VI of the Ushki sites in Kamchatka) in being a form of wedge retouched on both sides. Three are narrow and high of gray siliceous slate (Plate 15:2; 16:11) and black flint (Plate 17:6), 10 others shorter and broader of dark-gray flint (Plate 15:1), light-gray flint (Plate 16:6, 8-9; Plate 17:2, 4), yellowish flint (Plate 17:1, 3, 10) and brown flint (Plate 17:9).

The remaining cores are more archaic and are end cores made on flakes and spalls. Five of them are on large flakes of light-brown, silicified slate (Plate 15:10) and gray, siliceous slate (Plate 15:11; Plate 17:7-8) and one small oblong one (Plate 15:4). They are carefully retouched along the lower edge on the back side of the flake. The ventral surface of the flake was not subjected to secondary working and preserves the bulb of percussion, and the striking platform is quite prominent. Negatives of the end flakes (two on each such secondary core) are located on the side of the flake opposite the striking platform and bulb of percussion. On the three end cores the striking platform is retouched: on the first there is retouch along one edge (Plate 15:4); while on the second and third, it is over the whole surface of the platform (Plate 15:11; Plate 17:8).

Four end cores, which can be provisionally called "tailed," are distinctive. Three of them were found by the author in 1980 and the fourth by G. I. Kazinskaia in 1981. They are made from flakes of light-gray flint and are distinguished by a smooth arc-shaped transition of the retouched striking platform into a lateral blade opposite the end of the core. On its upper edge the retouch passes over from the striking platform, forming a kind of "tail," possibly for clamping the core during the flaking of lamellae from it. In one case this retouch is on both the dorsal and ventral of the flake (Plate 16:5), on the remaining - only on the dorsal side of it. On all four cores the bulb of percussion of the flake was preserved on the ventral side.

Finally, there are three quite primitive end cores. They were made on spalls of gray, siliceous slate, both flat lateral surfaces of which are entirely unworked, preserving the striking platforms and bulbs of percussion. The lower edge, opposite the striking platform, was retouched. Each core has three negatives of end spalls (Plate 15:5, 8-9). On two of them (Plate 15:8-9) the striking platforms are knocked off so that it would have been necessary to touch them up before the subsequent removal of microblades from the end.

Besides whole ones, quite distinctive fragments of wedge-shaped cores were found - the ends struck

from them showing the negatives of the microblades taken from them (Plate 17:13-16). These transversely struck ends of the striking platform were evidently used secondarily as burin-like instruments and in some cases underwent additional retouch for this along their longitudinal edge (Plate 17:14-15). There is also a fragmented wedge-shaped core of dark-gray flint, reformed into a burin by the different method of the transverse removal of two spalls from the end, along the striking platform (Plate 17:17).

For the study of the technology of the preparation of wedge-shaped cores two blanks are quite interesting: the large one is of yellow siliceous slate, intended probably as a "tailed" core (Plate 19:10), the other of gray, siliceous slate probably intended as a common core of high form with retouched "wedge" (Plate 17:11). Judging by these blanks, the "Yubetsu" technique was used, that is, some were made from a biface (Plate 17:11); and the others, the "Khoroka," that is, were made from a previously unretouched blank (Plate 19:10).

Unfortunately, the two conical cores (Plate 16:10-11) and two unifacial plano-prismatic ones (Plate 16:12; 17:5) cannot be definitely assigned to the Paleolithic complex. It is not out of question that they date to a later time.

Microblades flaked from wedge-shaped cores (10 mm to 30 mm long, 4 mm to 10 mm wide), made of different silicified stone and of flint, generally have a regular parallel "edging" (Plate 15:6-7).

Six bifacial fragments of leaf-shaped knives were found (Plate 14:2; Plate 18:1-4; Plate 19:5). They were made from gray flint; brown, silicified slate; and gray, siliceous slate. One of them (Plate 18:1) appears to be a blank of a wedge-shaped core. It was made by transverse flaking of the biface by the Yubetsu technique. Its side with the transverse flaking could have been the end from which microblades were removed, and the longitudinal spall - the striking platform. On the flat sides of this blank were preserved large areas of unworked cortex.

An unfinished, bifacially retouched, leaf-shaped artifact with a shallow groove on the side opposite the rounded point and with the blade not yet formed on one longitudinal side (Plate 18:2) could be a knife or projectile point. One more larger blank of a knife is represented by an elongate fragment of a gray, hornfels-like slab of slate flaked only coarsely and in a preliminary way on both sides along one longitudinal edge. It is flaked on the other edge as well, but only on one side, so that it might have served as the back of the knife or even the striking platform of a flat "Gobi" wedge-shaped core on occasion, if the ancient toolmaker preferred such a choice (Plate 20:10).

A leaf-shaped artifact with a groove on the base, made from a lamellar flake of gray, siliceous slate, slightly retouched along its long edges and along the edge of the grooves, was possibly used as a projectile point (Plate 18:12).

Scrapers are represented by eight specimens: pear-shaped (Plate 19:1) and subtriangular (Plate 19:2) end scrapers of gray siliceous slate, an end scraper on a broad flake of gray banded siliceous slate (Plate 19:3), a broad end scraper on a slab of brown silicified slate (Plate 14:4), and a side scraper on a flake of gray flint flattened by retouching on the ventral side. Traces of lamellar spalls are on the back of the side scraper. The working edge is retouched on the ventral side (Dikov and Kazinskaia 1980, Fig. 9:1).

Among the scrapers there was also an oval end scraper on a cobble flake of small-crystal stone. It has retouch on the side of the blade with the cortex, which takes in as well a significant part of the lateral side of the scraper (Plate 20:9). In 1982 a scraper of the same lateral end type on a flake of gray flint was found. It had an arc-shaped blade, carefully retouched along the edge on the dorsal side and with an entirely unworked "conchoidal" ventral side (Plate 19:7).

Finally, a round basalt cobble skreblo with the remains of cobble cortex on both sides must be noted. It has a very coarsely, only preliminarily worked blade. There is also a coarse blank of an end scraper on a piece of a large lamellar flake of light grayish-yellow flint (Plate 19:4).

Possibly, the above-mentioned artifact on a flake of white flint is a graver-scraper. Its scraping edge is retouched on the side of the back and lies opposite the bulb of percussion (Plate 18:12).

Two pieces of flint (Plate 14:3) are assigned to one artifact that is similar to a flat skreblo-like/adze-like tool of subtriangular form with a straight bifacially retouched blade and retouched on both sides along one edge of the pointed butt. Its front convex surface was fashioned by the removal of broad faceting flakes, the reverse flat side was formed by the unworked cortex of the flint slab.

A chisel-like tool, made from a large lamellar flake of light-yellow, siliceous slate, is quite distinctive. Its

flatter side was formed by the negatives of three lamellar spalls on the dorsal surface. The large terminal working edge was formed by facets of pressure retouch on the ventral side, forming a round and grooved chisel-like blade (Dikov 1980, Fig. 10:4).

A small chisel-like tool is apparently a core-like artifact of light-gray, siliceous slate from the collections of G. I. Kazinskaia in 1981, if in fact it can be assigned to the Paleolithic (which is more probable, judging by its location in the site) and not to the Neolithic complex of the surface material (Plate 17:2). In addition to this, among the artifacts collected by G. I. Kazinskaia in 1981 was also a piece of a blade of an adze-like instrument of yellow flint (Plate 19:6), typologically the same as in the excavation in 1982 (Plate 14:6).

In the surface material of the site there are six middle burins (Plate 18:5-7, 11, 14. See as well: Dikov and Kazinskaia 1980, Fig. 2:13) made on flakes of gray flint; gray, siliceous slate; and brown silicified slate. They are similar to middle burins of the Denali culture of Alaska, the Ushki site - Layer VI, and burins from the site of Ezhantsy on the Aldan, where very many of them were found. In addition to this, in 1981 two side burins of siliceous slate (Plate 18:9-10) were also found, as well as one more with a broken working end in 1982 (Plate 19:8).

For dating the Paleolithic complex of the Kurupka I site, the similarity of its wedge-shaped cores with the Ushki of Layer VI, where they have an age of about 11,000 to 10,000 years (Dikov 1979), is decisively significant. This date will probably be the uppermost boundary of the complex.

Its lower boundary is determined by the most archaic end cores on flakes and spalls. These have analogies in the Ezhantsy site on the Aldan River (which Yu. A. Mochanov [1977] dates to 35,000 years and where such cores are especially numerous), on the Verkhne Troitskaia site, again on the Aldan (dated by the same investigator to 23,000 to 18,000 years), and at the Berelekh site in the Yakutsk Arctic region, dating to 13,000 to 12,500 years (Mochanov 1977).

The date suggested by Mochanov for the Ezhantsy site (in the complex of artifacts that are most analogous to the early complex of Kurupka I) is insufficiently convincing and clearly overstated (Dikov 1979; Abramova 1979), and the enumerated analogies therefore probably cannot be dated to an earlier time than 23,000 to 12,000 years.

Chaata'm'e (22) is a Paleolithic site located on the left bank of the Chaata'm'e River 5 km from its entrance on the left into the Kurupka River and on the right of the mouth of a creek (Fig. 11, 12). Here on a rubble surface of a 50-m glaciofluvial terrace, 22 flakes (8 of chalcedony and 14 of hornfels-like slate) and several stone artifacts of late Paleolithic appearance were collected. Specifically they are an end core typical of the late Paleolithic cultures of Northern Asia on a rare variety of siliceous material - white, opal-like quartz (Plate

20:1); a blank, probably of an end core of gray, siliceous slate (Plate 20:6); a lamellar flake lightly retouched along the edge; a scraper with a convex blade; and a piece of some kind of point made from the same, but somewhat darker, siliceous slate (Plate 20:4), as well as a flake of yellowish-white, siliceous slate retouched into a scraper (Plate 20:5).

Kym`ynanonvyvaam VII (107). This is one of the largest late Paleolithic surface campsites in the valley of the river of the same name located on the left side of Verbliud Creek, which enters it [the

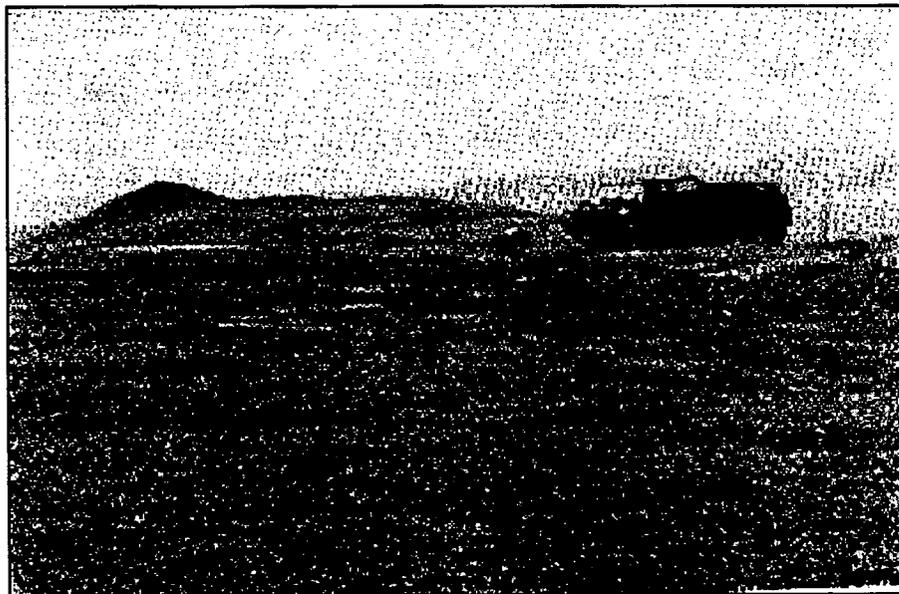


Figure 11. View of the Paleolithic Chaata'm'e I site (22).

Kym`ynanonvyvaam - *Trans.*] on the left (Fig. 13). Here, on the edge of a 20-m terrace comparatively numerous remains of stone-working production (38 flakes) were encountered over a distance of about 200 m. Among them was a wedge-shaped core made of yellow, siliceous slate with a lateral part removed (Plate 21:1), attesting probably to an Upper Paleolithic age for the camp. Together with it there in the surface material were a piece of a siliceous biface point (Plate 22:6); two knife-like lamellae of grayish-yellow, siliceous slate (Plate 21:7-8); a middle burin on a flake of brown flint (Plate 22:5); a blank of an adze-like/skreblo-like artifact of grayish-yellow siliceous slate (Plates 21:4); and three scrapers (Plate 22:9-11). Some of the flakes at this site

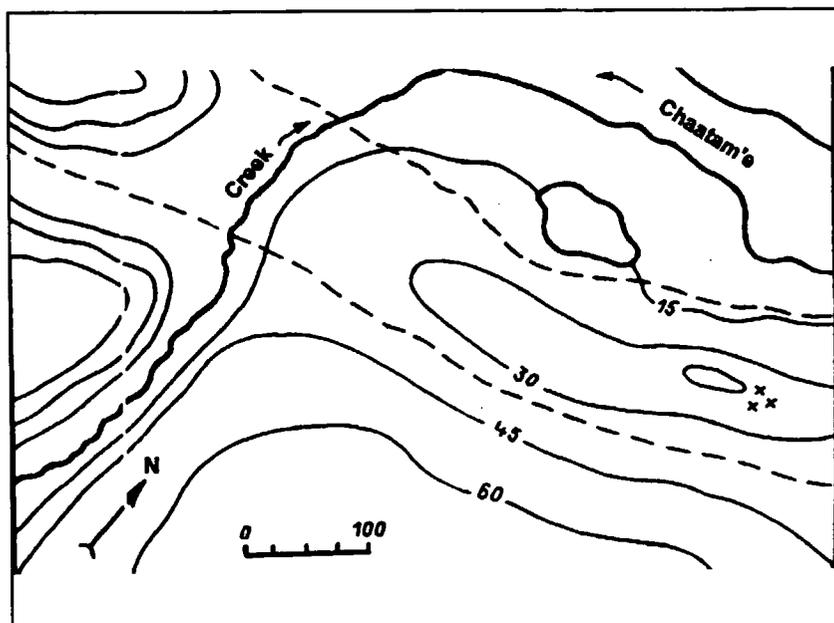


Figure 12. Paleolithic Chaatam'e I campsite (noted by the crosses).

were found intruded into the surface cultural layer, the presence of which supposes further excavations here. Besides the stone mentioned above found here in flakes and artifacts, there also occurred flakes of chalcedony (5 specimens); yellow flint (9); gray, silicified, clayey-sandy slate (212); siliceous slate of light-brown (52), black (6), yellow (3), and red (7); a jasper-like of red (37), red-yellow (9), and white-red (4); quartzite (4); and hornfels (14 specimens). A flake of yellow flint found among this surface material deserves special attention since it is reminiscent of a large ski-shaped spall from a wedge-shaped core. The presence in the site of such a spall and the above-mentioned wedge-shaped core, considering the general character of the remaining finds, might serve as sufficient basis for assigning this site as well to the category of late Paleolithic, related to the Beringian tradition (synchronic with Layer VI of the Ushki sites in Kamchatka).

Kym`ynanonvyvaam VIII (108) is a late Paleolithic site somewhat upstream from the mouth, at which the previous site is located, and situated on the left bank. This can be graphically seen on the generally more detailed map of the disposition of the sites in the remaining area of the Kym`ynanonvyvaam River valley, which we investigated, and the large stream, Verbliud Creek, falling into it (Fig. 2). Here at an elevation of 40 m above river level, and approximately 10 m above the water level in the creek, on a small hill of brownish rubble (Fig. 14), 30 flakes of red flint were encountered. Among them was an end core of archaic appearance (Plate 21:2). It is similar to those which we found on the Chukchi Peninsula in the Upper Paleolithic sites of Kurupka I (16) and Ul'khum (1), and provides sufficient basis for the assignment of the site to the late Paleolithic.

Kym`ynanonvyvaam XII (112) is located on a point on the right side of a canyon through which Verbliud Creek flows and on the 55 m contour (Fig. 16). Here, on the surface of the point were found a chalcedony middle burin, a piece of a skreblo, and 26 flakes (7 of gray siliceous slate, 7 of white, 7 of brown, 4 of chalcedony, and 1 of jasper), and in the channel of Verbliud Creek a blank of red-brown flint (Plate 22:2).

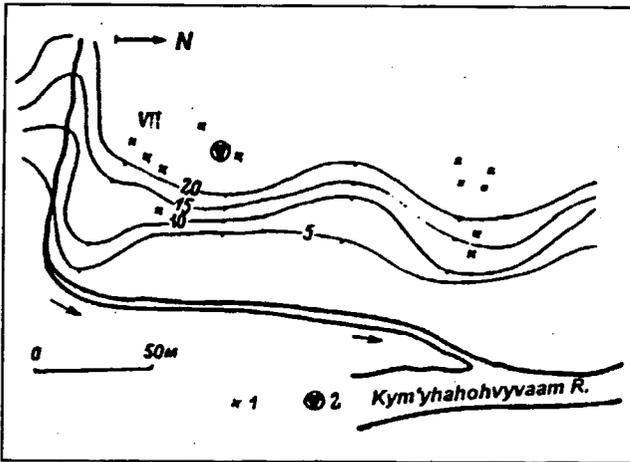


Figure 13. Late Paleolithic Kym'ynanonvyvaam VII site (107).

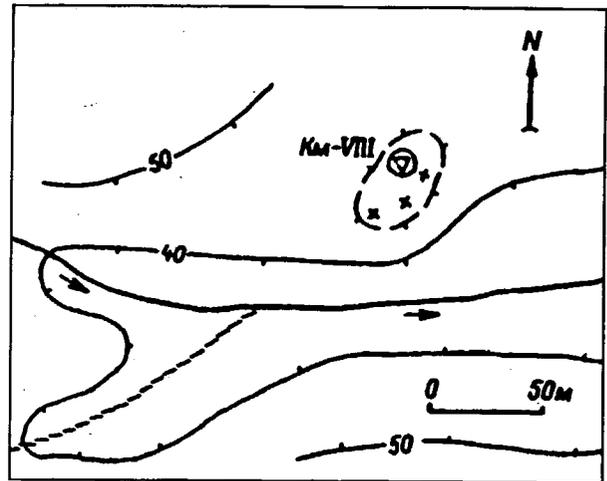


Figure 14. Late Paleolithic Kym'ynanonvyvaam VIII site (108).

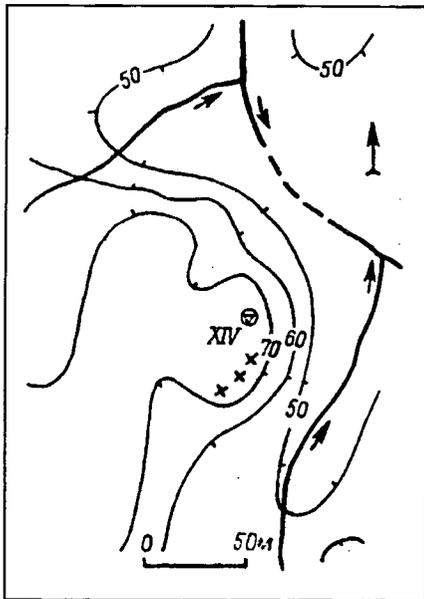


Figure 15. Late Paleolithic Kym'ynanonvyvaam XIV site (114).

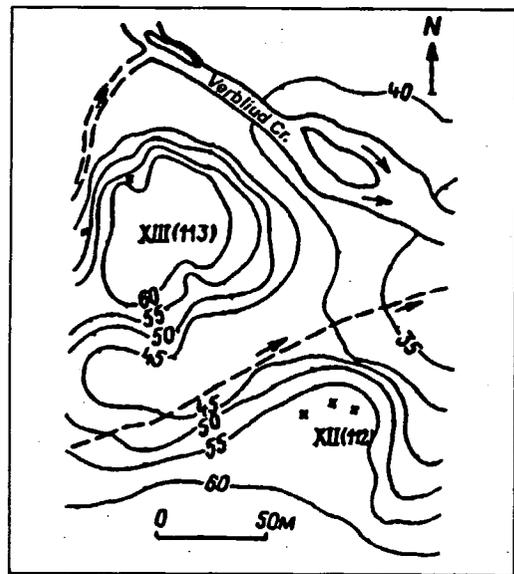


Figure 16. The campsites of Kym'ynanonvyvaam XIV (112) and Kym'ynanonvyvaam XIV site (113) (possibly Paleolithic).

Kym'ynanonvyvaam XIII (113) is located on a broad point of the canyon beside the previous camp, but on the other side of a dried up stream, at an elevation of 60 m above the river level (Fig. 16). This point is joined by a narrow isthmus to the adjoining slope of the hill. On its northwestern side the dried up channel of the other stream that runs into Verbliud Creek is preserved. The upper rubble-gravel area of this point is rather broad (more than 50 m across) and is a very favorable location for the site. Here on the northern slope near its upper part (at the 59 m contour) was found a core-like blank of a striking tool of the yellow flint, a stone that in the form of chunks is richly represented in the upper reaches of Verbliud Creek (Plate 23:1). And lower, on the 47 m contour, on the western slope a core-like fragment of the same yellow, jasper-like flint was found. In the same area where the coarsely flaked cobbles and rubble surface material were collected were 10 yellow flint and chalcedony flakes and one siliceous (yellow), knife-like microblade with retouch along one edge (Plate 23:2-5).

Kym'nyanonvyvaam XIV (114) is a late Paleolithic site located on the right side of Verbliud Creek at the 70 m contour above the river and 20 m from the level of the creek (Fig. 15). The site occupies a broad area on the point, which is connected with the adjoining slope of the valley on the eastern side of the area by a narrow isthmus. The area is covered above the gravels by a thin layer of brown loam (30 cm to 40 cm). On the ground surface lay a wedge-shaped core of gray, siliceous slate. On the surface to the south three more flakes were found: one of chalcedony and two others of yellow flint. On the northern edge of the area was one more small flake, and below on the slope - a larger one of brownish-yellow, jasper-like flint flaked along the edge (Plate 93:4). In the channel of the creek close to this camp a hoe-like artifact of yellow, jasper-like flint was found (Plate 22:1).

Here and farther down, as well as up the course of the stream in its channel, were often found pieces of jasper-like flint, and among them sometimes are artifacts. These consist of dubious flakes and, judging by the use-wear determination of N. A. Kononenko, possibly tools with traces of work or wear in the form predominantly of non-systematic irregular facets, often with fractures and of irregular form, the edges of the facets being sharp, and the working edge uneven (Plate 24-25).

The early sites briefly characterized above are the most definite Paleolithic sites of the part of the Chukchi Peninsula examined. The last two, Kym'nyanonvyvaam XII (112) and XIII (113), might turn out to be earlier, being related to the so-called "pre-point" stage. All the remaining are assigned to the later Paleolithic with bifacially worked projectile points. These sites compare well with Ushki Paleolithic sites in Kamchatka and also (except the Utkhum site) with sites of the Diuktai culture of Yakutia. Chronologically they fit into the period of the final Sartan glaciation, probably from the middle to the end (18,000 to 10,000 years ago).

In addition, some sites, though less definite with regard to their dating, have a quite archaic appearance by their artifacts and might be included among the earliest sites. These are the Chel'kun II site (39) with primitive, stemmed points on flakes (Plate 70) typical of the so-called British Mountain culture in Alaska, Kus'iuveem IV (90) and VI (92), Igel'khveem X (136) and XVI (101), Marich I (166) and II (167a) with coarsely worked stone tools (Plate 88-89, 95-97, 106).

To the latest sites with wedge-shaped cores, it might be possible to add the Ioni X site (83) with bifacial end core and ski-shaped spall (Plate 87), as well as the Ioniveem VIII site (46), Igel'khveem V (141), and VI (140), in the stone debitage production of which is indirectly seen a technology of production from wedge-shaped cores (Plate 95). To this category of sites, Chuvaigytkhyn II (65), which has a blank of an end core (Plate 78), can possibly be assigned as well.

In view of the less exactness of these only presumably Paleolithic sites, which with more full investigation might turn out to be later, we give their description below in another chapter with the Neolithic and later sites.

## 2. Mesolithic Sites

The early post-Paleolithic Puturak workshop site (4), a most significant site of early post-Paleolithic times investigated by the author in 1985-1986, is located in Puturak Pass in the mountains of the southeastern part of the Chukchi Peninsula on the watershed between the basins of the Tkachen and Itkhat rivers, the first flowing into Seniavin Strait, the second into Lake Naivan at Cape Chaplino (Figs. 17, 18). Puturak, translated from the Chukchi language, means place of merrymaking or the fun place. One can agree with such a name only provisionally and relatively. The whole pass is entirely bare, an area covered with small and large rubble, with patches of snow on the western slope. Only along the streams that flow from it on opposite slopes - to the north to the Tkachen valley and to the south to the nearest two Itkhat lakes - do grass and moss grow.

Traces of early human activity were found 100 m southeast of the very beginning of the stream that flows into the Tkachen Valley. This was on a small-rubble area about 60 m long by about 40 m wide, that is, an area of approximately 0.2 hectares (Figs. 18, 19). Two heavily broken natural rises are adjacent to this area on the northern and northeastern side - damaged monadnocks up to 2 m high. On the north side of one of them (between it and a recent man-made ditch) was found the first and only flake here. Three more flakes of gray, siliceous tuff were found on the south side of the stony hill, between it and the second monadnock. The above-

mentioned primary cluster of flakes, predominately lamellar, as well as other artifacts on the small-rubble area, we found only afterward since the survey we conducted, beginning on the south end of the point, was directed to the southern slope of the pass and set between the road and the creek (Fig. 19).

We can judge the actual distribution of the artifacts on the small-rubble surface of the area by the enclosed map showing their principal distribution, which we marked out in large 10 m x 10 m squares (Fig. 20). The total number collected here was 1,580 pieces, about 400 of which were lamellae. It is quite evident that most of these remains of worked silicified tuff were concentrated in the north and northeast parts of the area marked out (in Quads I-IV, D) (Fig. 20).

The assortment of stone artifacts collected at Puturak Pass are functionally rather distinct (below we will examine them in more detail), though they all belong to a single so-called blade technology (Plates 26-46). This applies both to the

surface material, that is, artifacts from the surface of the site (Plates 26, 27, 30, 31, 41-45), and the finds from the cultural layer obtained in the course of tests and excavations we conducted (Plates 28-29, 32-40, 46).

Test excavation was done in the area of the pass again in 1985. In five small test pits (1 m x 1 m by 0.2 m to 0.5 m deep) taken down to the compact bedrock rubble, predominantly lamellar flakes of light-gray, silicified tuff with patina were encountered at various levels: in Pit 1 at a depth to 10 cm - 6 flakes; in Pit 2 at the same depth - 256 flakes and 3 knife-like lamellae, at a depth of 10 cm to 20 cm - 35 flakes and 5 knife-like lamellae, and at a depth of 30 cm to 50 cm - 11 flakes; in Pit 4 at a depth to 5 cm - 8 flakes and 1 knife-like blade, at a depth of 5 cm to 10 cm - 11 flakes, at a depth of 30 cm - 8 flakes and 1 microblade; in Pit 5 on top - 25 flakes, and at a depth of 5 cm - 4 flakes; in Pit 3 no finds turned up. The deepest (to 1 m) was Pit 6 (2 m x 1 m) (in 1986). In it at a depth of 0.5 m, an unsubstantial carbonaceous area was noted and several flakes found (Fig. 20).

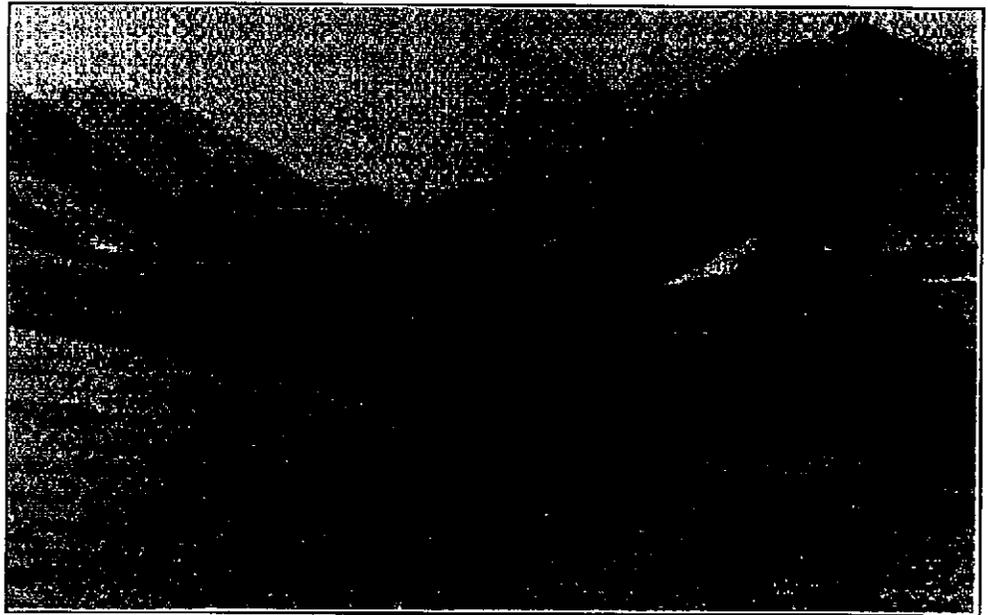


Figure 17. View of Puturak Pass.

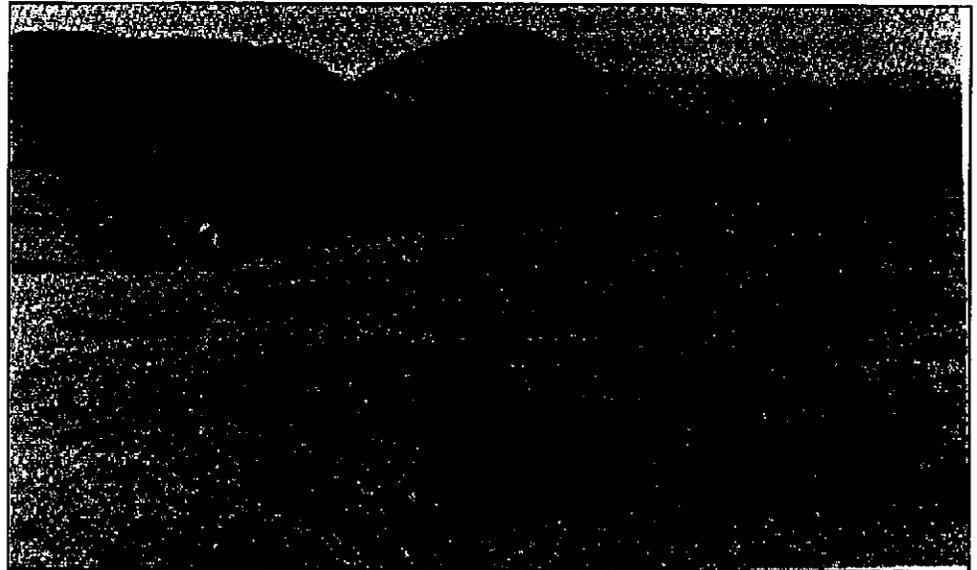


Figure 18. The first excavations in Puturak Pass (looking south, 1985).



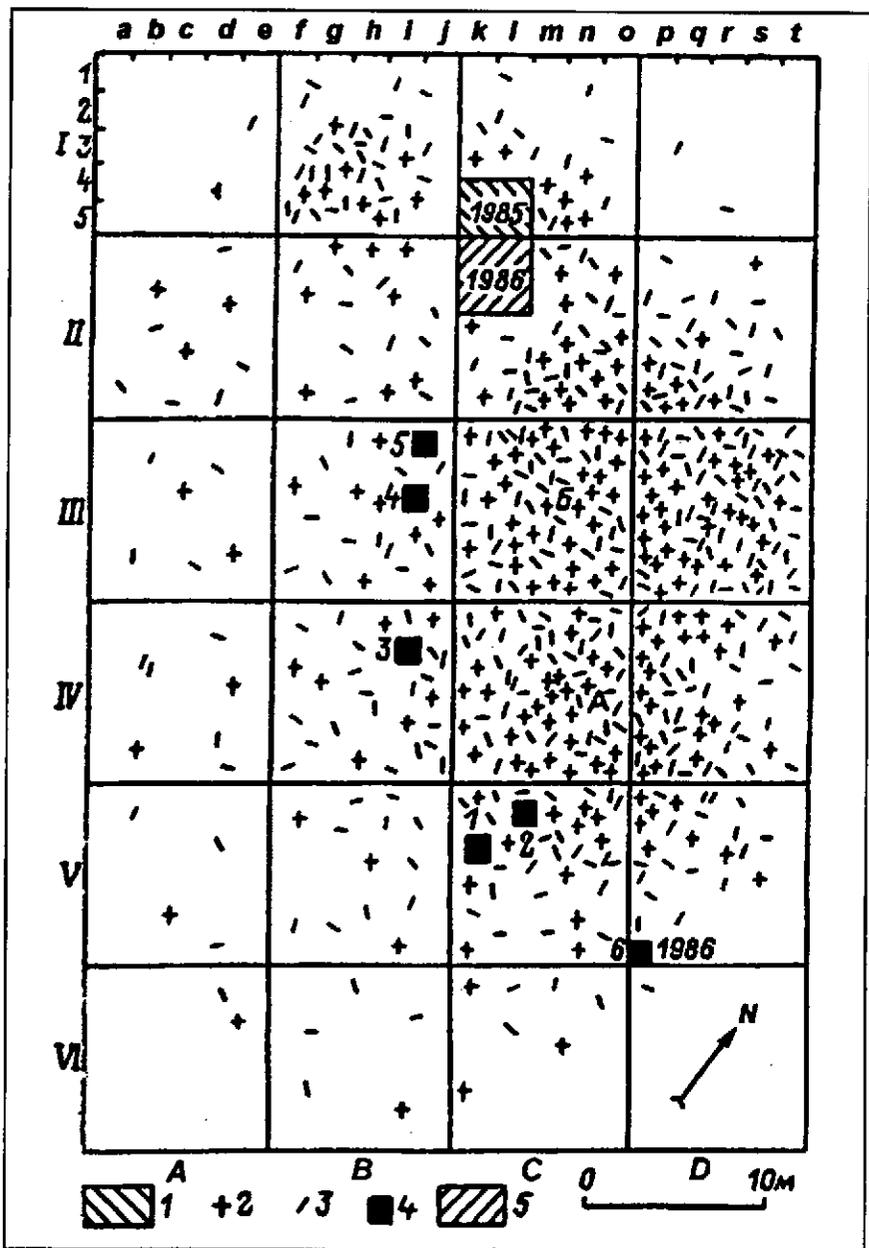


Figure 20. The primary clustering of artifacts (2, 3) at Puturak Pass, 1985 excavation (1), 1986 excavation (5) and test pit (4).

As a result, in the base of this cultural layer, at a depth of 40 cm and less (depending on its wedge-like shape in the slope of the area), a dark brownish-gray stain was uncovered, very indistinct at the periphery, in the vicinity of which we collected a significant number of flakes (about 400 pieces). Among them were about 150 lamellae, as well as 7 cores - 4 single-platform subprismatic (Plate 26:1-3; 28:2) and 3 prismatic single-platform of smaller dimension (Plate 46:2-4). With the exception of one, the prismatic cores were found in one cluster on the southwest side of this dark stain (it probably corresponds to the foundation of an above-ground dwelling) in Quad 2A. Here a blank of a core was found as well. Close to the hearth stain - in Quad 2B - in comparatively large numbers were also found some artifacts made from lamellar flakes of gray siliceous slate: 4 end scrapers (Plate 34:7), 3 graters (Plate 32:14), a blank of a knife (Plate 39:8), a leaf-shaped flake retouched along the edge and retouched lamellae. What appeared to be carbonaceous hearth stains were found in the excavation in five more places (Fig. 21), each of them we characterize in more detail below; but meanwhile we will finish the successive descriptions of the cache pits - two more of them were found here.

Cache Pit 2 in Quad 3B had a rounded outline, 40 cm x 45 cm, and was about 20 cm deep with roundish bowl-shaped bottom. From top to bottom it was filled with flakes (among them, lamellar ones predominated). Also found there were about 20 lamellar unifacial knives, scrapers, and graters (Plate 38), and over them a crudely rounded stone measuring 12 cm x 18 cm had been placed (Fig. 21).

Cache Pit 3 was definitely a hearth pit (in Quad 3A). A roundish (25 cm to 30 cm) and conical in profile (Fig. 21), it was filled from top to bottom with carbonaceous earth. There in its carbonaceous fill flakes were also encountered in comparatively small numbers, predominantly lamellar (in all about 50), some of them unifacially retouched, as well as a conical coarsely flaked core and an edge spall from a larger, probably similar core (Plate 35). Around Pit 3 lay scorched stones of various dimensions from 20 cm to 60 cm. They were situated in an incomplete circle, open on the west side, while over the pit itself had been placed the stone that

probably had formerly closed the west side of this stone hearth ring. This is reminiscent of the customary "closing" of the hearth on the top by a stone before the *yaranga* had been taken down and before setting out to a new place of encampment, which persisted up to the present time. I had occasion to encounter a very great number of such abandoned Chukchi nomad camps along our route through Chukotka. Everywhere these were stone rings of hearths within large stone rings which helped fasten the *retem* - the tent cover of a *yaranga* - around its outer perimeter, and within each of the hearth rings lay a stone. But if you go into a *yaranga* in an inhabited nomad camp you never see such a stone within the hearth.

Immediately by the hearth (apparently on the outside of the stone extracted from it) were found two pieces of subprismatic cores (Plate 44:14-15) and a blank of a core (Plate 44:16). On this same, western, and the northern side near the hearth (in Quad 3A) were found the eight remaining artifacts, made on lamellar flakes (Plate 44:1, 3-5, 8-11), two knife-like lamellae (Plate 44:6-7), and two edge spalls from a core (Plate 44:12-13).

And now we will return to a description of the carbonaceous hearth stains. One of them (I), an oblong on the western side of Quad 3B surrounding cache Pit 1, has already been described above. Beside it, a little to the north, was revealed a roundish stain (II) (40 cm x 4 cm to 5 cm), on the north side of which four burned stones (10 to 15 cm) were located, which clearly have a relation to this hearth (Fig. 21). Among the flakes that were found around the hearth, predominantly lamellar (about 300 pieces), the following deserve special note: a pencil-like core (Plate 43:10), a piece of a prismatic core (Plate 43:12), and two knife-like lamellae (Plate 43:13-14). We note that this hearth stain with the stones placed beside it is located in the immediate vicinity of cache Pit 1 with a large number of reduction flakes, already described above. Another hearth stain (III), a little larger in dimension (50 cm x 60 cm), is located 70 cm northeast of the previous one (in Quad 3B) and comprises a domestic production pair with cache Pit 2, also filled with reduction flakes. On the southern edge of the hearth stain a prismatic single-platform core (Plate 43:11) was found, to the east several dozen flakes, including lamellar ones. The remaining three carbonaceous stains were traced to the southeast, and one of them connected with stones located in the base of the cultural layer in Quad 4A (Fig. 21).

All three stains are of roundish outline in plan, thin (no more than 1 cm to 2 cm and containing wood charcoal - as, by the way, in all the other hearths and pits of the excavated area of the site), and very badly preserved. All three stains have an irregular roundish outline. Two of them are 1 m across, the third is 60 cm x 50 cm (Fig. 22). Debitage from production surrounds this complex of three hearths. Significantly less of it is encountered within the boundaries of the carbonaceous stains themselves. Two massive split-off

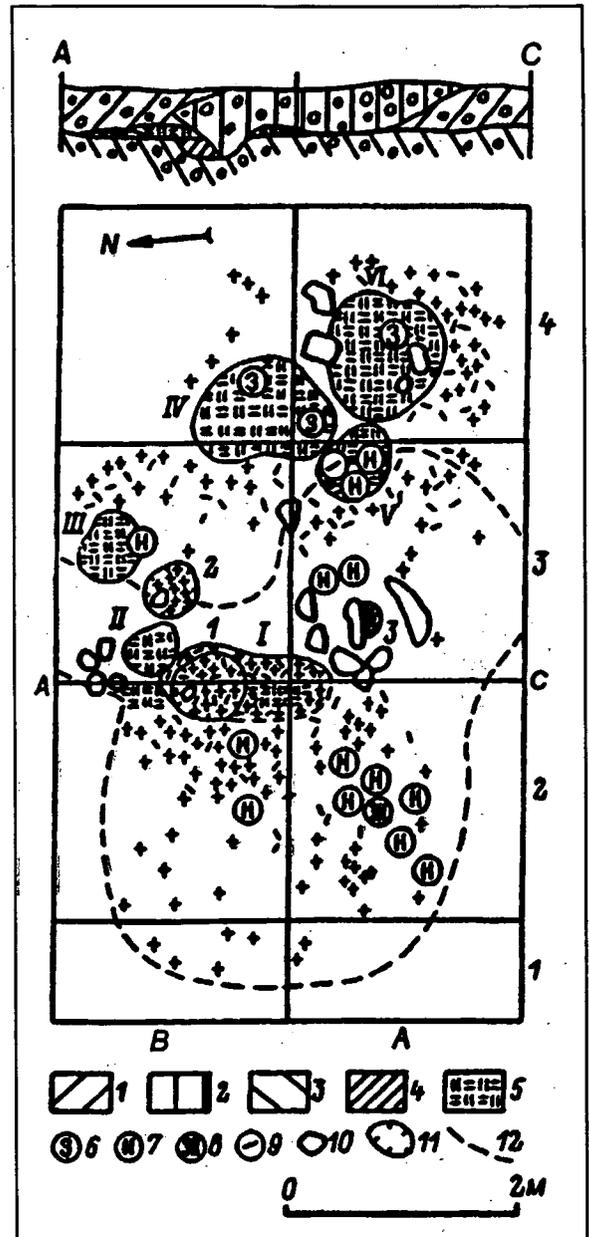


Figure 21. Plan and profile of excavation at the Puturak site (1985, 1986).

- 1 - Yellow sandy loam with rubble;
- 2 - yellowish-gray sandy loam with rubble;
- 3 - basal rubble; 4 - fill of pits (artifacts);
- 5 - carbonaceous accumulation; 6 - blank; 7 - core;
- 8 - core blank; 9 - knife-like lamella;
- 10 - hearth stones; 11 - pit;
- 12 - contour of dark stain of the base of the dwelling structure.

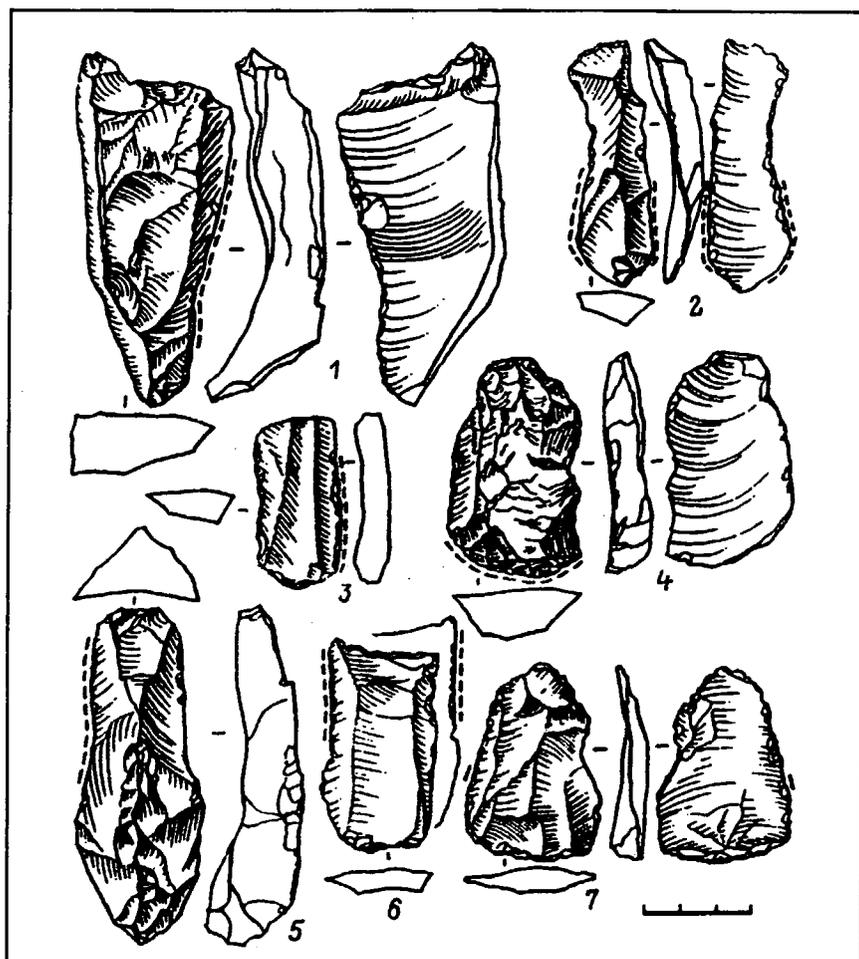


Figure 22. Puturak lamellar tools from calcareous argillite, analyzed for use wear by N. A. Kononenko. 1 & 5 - spokeshaves; 2, 3, & 6 - knives; 4 & 7 - scrapers.

blanks, similar to "flat-iron/skreblo-like" tools, of a slab of siliceous slate (Plate 43:7, 9) were found in a large carbonaceous stain that was spread in three adjacent quads of the excavation (3A, 3B, 4A, and 4B). A similar blank was found in another large stain with hearth stones (Quad 4A). And, finally, two prismatic cores were found in the smallest hearth (Plate 43:12) together with a knife-like blade. The remaining identified artifacts were encountered among the reduction debitage around the triunal complex of hearths, predominantly on the west and north sides, in Quads 4A and 4B (Plate 45).

After excavation of the cultural layer to the base, there appeared a dark-brown stain at the level of the dense bedrock rubble with a negligible admixture of disintegrating wood charcoal. This leveled, roundish, slightly carbonaceous area might be interpreted as the base of some small dwelling structure in which, besides the mentioned ringed hearth, the pits (1 and 2) with flakes were used, between which at the

entrance was located a small hearth with a small stone outline on its northwest side - in Quad 3B (Fig. 21). It is possible that this dwelling served as a kind workshop for working siliceous slate and was rebuilt and added on to several times. The character of the rubble-filled cultural layer unfortunately did not contribute to the preservation and discovery of the construction or even the planimetric peculiarities of the dwelling structure. Permafrost-deluvial processes also did not help, in particular, possible landslides in this slightly sloping place, which is on the edge of the top surface of the pass. But it is evident that this place, favorable for surveying the vicinity and open to the wind from Seniavin Strait and Ytygran (literally, "fewer mosquitoes") Island, seriously attracted the attention of the initial masters of stoneworking for a long time. Allowing for the possibility of reconstruction of the former above-ground dwelling on this place, then probably the earliest is its domestic production complex from large Pit 1 with flakes and oblong, carbonaceous stain together with the small hearth with scorched stones adjoining it (in Quad 3B). Later in this connection came the complex from Pit 2 with flakes and the hearth adjoining it on the northeast. Perhaps the separate triunal complex with the three carbonaceous stains with scattered scorched stones (Quad 4A and adjoining ones) has to be considered as an even later cultural horizon of this place.

And, finally, the latest construction here is probably the ringed hearth covered by a stone placed on top of its carbonaceous pit. This object, here preserved the best of all, is normally left forever by man with maintenance of ritual. If it existed here from the early period, then those people who came and settled here later, of course, would not have left the great stone hearth, made of large, convenient, and quite remarkable slabs,

untouched. The stratigraphic profile confirms precisely such an interpretation (Fig. 21). As a result of all the excavations, the majority of other artifacts of universal lamellar technology was added to the artifacts collected on the surface in the pass and the debitage from production.

It is not so simple, however, to classify by chronological horizons the worked stone material collected here. Judging by its common typological uniformity - independent of its connection to the named "structural horizons" (if there were dwellings there) or to the complexes of the open type, without dwellings - the people, though they left in Puturak much debitage of production, evidently lived here during the course of one cultural-historical period (even possibly spanning several hundred years). The large quantity of worked surface material we have collected here on the rubble surface as far back as 1985 also attests to its cultural-historical homogeneity. The Puturak complex (Plate 26-46), if examined on the whole, can be distinguished comparatively by the large diversity of kinds (categories) of stone artifacts made on the basis of a lamellar technology.

Serving as the basic form for cores was the large subprismatic single-platform type (Plate 26; 28:2, 5; 33:1, 3, 5; 35:1; 36:1, 3, 6; 37:17; 40:2; 42: 1, 3, 5; 44:2, 16; 45:6). Also found were conical cores (Plate 46:5), amorphous cores (Plate 33:6), several prismatic cores with parallel edges (43:11-12; 46:1-4), and even thin (worked) pencil-like cores (Plate 43:10).

In the debitage of primary work, besides flakes, the majority of it is lamellar. Quite characteristic as well are transverse spalls from cores taken off for the "resuscitation" of their striking platforms (Plate 28:3; 29:3, 5; 32:2; 44:14-15), large longitudinal spalls (Plate 33:2), and edge ("ribbed") spalls (Plate 30:4; 32:13; 35:4; 36:5, 7-10, 12, 14; 40:1-2, 5-6; 42:9; 44:12; 45:13, 17, 22).

Lamellar flakes with a width from 0.5 cm to 3 cm reach in some cases a length of 15 cm to 16 cm (Plate 27:2), and a large part have undergone secondary work. In some cases, however, they could even have been used as cutting-sawing instruments. Thus, for example, a short (5.5 cm long) and broad (2.8 cm) lamella of silicified tuff (Plate 43:2), judging by the use-wear determination of N. A. Kononenko, probably served as a knife for meat. This can be readily seen by the characteristic luster on the edge and scarcely perceptible micro-retouch (Fig. 22:6). Some lamellae are quite noticeably retouched on one or both edges and might have been used as knives or saws (Plate 27:1, 6; 30:1; 31:5; 36:15-17; 37:9-16; 38:17-19; 39:3, 9; 42:4, 7; 45:6, 12-13; 44:3-5; 45:2-3, 6, 12, 14, 16, 19, 24-25). A part of them evidently served as graters (Plate 27:3; 30:6; 31:2, 8; 32:3, 9, 14; 34:8; 35:13, 15; 38:1-16; 39:1-2, 7-8, 10-11; 40:3-4, 7-8; 44:9, 11; 45:7, 10-11, 20). True burins were not found, but artifacts were found that were very similar to them, with pseudo-burin spalls (Plate 28:1; 30:3; 31:7; 45:18).

A part of the lamellae can be considered projectile points or projectile point blanks (Plate 29:1; 32:1, 7, 12, 15; 34:1; 35:2-3, 11; 37:1; 40:11; 44:1, 8; 45:1-3). One similar point had a stemmed form (Plate 35:10). The scrapers made from lamellar flakes were rather varied: end scrapers on long lamellae (Plate 27:4; 34:2, 6; 45:8) and on short ones (Plate 29:4, 6; 32:6; 34:7, 13; 35:8). They often have edge retouch not only on the transverse (as, for example, end scrapers [Fig. 22:4] - use-wear determination by N. A. Kononenko), but partially on the longitudinal sides of the lamella as well (Plate 31:1; 32:4; 35:17; 37:2, 5; Fig. 22:3). Also serving as scrapers were short broad lamellae retouched along the edges (Plate 30:5; 31:7; 45:7) or retouched along the perimeter of a roundish flake (Plate 32:10). One grooved side scraper was found (Plate 34:12), as well as a long, massive flake from a subprismatic single-platform core, which preserved traces of retouch of the crushing along the edge of the surface of its cleavage, which served, judging from the conclusion of use-wear specialist N. A. Kononenko, as a spokeshave (Plate 36:6; also, Fig. 22:1).

Thin, more geometrically regular knife-like lamellae, split from small prismatic cores with parallel edges, both without secondary working (Plate 34:11; 42:2) and with retouch along the edges (Plate 31:3; 32:5; 34:3, 10), are comparatively few.

There are also several artifacts in the Puturak complex of non-lamellar technology: a "flat-iron/skreblo-like" tool (Plate 43:7), a roundish scraper of rather high form (Plate 43:9), a small handaxe-like tool (Plate 33:10), and a unique large, heavy striking tool with a rounded working edge sharpened by secondary working and one flat side, as on "flat-iron" tools (Plate 43:8).

The overwhelming mass of all the archaeological material collected at Puturak appears to have its

greatest similarity with the lamellar industry of the Gallagher Flint Station in northern Alaska, which is assigned to the very beginning of the Holocene and possibly even to the end of the Pleistocene. However, at Puturak it may be possible to isolate a later complex. The features of this possibility can be perceived in several, more regular, thin, knife-like lamellae that appear mixed with the predominately coarse lamellar material and in several specimens of prismatic cores corresponding to them, in particular, in unique pencil-like cores found in a pit in Quad 3B (Plate 43:10). These few finds, meanwhile, defy being stratigraphically placed. On the contrary, at present there is every reason to consider them synchronic with all the other finds, attesting thus to the formation already in the bosom of the Puturak culture of a thinner Mesolithic technology.

In conclusion, concerning the fieldwork at Puturak, it must be noted that it was carried out under exceptionally difficult weather conditions both in 1985 and in 1986. It rained continually: we usually photographed under umbrellas, worked in raincoats, and salvaged the excavation under a tent. For the whole duration of the work in 1986 only once before our departure did the sun peep out for a few hours. To all this should be added the penetrating wind and, when there was none, the continuous fog and all-enveloping drizzling rain. But in spite of all the difficulties, at Puturak the site of a new, hitherto unknown culture and one of the most interesting of those presently known on the Chukchi Peninsula, was discovered and examined.

The Itkhat IA (2a) and Itkhat IB (3b) sites. These two neighboring sites are near Puturak Pass on one of the two lakes (the upper) through which the Itkhat River flows in its upper course. They were found in 1985 on points on the southeastern side of the lake at the mouths of two creeks that empty into it (Fig. 23, 24).

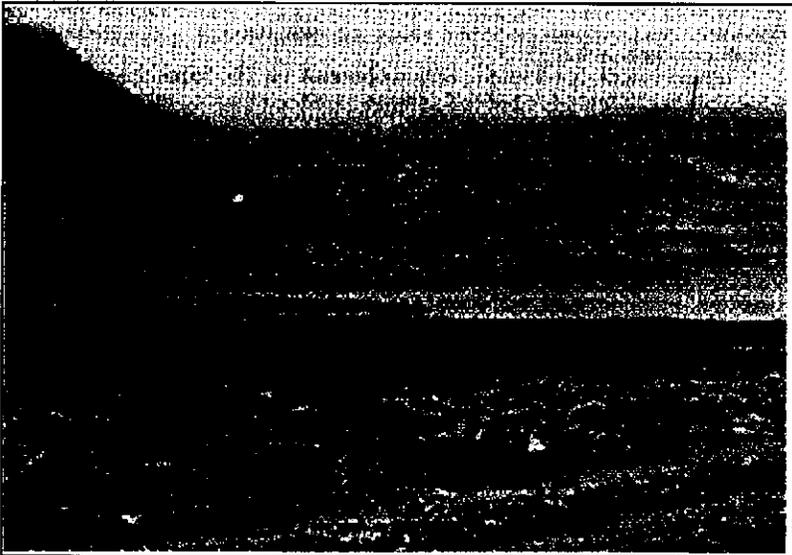


Figure 23. View of the Itkhat I site on the opposite bank of upper Lake Itkhat.

The Itkhat IA site (2a) is situated

on two tiers of the point of the lake terrace on the left of the mouth of the eastern creek (Fig. 24). Accordingly, we subdivided it tentatively into the Itkhat I (lower) site and the Itkhat I (upper) site, though in fact this is probably one site with the remains of stone-working production from one cultural period (as indicated both by the technology and by the materials - gray, siliceous slate). They are of a single type and very similar in this regard to Puturak.

The lower tier of the Itkhat IA (2a) site is associated with elevations from lake level to 10 m above it. The upper tier of Itkhat I gravitates toward the high marks of 20 m to 25 m (Fig. 24). Finds were primarily encountered on the relatively more level, small-rubble areas

of the slope, the broad and high projecting terraces of which rise still higher over the site, to 100 m directly at the crest of the hill (Fig. 23). This stepped mountain slope is, on the whole, covered by deluvial fragments of dark-gray stone; and only its lower areas and the surface of the points of the lake terrace with traces of the named Itkhat IA and Itkhat IB sites are covered with small rubble - comparatively rather favorable for temporary occupation by man.

On the lower Itkhat IA site 130 flakes were collected (including both lamellar and other artifacts, in general a lamellar technology), all of the which were light colored on the outside from strong patinization of the dark-gray, almost black silicified tuff. Among them were found 2 transverse spalls from subprismatic cores (Plate 47:7; 48:5) and 2 marginal ridge spalls from them (one of them, narrower, reminiscent of a ski-shaped spall from a wedge-shaped core, does not have an adequately defined end part on it [Plate 47:7]), lamellae with edge retouch on the dorsal side (Plate 47:8-9, 11-12), and scrapers on lamellae (Plate 47:4; 48:2-3), including on broad lamellae (Plate 47:3; 48:4), as well as end scrapers (Plate 48:1, 6, 8), graters (Plate 48:7, 10), two

blanks of points of a projectile weapon (Plate 48:12, 15), a scraper on a flake (Plate 17:6), and two broken bifaces: one probably the base of a projectile point (Plate 47:1), the other, part of a leaf-shaped knife or spear point (Plate 47:5). Two amorphous flakes were also found on the lake floodplain almost immediately at the water, and 64 more flakes all over the slope of the cape facing the lake, on which [cape - *Trans.*] the lower Itkhat I A site is located (Fig. 24).

On a gently sloping area (30 m x 20 m) of the upper tier of the Itkhat IA site even more debitage of stoneworking production (of the same silicified tuff) was found: about 600 flakes (10 percent lamellar), as well as four subprismatic cores (Plate 49:6; 50:2, 3, 6), one of them somewhat similar to a broad wedge-shaped core (Plate 50:6). Besides transverse spalls from subprismatic cores (Plate 49:10; 51:2), edge spalls (Plate 49:12), and unretouched lamellae (Plate 49:4-5, 9, 11; 50:9, 13; 51:3, 7) there were retouched lamellae here (Plate 49:8; 51:6), graters (49:3; 51:5, 10), a blank of a projectile point (Plate 50:1), a pear-shaped end scraper (Plate 51:4), two scrapers on flakes (Plate 51:8-9), a core-like tool (Plate 41:1), and another, almost the same, but of smaller dimensions and possibly having served as a scraper or chisel (Plate 49:7). One of the flakes, judging by its form, could have been a blank of an end microcore (Plate 50:4). The presence of leaf-shaped unifaces in a cluster with a combination of features of the technology of wedge-shaped cores may serve as some indication of an early Holocene age for the site.

The Itkhat IB site (3b) is situated 200 m west of Itkhat I on the rubble surface of an even gentler sloping point at an elevation of 5 m to 8 m above the water level of the lake (Fig. 24). Here, as well, a wealth of surface material was collected (also of gray siliceous slate), and represented in large measure by lamellar flakes - about 30 percent of the total quantity of 586 pieces (Plate 52-56). Six cores were found: a broken subprismatic core (Plate 53:2), 3 prismatic (Plate 52:1-2, 5), and 2 conical (Plate 53:1, 3), transverse spalls of cores (Plate 52:8-9; 53:4; 55:4), an edge spall that possibly served as a projectile point (Plate 55:3), 5 knife-like lamellae (Plate 53:7-8; 55:5, 9; 56:10), unretouched lamellae (Plate 52:3; 53:6, 8; 55:7-9, 11; 56:8, 10-11) and lamellae retouched on the dorsal side along the edge (Plate 52:4; 53:5; 55:5, 12), graters (Plate 56:2-4; 9, 12-13, 15), pseudo-burins (Plate 55:1; 56:1, 5), scrapers on lamellae (Plate 54:5), including an end scraper (Plate 54:1, 6), and scrapers on flakes (Plate 54:7; 55:2; 56:6-7) and among them one on a large massive flake (Plate 55:13). The lack of any signs of ceramics and the predominance of lamellar technology similar to the Puturak attests to the ancient age of the site, which can be assigned most probably to the beginning of the Holocene.

The workshop sites of Itkhat IC (3c), Itkhat ID (3), and Itkhat IE (3e), found in 1986, are located on the upper tiers of the hill on upper (according to the flow of the Itkhat River) Itkhat Lake (Fig. 24).

The Itkhat IC campsite is situated at an elevation of about 100 m on the flat, large-rubble top of a point of the hill (one of the spurs of Osypnaia Mountain). The Itkhat IA site (Fig. 24) is associated with the lower tiers of the lakeside slope.

On the rubble surface of this terrace-like projecting spur, several large flakes of silicified slate were encountered, but the largest cluster of them (54 specimens) were found on the southwestern part of the cape-like spur (Fig. 24). Here a piece of the lower part of a large, subprismatic single-platform core was found, as well as a lamellar flake of the Puturak type (Plate 57:19), an end scraper on a large straight flake (Plate 57:18), a large bifacially worked scraper made of greenish-gray flint with a convex blade (Plate 57:17), a peculiar stemmed knife of gray, siliceous slate worked along the blade on the dorsal side of the flake by small rather careless retouch (Plate 57:7), a leaf-shaped projectile point on a thin lamellar flake of silicified tuff (Plate 57:6), and a flat, bifacially worked, roundish artifact of light-gray siliceous slate with a sharpened "beak" (the working part) on one side (Plate 57:5), its general type functionally probably close to the above-mentioned Paleolithic, axe-like, pointed tools from the Ul'khum site (Plate 11:1-3).

In this same place near a monadnock was found a shallow (to 0.4 m deep and to 0.3 m across) surface

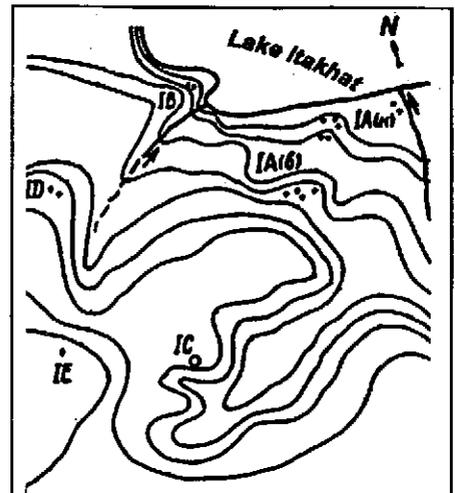


Figure 24. Disposition of the Itkhat IA site (lower and upper) and Itkhat IB, IC, ID, and IE on the bank of the (upper) lake of the same name (1985, 1986).

pit filled with 420 rough fragments and flakes of patinized silicified tuff and greenish-gray, siliceous slate (including 185 large, 158 medium, and 77 small flakes, some in fractions of a millimeter), among which were 5 microblades of gray, siliceous slate (Plate 58:12-14) and one lamellar flake of patinized silicified tuff (Plate 57:10). It is extraordinarily notable that in the same pit another pointed implement similar to that mentioned above was found. It was made from a massive three-edged subtriangular flake of greenish-gray siliceous slate by means of light retouching from below on the dorsal side and secondary working by the removal of flakes by flattening retouch on the ventral side (Plate 57:11).

The Itkhat ID campsite is located at the same elevation scarcely 100 m from the monadnock near the slope area of another point of the spur on the left of the source of the stream that separates the Itkhat IA and Itkhat IB sites (Fig. 24). Here we found a cluster of 54 fragments and coarse flakes of siliceous slate without any signs of secondary work.

The Itkhat IE campsite is located on an even higher tier of spurs of Osypnaia Mountain, at an elevation of about 110 m to 120 m, on a projection of a slope above the previous site (Fig. 24). Among the 112 fragments and coarse flakes of gray and greenish-gray, siliceous slate found here on the large-rubble surface, the most notable were four items: 1) a large piece of a large subprismatic single-platform core of greenish-gray, siliceous slate with scars from the removal of broad lamellar spalls (Plate 57:9), 2) a patinized lamellar flake (Plate 57:8), 3) a segmented knife coarsely made from a large flake of light-gray siliceous slate and bifacially worked (on the convex side - more coarsely, and on the opposite - by flattening retouch) with an arc-like blade, straight and flat butt part, and sharpened end (Plate 57:16). In principle, it is possible to prepare wedge-shaped cores by the Yubetsu technique from such bifaces. The fourth notable item, similar to the above-mentioned pointed implement, is on a flat triangular flake of greenish-gray flint lightly worked by the removal of flattening flakes on the dorsal side (Plate 57:15).

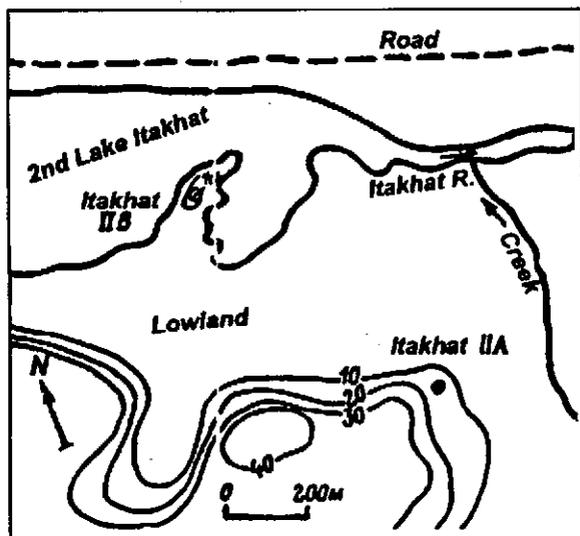


Figure 25. Itkhat IIA and IIB site on lower Itkhat Lake (1986).

The Itkhat IIA site (3) is situated on the south side of the next unnamed stream down the course of the flow of Lake Itkhat (the second), at its eastern end at the entrance of an unnamed creek into the Itkhat River and on a high point of a mountain spur (Fig. 25). In 1981 near this place on a low (2 m high) peninsula of this lake we located another site, Itkhat IIB, where in a sandy blowout we found a flint microblade (Fig. 25), but, unfortunately, nothing more. Now, having examined the mentioned point of the Itkhat IIA site (3) (40 m to 50 m high) for an extent of one-half kilometer of its surface, we found a small cluster of flakes of gray, siliceous slate on its eastern slope, at that place where it forms the projecting area (Fig. 25). Forming a compact cluster 167 flakes of amorphous nature lay slightly embedded in the small-rubble surface. One of them, the largest, is a transverse spall from the platform of a subprismatic core (Plate 57:2). A second and third are longitudinal and transverse spalls of a smaller core (Plate 57:3-4), and a fourth has the already familiar characteristic form of the pointed implement of finds at Ul'khum, Tkachen, and Itkhat IC and

IE (Plate 57:1). The elevation of the slope at the place of discovery of the artifacts is about 15 m. From there a broad view of the lake and valley of the Itkhat River opens up (Fig. 25). The age of the finds, meanwhile, has not been determined; but, probably comparatively late, they are assigned to the last periods of the Stone Age. A careful examination of this whole slope area led to no more finds.

The Tkachen site (5) is located on the route from the settlement of Novo-Chaplino to the mountain pass at Puturak, 2 km from it. Here on the small-rubble top of an oblong (about 300 m long) hill more than 30 m high (Fig. 26) a small quantity of surface material was collected, predominantly in the form of flakes (including lamellar ones) and knife-like lamellae. The hill is located at the entrance to a deep narrow valley that leads to

Puturak Pass and on the right bank of the stream that begins at the pass.

We picked up the first few flakes of gray, siliceous slate on the incline of the southeastern slope of the hill (Point 1). The primary finds were above and on the northwest side of a monadnock that rises approximately 3 m on the top of the hill (Fig. 26). Here, in an area 30 m<sup>2</sup> (Point 2), in addition to two dozen flakes of this same siliceous slate, were encountered the first flaked conical core (Plate 58:1), two scrapers (Plate 58:8-10), and three lamellar flakes (Plate 58:3, 7, 11), one retouched (Plate 58:8) - all also of the same light-gray, siliceous slate. Of special interest are two artifacts: a stemmed bifacially worked knife with convex blade (Plate 58:4), analogous to one found at the Itkhat IC campsite, and a bifacially worked pointed implement (Plate 58:9) similar to those mentioned above from the Itkhat IIA and Itkhat IE sites. Finally, several more flakes of this same material were found on the opposite end of the top of the hill at a second, still higher, monadnock, at Point 3 (Fig. 26).

The Chel'kun IV site (38) is situated beside the Chel'kun I site, but on a lower 8-m projection of the terrace that is covered by an almost 1-m layer of alluvial sandy loam (Fig. 27). In the sandy loam slides on the slope of the terrace several dozen regularly faceted thin knife-like lamellae of the surface cultural layer were noted here in 1979 (by a worker with the A. A. Alikov expedition). And on the broken surface of the terrace 2.5 m from its edge, an isolated stone to 20 cm across was found, several nearby knife-like lamellae. There we set up a small excavation, 30 m<sup>2</sup> in area, and a 1 m<sup>2</sup> test probe 10 m to the west of the excavation (Fig. 28). The test probe and side profiles of the excavation give full representation of the stratigraphy of the site, including that of the deposits of gray, sandy loam 0.5 m to 1.5 m thick (underlying the gravels), a carbonaceous lens of cultural layer and, lower, two humic lenses.

The excavation at the site revealed the remains of a Mesolithic workshop. Around the mentioned stone (near which the cultural layer was found stripped bare by weathering) was a roundish carbonaceous stain (to a depth of 0.4 m), probably from a surface dwelling, and in it two prismatic cores (Plate 59:1, 10), a blank of such a core (Plate 59:2), two burins on knife-like lamellae (Plate 59:13, 15), and 185 thin and long knife-like lamellae without additional (secondary) work (Plate 59:4-9, 11, 16-20), as well as two large lamellar flakes and 44 small ones. The most distinctive aspect of this whole production complex is the existence of two manufactured oblong gravel walls, 2.5 m and 1 m in length by 0.5 m wide and 20 cm to 25 cm high, of artificial origin situated opposite

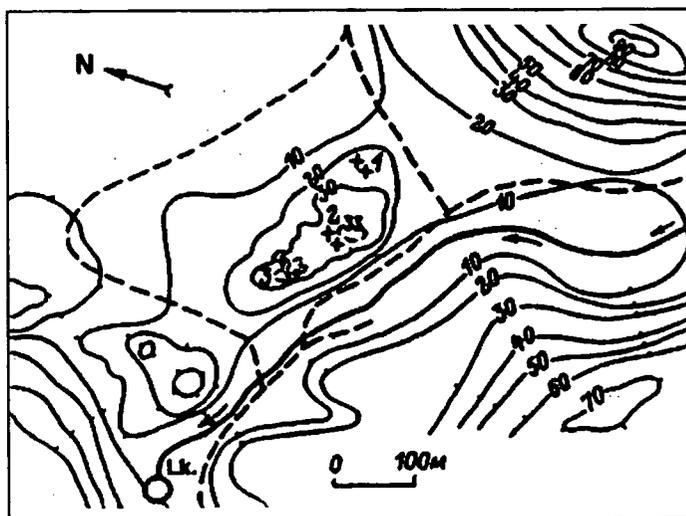


Figure 26. Tkachen I campsite.  
1 - road; 2 - cluster of stone artifacts and flakes.

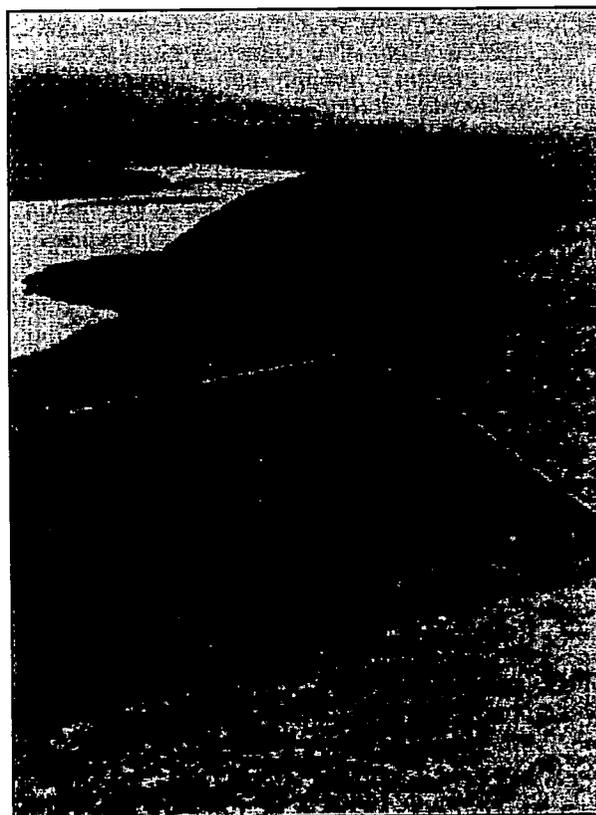


Figure 27. On Mesolithic Chel'kun IV site (38) in 1982.

each other within the boundaries of the carbonaceous stain, and a third larger wall revealed only partially and going beyond the boundary of the southern part of the excavation (Fig. 28).

The additional collection of surface material was continued on the slumping incline at the site in 1982. We found three more prismatic cores, as well as two double-platform cores (Plate 60:1, 3) and one single-platform core (Plate 61:1), a blank (Plate 60:4), three lateral burins on knife-like lamellae (Plate 60:5; 61:2, 5), end scrapers in the form of knife-like lamellae partially retouched along the edges of the end on the dorsal side (Plate 60:19, 21; 61:8, 11), two lateral edge spalls from prismatic cores (Plate 60:11, 25), and a quite characteristic, but extremely rare for farthest Northeast Asia, microlithic artifact in the form of a trapezoid, made quite distinctively from a flake of trapezoidal form and partially retouched along one edge on the dorsal side (Plate 60:2). In addition, two more lamellar flakes (Plate 60:30; 61:18), 55 tiny flakes, and 110 thin prismatic knife-like lamellae (Plate 60-61) were found.

On wood charcoal from the hearth in the cultural layer of the site a date of  $8150 \pm 450$  (MAG-719) was obtained.

The Likvylenveem site (12). This most interesting site we found on our route from the Kurupka River, where the Paleolithic Kurupka I site (16) is located, to Lake Achchen. It is located in the immediate vicinity of this lake on the left side of the mouth of the Likvylenveem River and on the point of a terrace crowned by a conical knoll approximately 1.5 km from the lake (Fig. 29, 30). The elevation of this hill, on the eastern slope of which is the site, is 9 m from the terrace surface, and from the water level in the river - 18 m. The site is situated

quite favorably under the cover of the hill away from the prevailing wind, on the gently inclined, almost horizontal part of the slope (Fig. 29). Flint flakes (Plate 61:7-8), knife-like lamellae, some of which were retouched on the dorsal side (Plate 61:5, 8, 12-13, 15-16, 18), and a prismatic platform core (Plate 61:21) were collected here on the small-rubble surface of the blowout, the largest concentration of finds being made in the southwest part of the site. Part of the surface of the slope at this place was

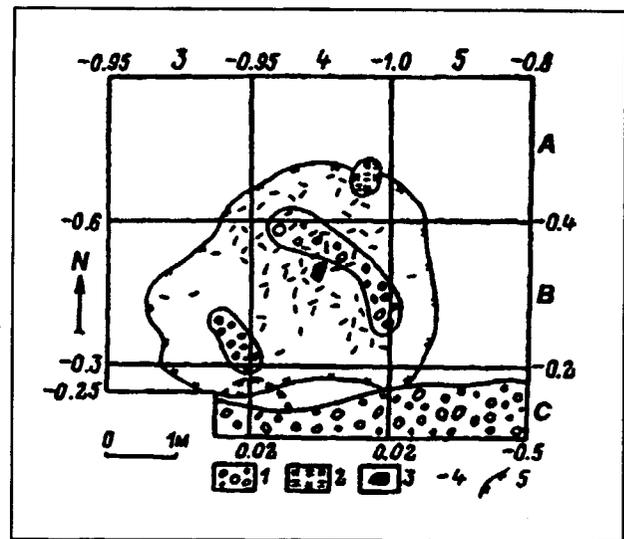


Figure 28. Plan of the excavation of the Mesolithic Chel'kun IV site (38).

- 1 - Basal gravels; 2 - carbonaceous hearth;
- 3 - core; 4 - knife-like lamellae; 5 - contour of carbonaceous stain of the base of the dwelling.



Figure 29. View of the Stone Age Likvylenveem site (12) near Lake Achchen.

overgrown with lichens that concealed these flakes. Therefore, we cleared it of lichens in a rectangular area 6 m x 2 m (Fig. 30), which permitted collecting them all. In addition to this, a shallow test probe of 2 m x 2 m, 4 m south of the cleared area, was set out in the place where an intact piece of the cultural layer was preserved (Fig. 30). In the southern part of this test probe, in light-brown humic loam, covered by thin light sand, at a depth of 20 cm one knife-like lamella (Plate 61:1) was found. In the surface material of this site were found a lateral burin on a knife-like lamella (Plate 61:4), a fragment of a flint arrow point on a thin knife-like lamella unifacially retouched on the ventral side (Plate 61:1), and a large prismatic single-platform core (Plate 61:3). The general character of the artifacts of the Likvylenveem site permits them to be compared with the Mesolithic Chel'kun IV complex (38), which by C-14 has an age of about 8,000 years. Thus, the Mesolithic culture of the Chukchi Peninsula has one more site.

The Ananaiveem site (48) is situated on the middle course of the Ananaiveem River, on the left bank of a long narrow point at the mouth of a large tributary where a geology camp is located (Fig. 31). Here, on the high part of the point (8 m high), on the steep south side, signs of scorched earth were noted. The small (2 m x 6 m) test excavation at this spot happened right on a hearth surrounded by a ring of stones about 1 m across, next to which was found a roundish unifacially convex scraper (3 cm broad) on a flake of gray siliceous slate (Plate 61:41).

Around the hearth, immediately under the sod, were many fragments of reindeer long bones, and on the east side, also small splinters of burned bone (reindeer?). The cultural layer everywhere lay immediately under the sod in brown, sandy loam at a depth of not more than 20 cm. The exception was the hearth pit within the stone ring, which was filled with wood charcoal and had a depth to 30 cm (Fig. 32).

The nine archaeological sites enumerated above, characterized as Mesolithic, are the first, and until recently quite lacking, source of data for the reconstruction of the general features of the

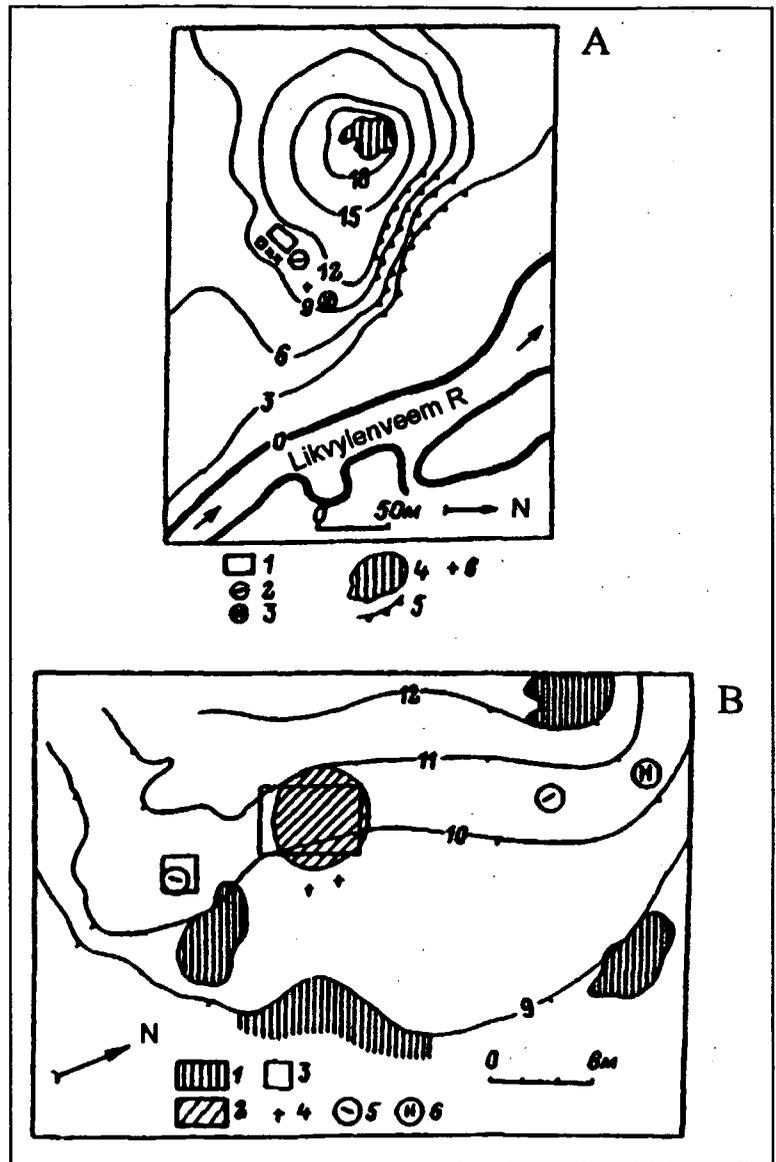


Figure 30. Mesolithic Likvylenveem site (12).

A - Disposition of the site

- 1 - pit and test
- 2 - knife-like lamellae
- 3 - core
- 4 - sod-covered area
- 5 - cliff
- 6 - flakes

B - Site plan

- 1 - sod
- 2 - sandy blowout
- 3 - excavation
- 4 - flake
- 5 - knife-like lamella
- 6 - core

early Holocene period on the Chukchi Peninsula. Probably six of them - Puturak (4), Itkhat IA, IB, IC, IE (3), Itkhat IIA (2), and Tkachen (5) - are related to the earliest stage of this transition from Paleolithic to Neolithic times. These stages are distinguished by the increasing domination of unifacial lamellar technology and by the predominance of tools made by very sparing unifacial work on large lamellae and lamellar flakes taken primarily from coarse subprismatic cores. Widely employed as tools at that time were similar lamellae and lamellar flakes that had undergone no secondary work. The similarity of this technology with that known in Alaska at the Gallagher Flint site serves as a basis for dating sites of the Puturak type, the antiquity of which reaches back an estimated 8,000 to 9,000 years. It is possible that the Ananaiveem site (48), with a poor inventory (only one scraper), but with a radiocarbon age of  $8,000 \pm 100$  years, is also related to this time.

The remaining sites - Chel'kun IV (38) and Achchen-Likvylenveem (12) - belong to a later stage of the Mesolithic. The coarse lamellar technology now gives way to the use of thin and elegant, regularly faceted knife-like lamellae and microblades taken from regular prismatic and conical cores.

Several sites, for example, Chel'kun VIII B (39b), are also assigned to the Mesolithic or Early Neolithic, but because of insufficient determination in this regard their description is given below.

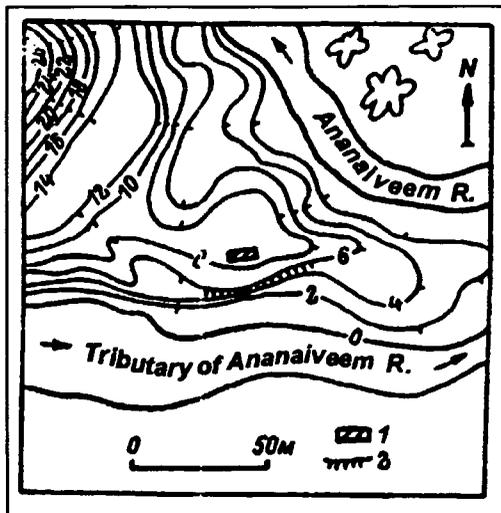


Figure 31. Location of the Stone Age Ananaiveem site (48).

- 1 - excavation
- 2 - cliff

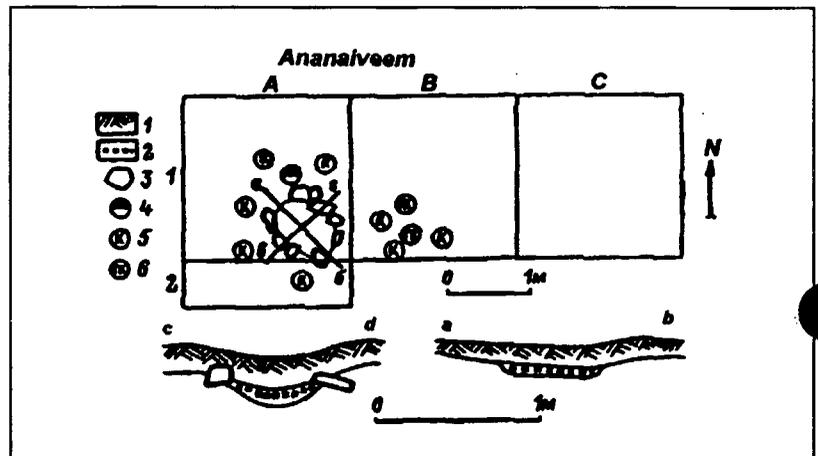


Figure 32. Plan and profile of excavation at the Ananaiveem site (48).

- 1 - sod; 2 - carbonaceous hearth; 3 - hearth stones
- 4 - scraper; 5 - fragments of bone of animals
- 6 - fragments of burned bones

### 3. Neolithic, Later, and Indeterminate Sites

Here we will examine 10 different local groupings of sites in their geographical sequence by river basin, specifically the Kurupka, Ioniveem with Kus'iuveem Lakes, Kym'ynanonvyvaam, Igel'khiveem, Utaatap, Getlianen, and Marich rivers, as well as Koolen' Lake and the southeastern extremity of the Chukchi Peninsula (the basins of the Itkhat and U'khum rivers). In addition, a description will be given of the burial site near the village of Lavrentiia.

#### Campsites in the Kurupka River Basin (8, 10, 13 to 24)

The Kurupka River, one of the largest mountain streams of the peninsula, runs into the Bering Sea. It is deep, and its larger tributaries are the Sineveem, Val'karvaam, Kaatap, Chaatam'e, and so on. In its valley, on the left bank near the mouth of the Kaatap River, there are fragments of an alluvial floodplain terrace of Karginsk age (50,000 to 25,000 years ago) 5 m to 6 m high. These terrace remnants, just as the glaciofluvial hills, were favorable for settlement by early man in the terminal Sartan glacial period and later times. To these times are assigned the sites that we found on the banks of the Kurupka River and its tributaries: the Paleolithic Kurupka I (16) and Chaatam'e (22) and later sites, characterized in the previous chapter. These follow below.

The site on the Sineveem River (8) is on the right bank 7 km to 8 km above its confluence with the Val'karvaam River and 1.5 km downstream from the cabin at the reindeer-herding station, beside which the tractor route from the village of Sireniki to the Kurupka River passes (Fig. 33). Unfortunately, there are no other reference points of human origin close by, but the isolated 8-m-high hill, on which the early site was situated, is quite noticeable. Streams enter the Sineveem on both sides of it. The hill itself (150 m long, 8 m high) has a characteristic oblong crest, and material traces of the occupation of early man were located in sandy blowouts on the east side of it: knives and scrapers on flakes (6 specimens), knife-like lamellae (3 specimens), and several flakes - all of light-gray, siliceous slate (Plate 62:1-9). Judging by their appearance, they are probably Neolithic and not Paleolithic.

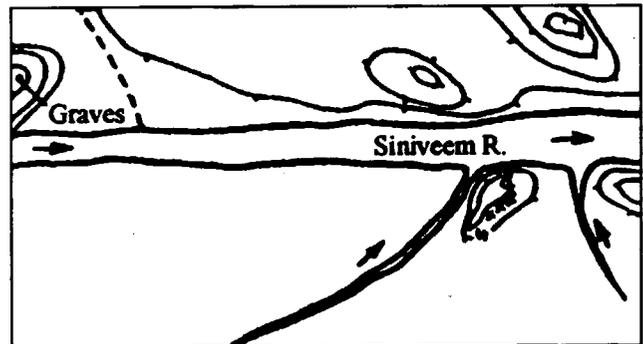


Figure 33. Location of a Neolithic site on the Sineveem River (8).

The Val'karvaam site (10). Traces of this Stone Age site are found on the left bank of the river by this same name (Fig. 34). Eight flakes of gray and yellow siliceous slate, knife-like lamellae (Plate 62:13-16), scrapers and objects similar to projectile points on flakes (Plate 62:10-12, 19), and a subprismatic core with scars showing the removal of broad lamellar spalls (Plate 62:18) were found in sandy blowouts of the precipitous bank of the 12-m terrace on a point at the mouth of the Val'karvaam River, on the left side. The enumerated finds were assigned to the side of the point that faced the Kurupka River, into which the Val'karvaam River flows here. The general character of the artifacts is rather archaic, and it is not impossible that they are even Paleolithic; but based on their small number and low diagnostic quality, this cannot be confirmed.

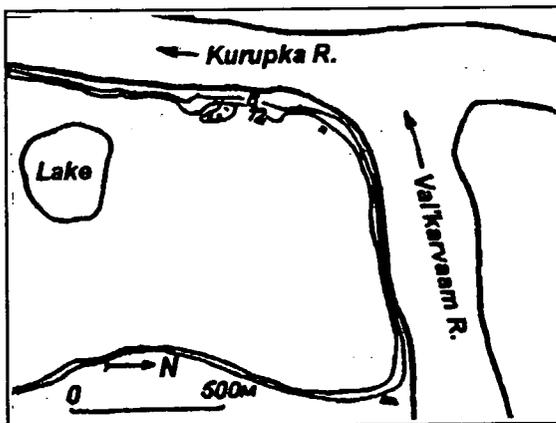


Figure 34. Neolithic site on the Val'karvaam River (10).

The Kaatap I and II sites (13) were found in blowouts on an 8-m, sandy-loam terrace that forms a point between the Kurupka River and Kaatap River, which flows into it (Fig. 35). The terrace in this place, at the middle of the point, turns into

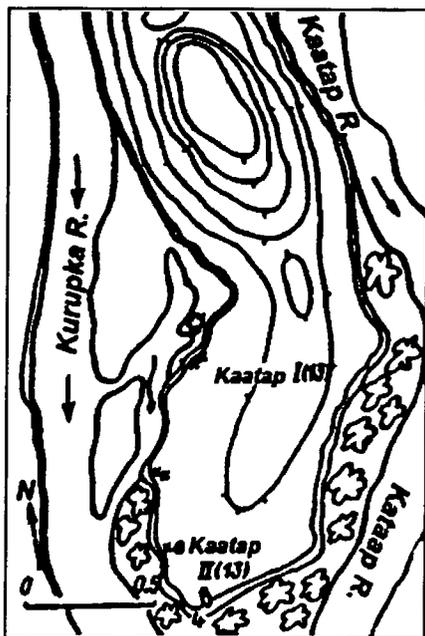


Figure 35. Neolithic Kaatap I (13) and Kaatap II (13) sites.

the watershed crest of the hill. Traces of the sites were noted on the west side of the point, which faces toward the Kurupka River, at a distance of 600 m to 700 m from each other (it is not impossible that these are traces of one site). The Kaatap I site (13) is located in the north part of the point, on the north side of a small precipitous point of the terrace. Here, on the small-rubble surface of a blowout, were found several coarse flakes of greenish-gray, jasper-like siliceous slate (including a fragment of a lamellar flake), three of them probably being blanks of arrow points with quite visible traces of edge retouch (Plate 62:23-25). The general appearance of the artifacts is archaic (they are patinized), and it is not impossible that they are of Paleolithic age, though this cannot be confirmed.

The Kaatap II site (13) is located on the very end of the point and also on the small-rubble surface of a blowout (Fig. 35). Both flakes of gray, siliceous sandstone (two with traces of edge retouch) and a fragment of a biface of gray flint (Plate 62:26) were found here. The appearance of these artifacts is also archaic, but they are not diagnostic enough to sufficiently determine dates.

The Karytkin I site (21) is located on the left side of Karytkin Creek 2 km from its confluence on the left with the Kurupka River. Traces of the site were found in 1979 by geologist G. I. Kazinskaia on the small-rubble surface of a bedrock point of the 8-m terrace (Fig. 36, 37). All finds - flakes,

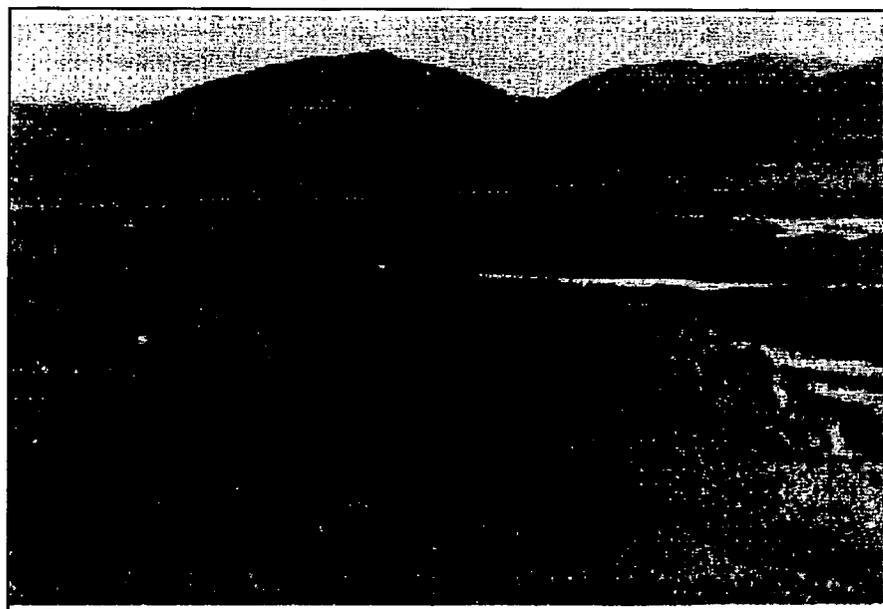


Figure 36. View of the Karytkin I site (21) from the north (in the foreground).

knife-like lamellae, and some possible artifacts - were collected by Kazinskaia in 1979 and by the author in 1980 on the flat and broad north crest of this rocky point. Here 60 flakes of various dimensions of yellow flint (1) and chalcedony (1), of gray (28), white (17), yellow (3), black, and red (1) siliceous slate, of basalt (1), and of hornfels-like slate (5) were found: 12 fragments of slate slabs, 13 microblades (Plate 63:7-12) of which 12 are white silicified slate and 1 obsidian; 4 arrow points broken on the bottom - one of them retouched on both sides along the edge (Plate 63:1) and the remaining ones with the surface completely retouched (Plate 63:2, 4); 1 fragment of a bifacially retouched arrow point with a

slightly grooved base (Plate 63:6); a roundish skreblo of black hornfels-like tuff (Plate 63:13); 2 scrapers on flakes of yellow siliceous slate (table 63:15, 18); 2 blanks of knives of greenish-gray siliceous slate (Plate 63:14, 17); and 2 siliceous blanks of indeterminate assignment (Plate 63:16, 19).

The finds on the east side of the hunting cabin, which is on the western edge of the site, were especially numerous. Here we dug a small 4-m<sup>2</sup>-square test excavation (Fig. 38). In essence this was not an excavation, but rather a horizontal profile, the freeing of the rubble surface from the growth of lichens in this place, because it was impossible to excavate deeper, due to the compactness of the rubble ground ("bedrock"). The finds, naturally, were immediately under the lichens on the small-rubble surface. Here 38 flakes and 230 tiny scale-like flakes of brown

and yellowish-gray flint were found, as well as an amorphous core, a fragment of a knife or point made of brownish, siliceous slate with stem slightly separated by a waist (Plate 63:20), and two fragments of arrow points of yellowish-gray, siliceous slate carefully retouched on both sides (Plate 63:3, 5).

The Neolithic complex of the Kurupka I site (16) was found in the form of an austere localized cluster of artifacts on the surface of the edge of a glaciofluvial hill west of the site datum, the topographical circumstances of which were described in detail above (Fig. 8 and 9). Here as early as 1979 typically Neolithic artifacts were collected. These were made entirely of a different kind of flint from those of gray, siliceous slate and are assigned to the Paleolithic. Specifically they are a prismatic single-platform core of yellow flint (Plate 64:3) and a microcore of red flint (Plate 64:1); a miniature conical core of light-gray, siliceous slate (Plate 64:2); a knife-like lamella of white flint (Plate 64:7); small scrapers of yellow, brown and red flint (Plate 64:7-8, 13, 16); two combination tools very characteristic for the Ust'-Belaia culture of yellow flint - a graver-scraper (Plate 64:12) and a beak-like graver (Plate 64:9); a punch-like flake of brown, silicified slate (Plate 64:6); and a transverse spall from a prismatic core of black flint (Plate 84:14).

In addition to this, in test probe No. 1 on the southwest edge of the hill (Fig. 9), fragments of a coarsely modeled clay vessel were found. They were black in the fracture, with temper of sand and a lighter-brownish, external surface without any designs or stamps (Plate 64:17). The last were found in a sub-sod layer at a depth of 10 cm to 15 cm together with charcoal and siliceous fragments.

In 1981 and 1986 collections of surface material around the site datum were continued, and the Neolithic Kurupka I complex was supplemented by several more fragments of the same coarsely modeled, badly fired (black in the fractures) ceramics. There are also rims of vessels (Plate 64:15, 17), as well as two more single-platform prismatic micro-cores (Plate 64:5, 11) and knife-like lamellae retouched along the edge on the dorsal side (Plate 64:4, 10). In addition, a very characteristic arrow point was found which was quite diagnostic for relating the whole complex to the Late Neolithic - a massive three-sided point with a hardly noticeable stem (Plate 64:19). It was made of yellow flint, one of its facets was still not retouched, and two others were formed by complete flattening retouch.

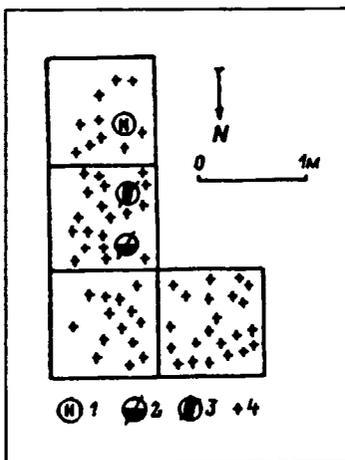


Figure 38. Excavation at the Karytkin site (21).  
1 - Core; 2 - knife; 3 - point; 4 - lake.

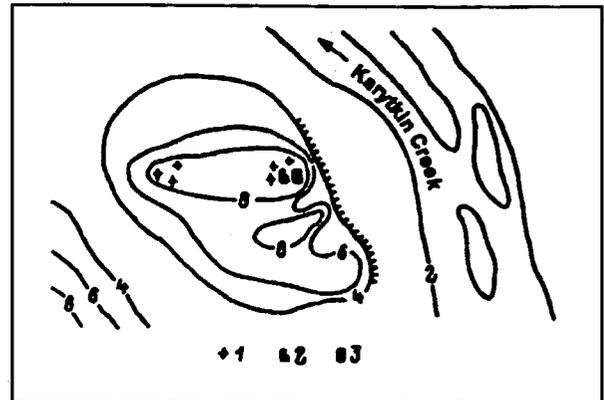


Figure 37. Disposition of the Neolithic Karytkin site (21). 1 - Artifacts; 2 - excavation; 3 - cabin.

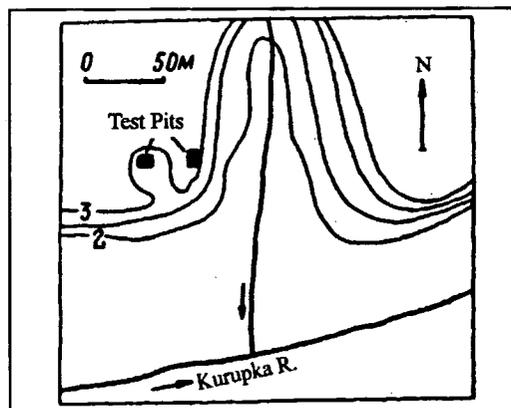


Figure 39. Disposition of archaeological tests on the Kurupka II site (15) near Izumrudnaia Mountain.

The Late Neolithic Kurupka II site (15) is located 10 km below on the left bank of the Kurupka River and on the right point at the mouth of an unnamed creek (Fig. 39). The elevation of this point is about 4 m to 5 m above the water level of the Kurupka River. On its very edge can be seen a depression about one-half meter deep and about 6 m to 8 m across, which indicates the presence here of the remains of an early pit house. On the east side of the point, directly on the broken-up surface, a cluster of charcoal from an early hearth

about 0.5 m across was found. Ten meters to the south, on the edge of the precipitous bank, a profile 3 m x 1.5 m was made, in the course of which several pieces of wood charcoal from a campfire and several flakes were encountered in the sub-sod. The principal finds were in a small excavation (2.5 m x 2 m) set up in 1979 on the southwest side of the large depression mentioned above and expanded in 1981. Here immediately under the sod a large (1 m x 1.2 m), carbonaceous stain was found and in it a cluster of fragments of weakly fired, smooth-walled vessels with inclusions of large sand and gruss (decomposing granite) with a straight, slightly turned-in rim (Plate 65:13-14); a fragment with vertically furrowed surface (Plate 65:15); a fragment of a ground slate knife (Plate 65:9); two blanks of slate knives; a triangular bifacially retouched arrow point (Plate 65:2); a fragment of a leaf-shaped knife of gray flint (Plate 65:7); and two lamellar flakes. On the parts of the surface of the site not covered with sod flakes there also occurred, as well as triangular arrow points of gray, siliceous slate (Plate 65:1, 3, 5-6, 8, 11), a fragment of another bifacial leaf-shaped knife of brown hornfels-like slate (Plate 65:16), six microblades, and two flakes of variegated (yellow, white, black, red, and brown, but primarily gray) siliceous slate. Judging by the appearance of all these artifacts, by the form of the arrow points (rectangular with straight base), by the presence of ground tools, and the presence of coarse ceramics, the site is probably assignable to one of the latest periods of the Neolithic. From the charcoal of the hearth in the dwelling an age of  $2,310 \pm 40$  years ago (Le-2660) was determined.

The Stone Age Kurupka III site (14) was found in 1982 5 km below the Paleolithic Kurupka I site on the left bank of the river. It is 100 m southeast of the burial monument to the head of the Provideniia Construction Organization, Zhukov. Two flint scrapers, roundish and trapezoidal (Plate 72:8, 9), and 32 flakes (30 siliceous slate, 1 flint, 1 quartzite) were found on the small-rubble surface of a low glaciofluvial hill (4 m high). This oblong hill is located parallel to the bank above a 2-m projection of the terrace. On the southwest edge of the hill a depression was noted, probably from an early dwelling (diameter 4 m, depth to 0.5 m). The surface material mentioned above was found there.

The Kurupka IV site (17) was found in 1980 on the right bank of the Kurupka River, on the right of the mouth of an unnamed creek 3 km from the mouth of the Chaatam'e River (Fig. 40). All the remaining part on the right side of the Kurupka River as far as the mouth of the Chaatam'e River is a glaciofluvial plateau with a rubble surface. The site is located on the northwestern edge of this plateau. This place is also notable in the respect that here on

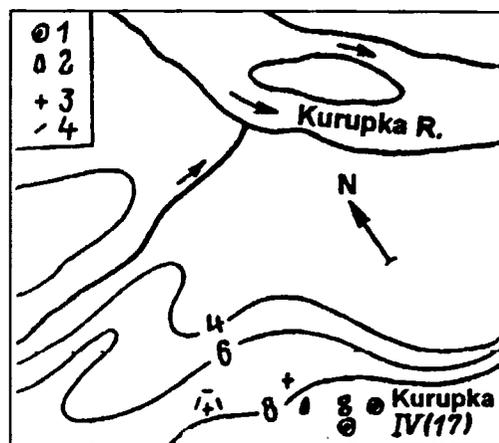


Figure 40. Stone Age Kurupka IV site (17).

1 - Traces of *yarangi* [tents]; 2 - *paliakvyny* (burials); 3 - flakes; 4 - knife-like lamellae.

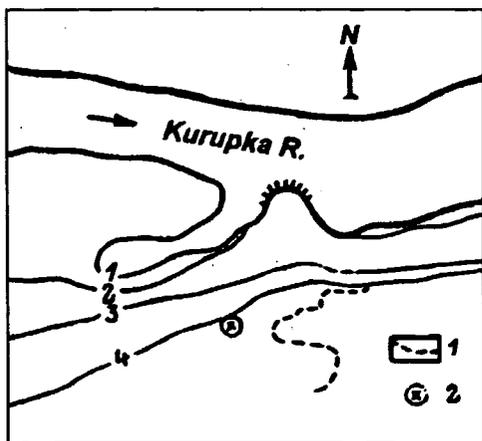


Figure 41. Stone Age Kurupka V site (18).

1 - Border of sod-covered surface; 2 - flake.

a point of this plateau there are stone rings of Chukchi *yarangi* and two Chukchi stone *paliakvyny* [burial enclosures - *Trans.*]. Beside the *paliakvyny*, but on the sandy and small-rubble talus slope at an elevation of 6.5 m to 7 m, were found three slightly retouched flakes of yellow flint. Careful surface examinations in 1981 led to the discovery of several more yellow and red flakes and six microblades. The maximum elevation of the point of the terrace-like plateau here is 8 m. This place seems profitable for further investigations. The general situation here is very similar to Paleolithic sites.

The Kurupka V site (18) was found in 1980 and is located on the same right bank 5 km from the mouth of the Chaatam'e River. It is 1.5 km below a stream flowing into the Kurupka River from the right on the east side of a hill toward the Chaatam'e River (Fig. 41). This place is also notable for the fact that here there is a low (to 2 m) monadnock with a small cove near it. On this monadnock, at the brow of the sandy terrace (4 m high), one very significant lamellar flake of

yellow flint was found. It was found on a sandy projection near the sod-covered surface of the terrace. No other finds were made.

The Stone Age site of Kurupka VI (20) was found in 1980 on the slope of an 8-m glaciofluvial terrace on the right bank of the Kurupka River. It is on the right of the mouth of a small unnamed creek that flows through a narrow valley 10 km below Karytkin Creek. The Kurupka River at this place makes a turn to the east (below which there is a precipitous bank on the right), and opposite the creek mentioned there are two islands. On the left of the stream is a low sloping hill. There are no other distinctive features in the locality (Fig. 42). The surrounding territory for dozens of kilometers is entirely uninhabited and without any structures.

On the surface of the small-rubble talus on the slope of the terrace a fragment of a siliceous, triangular arrow point, a scraper, and two flakes of yellow flint were found at an elevation of 6 m to 7 m. Above the edge of the horizontal sod-covered area of the point of the terrace two roundish pits 4 m to 5 m in diameter and about 0.5 m deep were noted. In the middle of one of them (the eastern-most) we dug a 1 m x 1 m test pit (Fig. 43). Under the sod in brown, sandy loam with small rubble in the test pit, at a depth of 15 cm, a carbonaceous stain about a half meter in diameter was found, and nearby one flint flake and two fragments of a long bone of an animal, probably deer. Thus, the presence of a shallow cultural layer was confirmed, to which may also be assigned the stone artifacts mentioned above that were found on the slope.

Sites on Mel'nik and Slavutnyi creeks (23). A leaf-shaped bifacially worked knife of brown flint was obtained from the geologist V. V. Kazinskii (Plate 67:4). It is similar to knives from a cache on Lake El'gygytyn and consequently most probably Neolithic. Along our route we examined the campsite location of this knife on a hill on the left of the mouth of Mel'nik Creek, which flows on the left into Slavutnyi Creek, a left-bank tributary of the Chaatam'e River. No other Neolithic finds were made on the hill. There the only thing noted were two late enclosures of Chukchi burials - *paliakvyny* (Fig. 136:2).

The site at the mouth of Ol'khovka Creek (24) is also situated on Slavutnyi Creek in blowouts on the 4-m terrace on the right of the mouth where it flows into another stream - Ol'khovka Creek (Fig. 44). In 1980 geologist V. A. Kozinskii found a prismatic core here (Plate 66:2). In 1981 we found a scraper split lengthwise into two halves and a prismatic core of yellow flint (Plate 66:1-3) at this place, which is on the surface of a sandy blowout near the sod-covered crest (Fig. 44). Judging by the topographic and geomorphological situation of these finds, as well as by their appearance proper, we are dealing with a campsite that can be assigned to the Neolithic.

#### Sites in the Basin of the Ioniveem River (25 to 85)

The Ioniveem was the largest river examined in the eastern part of the Chukchi Peninsula. In its basin are many lakes, the largest of which is Lake Ioni, the remaining being smaller (Naurech'e, Chuvaigytkhyn, Tynnaia,

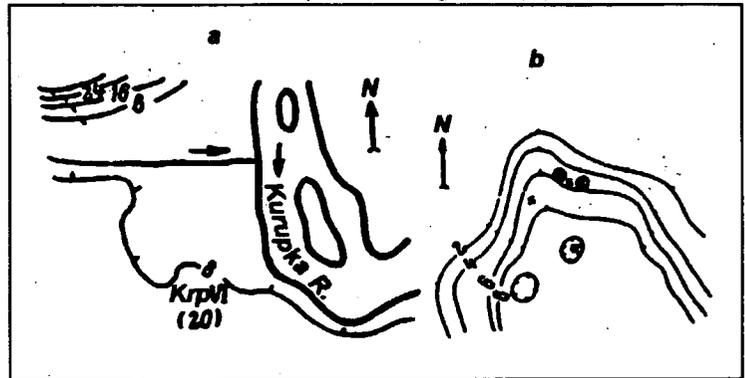


Figure 42. Stone Age Kurupka VI site (20).

a - General location of site; b - site, test, and surface artifacts.

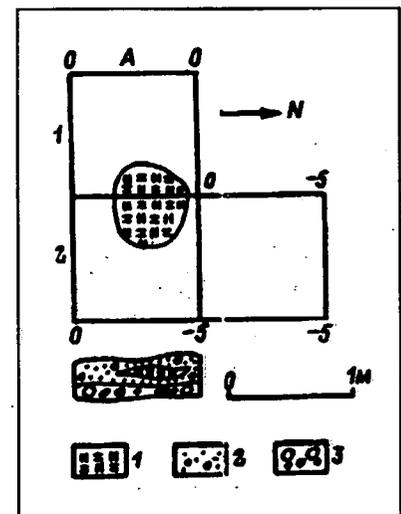


Figure 43. Excavation at the Kurupka VI site (20).

1 - hearth "lens"; 2 - sandy loam with coarsely rolled pebbles; 3 - basal rubble.

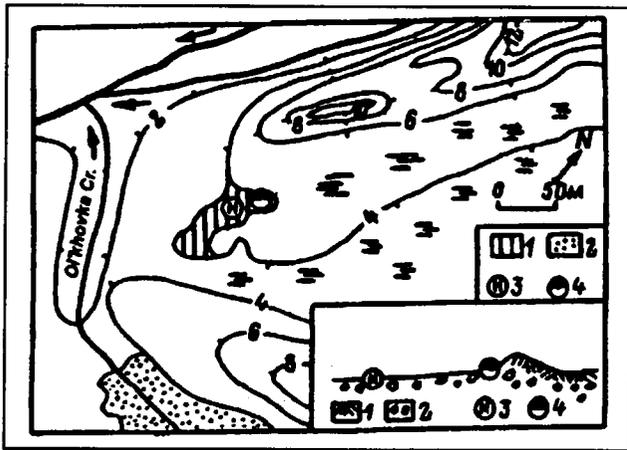


Figure 44. Disposition of the Neolithic Ol'khovka site (24).

1 - Sod; 2 - dispersed sand; 3 - core; 4 - scraper (vertical shading in plan - sandy blowout).

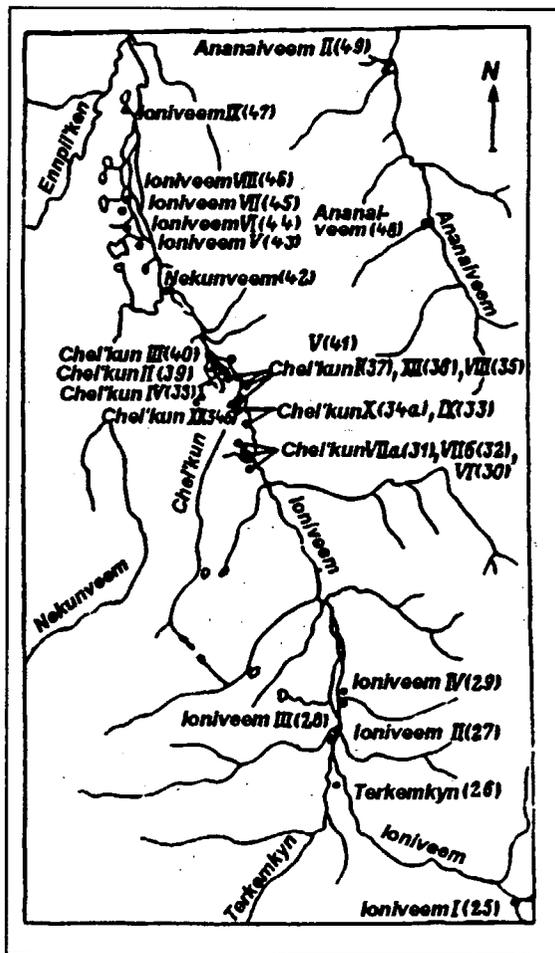


Figure 45. Archaeological sites found and examined by the author in the valley of the upper course of the Ioniveem River.

Tymkyrylen, and others). In the broad valley of the Ioniveem River and along its tributaries, the Chel'kun and Terkemkyn, are a variety of Quaternary deposits, including glaciofluvial deposits of the Zyriansk glaciation (predominantly on the left bank) and alluvial deposits of the Karginsk interglacial (on both sides of the river). The fragmentarily developed second floodplain (Karginsk) terrace (5 m to 8 m high along the upper course and 10 m to 12 m in the lower reaches) is composed of sand-gravel deposits and can be easily traced over a distance of 35 km from the source of the Ioniveem River, up its course and along the Terkemkyn River, and across into the valley of the Chaatam'e River (Fig. 3). Large and favorable for settlement by early people, the basin was formed during Karginsk times in the upper reaches of the Ioniveem River and embraced as well the lower reaches of the Chel'kun and Terkemkyn rivers (Kriukov 1985). Here I found several early sites, including Chel'kun I-IV (37 to 40) and Terkemkyn (26). The remaining were associated

with the surface level of the Karginsk and Sartan alluvial and glaciofluvial terraces, as well as with Holocene deposits below along the course of the Ioniveem River and, in especially large number, along the shores of lakes Tymkyrylen (51 to 52), Naurech'e (53 to 59), Tynnaia (60 to 62), Chuvaigytshyn (63 to 71), and Ioni (73 to 85). The majority of the sites and campsites are definitely of various Neolithic periods and later. However, some of them - Chel'kun II (39), Ioniveem VIII (46), and Ioni X (83) - although included in this chronological group, may turn out to be earlier, Paleolithic, in the course of further field investigations. The sites of Chel'kun IV (38) and Ananaiveem (48) are definitely Mesolithic and therefore were examined in the previous chapter. A description of the sites is given here in their geographic sequence - from above and down along the course of the Ioniveem River.

The Ioniveem I campsite (25). In 1984 three flakes of gray and one of red-brown, siliceous slate were found on a broken-up 6-m terrace on the right side of the mouth of a stream that flows in on the left side of the Ioniveem River at its bend from north to west (Fig. 45). They warrant further investigation.

The Early Neolithic Terkemkyn I site (26). This site was found in 1982 on the point between the Ioniveem and Terkemkyn rivers 1.5 km above the mouth of the latter stream, where it flows into the Ioniveem River. The site is in the immediate vicinity of the bank of the Ioniveem River and 600 m from the Terkemkyn River (Fig. 46). The height of the point at the site is 8 m. Stone flakes, knife-like lamellae, some stemmed and leaf-shaped points, and several other artifacts were found directly on the surface in yellow, broken-up sandy loam on both sides of the point, in fact, on all sides but the south (Fig. 45). On the west side, in sandy blowouts of the upper part of the slope,

debitage from stoneworking production was found: 522 flakes of light-gray and rosy flint, 488 of which were the tiniest (debitage from the retouch of artifacts), which indicates the presence here in the past of some kind of "workshop" for the manufacture of tools. We also found three knife-like lamellae (Plate 68:15), fragments of massive bifacially convex elongate leaf-shaped arrow points retouched very carefully on both sides (Plate 67:8, 13), a fragment of the lower part of the same kind of point (Plate 68:7), the middle part of a stemmed biface knife convex on both sides (Plate 67:12), as well as eight small, lightly micro-retouched flakes with characteristically pointed end (Plate 68:8-9).

Thirty meters north of this place (at Point No. 1) a small pit in the ground surface (to 30 cm across and 10 cm deep) was found. It contained 256 flakes of gray and rosy siliceous slate. Two hundred and forty nine of these were tiny, similar to those mentioned above. There were also two fragments of convex elongate leaf-shaped arrow points, a piece of a preliminarily worked knife, and a scraper made by retouching the convex edge of a piece of platy slate (Plate 67:19). Nearby, 30 m to the east, on the north edge of the point (at location No. 2), 226 small flakes of yellow and white siliceous slate (among them only 24 micro-flakes) were found. In addition, there were four large, whole, elongate, biface, leaf-shaped arrow points of yellow and gray, siliceous slate (Plate 67:1-4) - two of them stemmed (Plate 67:1, 3), the stem part of another such point (Plate 67:10), and fragments of flat bifacially retouched points (Plate 67:5 to 7, 14 and 15), as well as a transverse spall from a prismatic core (Plate 67:16), a unifacial knife-scraper (Plate 67:20), two pieces of biface knives of yellowish-gray flint (Plate 67:17, 21), six characteristic instruments in the form of symmetrically pointed flakes similar to those above-mentioned (Plate 68:17, 19), a lateral burin (Plate 67:9), two fragments of knife-like blades (Plate 67:11; 68:15), and two transverse spalls from subprismatic cores.

Finally, on the eastern side of the point, facing the Ioniveem River, in a sandy blowout, a small amount of carbonaceous material was noted. In the same place, in addition to 51 flakes of gray, siliceous slate and tuff, were also two microblades, two fragments of arrow points (one from a stem), four symmetrically pointed flakes, a burin-like instrument (Plate 68:16), two retouched flakes, and a large subprismatic piece of brown, siliceous slate with traces of percussion flaking and lightly worked by small retouch of its pointed, probable, working end (Plate 68:12).

In 1982 we excavated a small area (9 m<sup>2</sup>) on the west side of the point, facing the Terkemkyn River (Fig. 45), at a place where there was a large number of micro-flakes - traces of a "workshop." In the excavation an area was revealed that still contained an undisturbed cultural layer that could be traced to a depth of 0.5 m in the yellow, sandy loam (which extended to the surface) and below which the compact-rubble "bedrock" began. An irregularly oval, slightly carbonaceous stain with an area of about 2 m<sup>2</sup> was revealed. In the eastern part it turned into a shallow fire pit covered with stones, and in the middle the remains of a campfire with more concentrated carbonaceous material were preserved (Fig. 47). Within the borders of this carbonaceous stain, which can be interpreted as the foundation of a surface structure, probably *shalash*-like [tent/hut-like - *Trans.*], were found 65 flakes of gray siliceous slate (20 of medium dimension 1 cm to 3 cm and

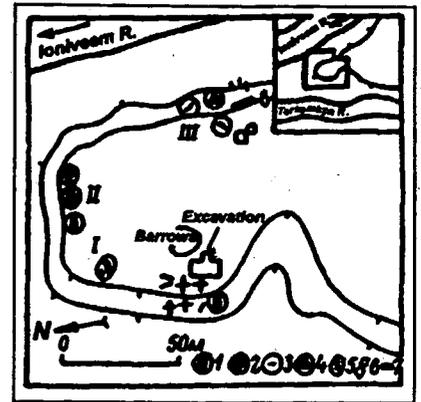


Figure 46. Neolithic Terkemkyn site (26).

- 1 - Leaf-shaped point; 2 - stemmed point; 3 - knife-like lamella;
- 4 - accumulation of flakes in pit;
- 5 - slabs of stone; 6 - excavation;
- 7 - traces of charcoal in blowout.

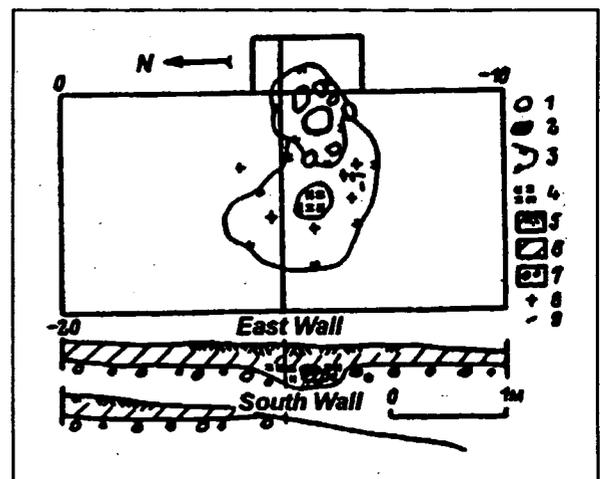


Figure 47. Plan and profile of excavation of the Terkemkyn site (26).

- 1 - Stone; 2 - stone in profile; 3 - carbonaceous stain;
- 4 - charcoal; 5 - sod; 6 - yellow sandy loam; 7 - rubble;
- 8 - flake; 9 - knife-like lamella.

45, tiny, scale-like). Seven of the flat flakes of medium dimension were distinguished more or less by an irregular, pointed, cutting-puncturing working end (Plate 68:6), and on one of them the edge, which forms the point, was worked by serrating micro-retouch (Plate 68:2). In this same place were found three fragments of platy silicified slate - one of them with edge retouch (Plate 68:1), a knife-like microblade (Plate 68:5), a thin roundish flake with traces of use as a scraper (Plate 68:4), and two fragments of a massive, bifacially retouched, leaf-shaped point of gray, siliceous slate. The last was broken probably in the course of being worked inasmuch as part of its base was still not retouched (Plate 68:3).

A radiocarbon age of the complex found in the excavation, judging by the radiometric determination of charcoal from the fire pit, was  $4,580 \pm 40$  years (Le-2661). The surface finds enumerated above can also be assigned to this date. Typologically they correspond on the whole completely with the stone artifacts from the excavated area of the cultural layer of the workshop, which makes up a unit with the disturbed part to the west. The chief types of tools for this cultural complex are convex biface points and pointed flake-gravers.

The Stone Age Terkemkyn II site (26) was found in 1984 approximately 1 km north, toward the end of the point (where Terkemkyn I is located) and on the lower part of it (elevation 5 m to 6 m). In its sandy blowouts were two transverse spalls from large subprismatic cores of dark-gray, silicified tuff reformed into cutting instruments with a pointed working end (Plate 68:12-13) and a third tool, functionally the same, made from a massive flake of the same material. The latter had two working ends-"beaks" sharpened by small retouch on opposite sides (Plate 68:18). At the same place were found a micro-scraper of black flint (Plate 68:11) and a knife-like microblade of gray, siliceous slate retouched on both sides along the edges (Plate 68:14).

The Ioniveem II site (27) was found in 1981 immediately upon the team's setting out into the valley of the Ioniveem River toward its upper reaches. It is on the left bank of the river, 500 to 600 m north of the cabin of the second reindeer-herding base camp of the Sireniki Sovkhoz, and on a point of the 5-m to 6-m terrace to the right of the mouth of an unnamed stream that flows into the Ioniveem River on the left (Fig. 48). The surface material collected on the small-rubble surface (flakes of variegated flint, end scrapers, and a piece of a truncated leaf-shaped arrow point) has a Late Neolithic appearance.

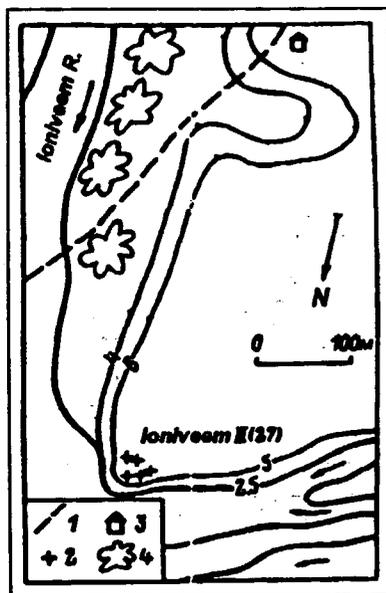


Figure 48. Location of the Late Neolithic Ioniveem II site (27), 1981, 1982.

- 1 - Tractor road; 2 - artifacts; 3 - 2nd reindeer herders' base of the Sireniki sovkhov; 4 - brush.

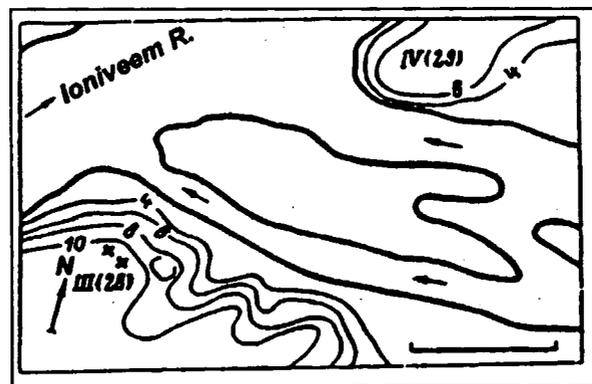


Figure 49. Disposition of the Ioniveem II (28) and Ioniveem IV (29) sites.

In 1984 additional surface material (140 bluish-gray flakes of silicified slate, of which 3 are large, 22 medium, and 115 small) was found at a distance of several tens of meters from the cabin of the base camp at the edge of the terrace, which faces the Ioniveem River. The flakes have an archaic appearance.

The Ioniveem III site (28) is on the left of the mouth of the first stream beyond the second base camp and on a point of a 10-m-high terrace (Fig. 49). In the upper part of the bared sandy deposits, immediately under the sod,

flakes of gray flint, platy slate, and two pieces of arrow points were found in 1981 (Plate 66:12-14). There were no knife-like lamellae. Thus, the age of the finds is probably Late Neolithic.

The Ioniveem IV site (29) is on the right of the mouth of this same stream, but on a lower point (6 m high). In 1981 one flake of siliceous slate was found on the surface of the point (Fig. 49).

The Chel'kun VI site (30) is located on the right of the mouth of the first stream up the Chel'kun River (Fig. 50). On the surface of a low (about 2 m high) terrace a fragment of a siliceous arrow point and six flakes of white and gray siliceous slate were found in 1981.

The Chel'kun VII-a site (31) is located on the left of the mouth of this same stream on a higher 7-m to 8-m terrace by a small lake (Fig. 50). In 1981 on the edge of the brow and on the slope of the terrace in small rubble and sand, a rather large number of remains was found: a broken biface dart point of leaf-shaped form of yellow flint, two burins (middle and side), three knife-like lamellae (Plate 66:7-11), and 90 flakes of variegated siliceous slate (as well as one of quartzite and one of chalcedony).

The Chel'kun VII-b site (32), on a low knoll (3 m high) on the opposite side of the small lake mentioned above, is extremely poor - only seven flakes of gray, siliceous slate. It was found in 1981 (Fig. 50).

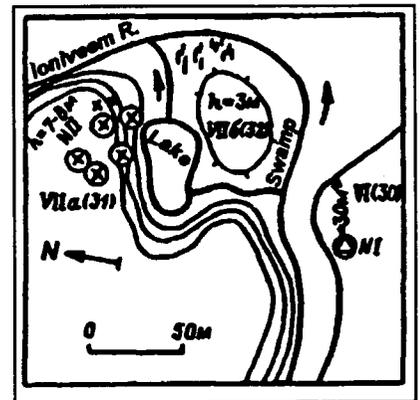


Figure 50. Disposition of the Chel'kun VI (30), VIIa (31), and VIIb (32) sites.

The Chel'kun IX site (33) is

approximately 800 m down the Ioniveem River from the previous site, on a strip of land between the river and another lake on a high (15 m) terrace. One knife-like blade of gray flint, strongly patinized was found (in 1981).

The Chel'kun X site (34a) is 500 m farther down the Ioniveem River, beyond a swamp, and on the south side of a hill, with blowouts, which directly adjoins the mouth of the Chel'kun (Fig. 51). On a point of the terrace there is a geodesic marker. In 1981 near this same place, on the small-rubble surface of a low knoll (6 m above river level), traces of occupation by early people were found: two scrapers (Plate 66:5), a lateral burin, six knife-like lamellae (Plate 66:6) of yellow and gray flint, and 13 flakes of yellow-red jasper and white, siliceous slate. Judging by the character of these artifacts and the geomorphological situation, the site is Neolithic.

The Chel'kun XI site (34b) is closer to the mouth of the Chel'kun River, on the north slope of an 8-m to 10-m knoll at an elevation of 3 m above the river. Here a deposit of flakes of yellowish-gray hornfels-like slate (61 pieces) were found in a blowout by a small lake in 1981 (Fig. 51).

The Chel'kun VIII Early Neolithic or Mesolithic site (35) was found in 1982 150 m north of the Chel'kun X site (23a) on the left bank of the Ioniveem River and on a 6-m-high terrace (Fig. 51). Here in a sandy blowout were found several dozen knife-like lamellae, a middle burin, and a scraper (Plate 72:10-18). This whole complex is very close technologically to artifacts of the lamellar industry of the Chel'kun IV site with an age more than 8,000 years ( $8,150 \pm 450$ , MAG-719), which we found in 1979.

The Stone Age Chel'kun XII workshop (36) is farther up the Ioniveem River where a stream flows into it on the left (0.5 km above the mouth of its left

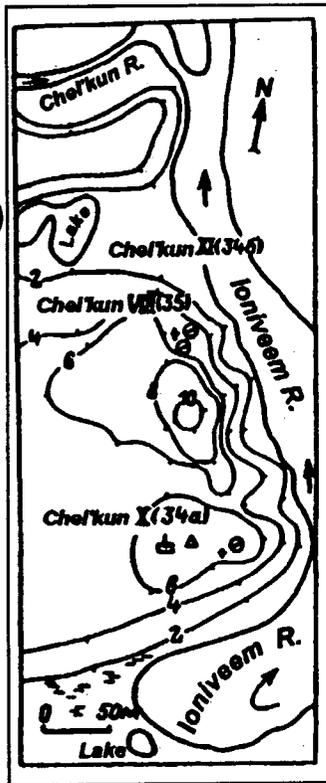


Figure 51. Neolithic sites of Chel'kun VIII (35), 1981, 1982; X (34a); and XI (34b), 1981.

Chel'kun tributary). It is on the left of the mouth on a 9-m-high point. Here a group of flakes (255 pieces) of gray, siliceous slate and one ribbed lamella were found under the sod in a pit with low relief - traces of a Stone Age workshop (Fig. 52). The material is not very diagnostic. No other finds were made.

The Neolithic Chel'kun I site (37) was traced, in 1979 on a broken-up, small-rubble surface of an 8-m to 12-m terrace, over an area of about 150 m x 100 m between the bank of the Ioniveem River and a small lake (Fig. 45). Here in places free of sod, in 1979, were found 64 flakes of variegated siliceous slate (18 pieces), chalcedony (9 pieces), and quartzite (1 piece), 15 knife-like lamellae, one pencil-shaped core, an end scraper, three pieces of wide leaf-shaped bifaces, a slate knife with ground blade, and blanks of flint and siliceous slate (Plate 69). It is possible the site is mixed, though artifacts of Neolithic appearance dominate. In 1982 several more knife-like lamellae and flakes were found to the east, all this on the ATV trail (Fig. 53).

The Chel'kun III site (40) was found in 1979 farther down on the left bank of the Ioniveem River, across a swampy gorge from the Chel'kun II site (39) (Fig. 53). Here, on the small-rubble surface of a point (6 m to 8 m high), surface material of Neolithic appearance was collected in 1979 and 1982, including about 100 flakes of variegated siliceous slate (as well as one of quartzite and one of obsidian) and one microblade.

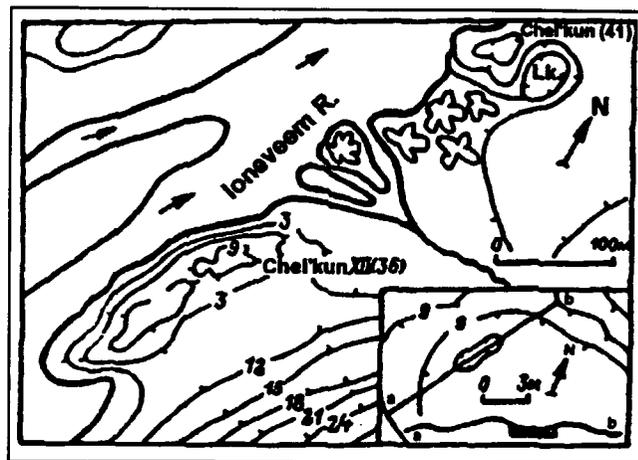


Figure 52. Stone Age workshop Chel'kun XII (36) and Neolithic Chel'kun V site (41).

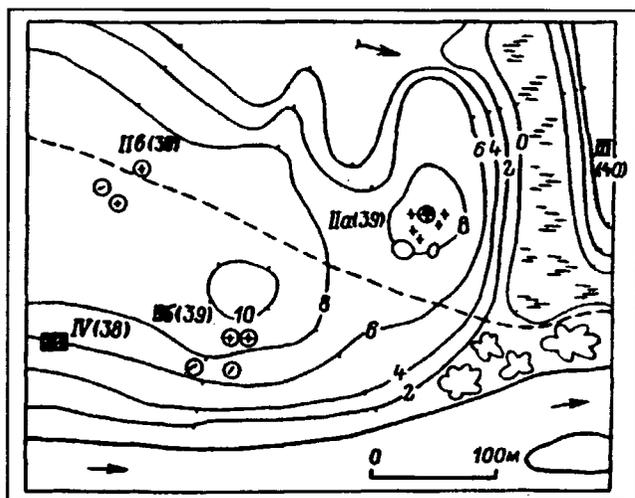


Figure 53. Stone Age Chel'kun I (37), II (39), III (40), and IV (38).

- 1 - Knife-like lamella; 2 - flake; 3 - stemmed arrow point;
- 4 - paliakvyn; 5 - excavation.

the Ushki I site on Kamchatka (Dikov 1967) and the Inas'kvaam II campsite in the south of Chukotka (Dikov and Koliashnikov 1979). In addition, a piece of some kind of tool like a side scraper of yellowish-gray flint (the only case when the material was not bluish-gray flint) was found here. It was on a massive lamellar flake with negative

The Stone Age Chel'kun II site (39)<sup>6</sup> is located on the left bank of the Ioniveem River about 2 km below the mouth of the Chel'kun River. It can be traced on a sloping knoll on the northeast edge of the same 8-m to 12-m terrace of Karginsk age. It is by a swampy bog about 400 m to 500 m (downriver) from the Chel'kun I site. This new site, discovered in 1979, is divided into two distinct parts: the upper (Chel'kun IIA), at an elevation of 10 m, and the lower (Chel'kun IIB), at an elevation of 8 m, and not more than 100 m from each other (Fig. 53). At the Chel'kun IIA site (39) in 1979, on the sod-free parts of a small-rubble surface, 77 amorphous flakes (predominantly of medium and small dimension) and other artifacts of bluish-gray siliceous slate were collected. There were no knife-like lamellae nor prismatic or wedge-shaped cores in this collection. Only one pointed lamellar flake was found (Plate 70:6). It calls to mind graving instruments of the Upper Paleolithic site at Sedna Creek in northern Alaska (Schlesier 1967:Fig. 3k), and chalcedony gravers from pointed oblong flakes of Upper Paleolithic Level VII of

<sup>6</sup>Originally it was identified as the Chel'kun III site (Dikov 1980:6, Fig. 2). In 1982 its topographic position was more precisely defined.

scars from the previous removal of lamellar spalls on the back. Along the longitudinal edges on the dorsal side, this tool was modified by retouch, which formed the working edge of the instrument (Plate 70:5). Finally, as evidence of the removal of lamellar flakes and not regular knife-like lamellae, there is one more massive lamellar flake of bluish-gray flint (Plate 70:7). The two subtrapezoidal scrapers made from flat flakes by lightly worked retouch were found here (Plate 70:3, 14). On the dorsal side they were formed by the removal of flakes, which flatten it. Thin retouch is barely noticeable on the dorsal side along their almost straight, slightly convex working edges. On one of them, "on the shoulder," from the working edge to the upper pointed end the cobble cortex was preserved, permitting classification of the distinctive technology of transverse flaking of the cobble (Plate 70:14). The character of the flakes, which served as blanks for manufacturing these scrapers, are on the whole also rather close in appearance to flakes of Sedna Creek and, in general, the Upper Paleolithic culture of British Mountain in Alaska (Schlesier 1967:Fig. 1).

Also similar to the graving instruments of Sedna Creek is a middle burin made from a flake (Plate 70:11). The lower end of this instrument opposite the burin corner, formed by two opposite-running spalls and projecting out a corner, is formed by retouch and possibly served as a graver. Also encountered at the site was a piece of a leaf-shaped biface (Plate 70:10) that corresponds completely to the analogs set out above for artifacts of the British Mountain culture, since bifaces are not foreign to it either.

The most notable find at Chel'kun II in this regard is the primitive stemmed projectile point (arrow or dart), which is represented by a slight but completely defined, unworked, thin flake of bluish-gray slate (Plate 70:2). It is 37 mm long, 31 mm wide, and 2 mm to 3 mm thick. Its stem was formed along one edge on the ventral side by retouch and along the other edge by transverse flake removal. Thin, scarcely noticeable retouch was also carried out along both edges of its triangular blade. On the ventral side the bulb of percussion can be seen and on the end of the stem, the flaked part of the striking platform. On the whole the point is thin, with a straight axis, rather symmetrical and very pointed. It can perhaps be compared with the most definite projectile points of Sedna Creek, and at the same time it has something in common with the two most primitive arrow points from Layer VII of the Ushki I site, found near a burial in 1964.

In 1982 excavations of the surface cultural layer at the Chel'kun II site (39) were conducted over an area of 16 m<sup>2</sup> to a depth up to 5 cm, to the dense bedrock rubble. In the excavation 530 more small flakes of bluish-gray siliceous slate were found and one more stemmed point similar to that described above of the same material, in essence a flake resembling a point (Plate 70:4), as well as a primitive end scraper (Plate 70:16) and a small subprismatic core split in half (Plate 70:15). Only one knife-like lamella with irregular outlines and made of chalcedony was found.

At the Chel'kun IIB site (39)<sup>7</sup> on a lower projection of the terrace, 100 m southeast of the Chel'kun IIA site, 19 flakes were found in 1979 on a rubble surface with an area of about 40 m<sup>2</sup>, and in 1982 three more flakes. They are all small and one of them turned out to be lamellar (Plate 70:12). In this same place a piece of a biface blade (Plate 70:8) was found, as well as a coarsely made stemmed projectile point (Plate 70:1). All these things, like the flakes, were made of bluish-gray siliceous slate. The most notable and informative find undoubtedly was a stemmed point almost like the one described above. It is broad and triangular with short rectangular stem, shoulders "undercut" by transverse flaking, and one edge of the blade lightly retouched while the other remains large and untrimmed. Neither bulb of percussion nor striking platform was preserved on the ventral side of this point - they having been struck off by the craftsman together with part of the flake in the preparation of the blank (Plate 70:1). Several variegated siliceous flakes and knife-like lamellae were also found on the Chel'kun IIC point 150 m southwest of the Chel'kun IIB site along the tractor road. Considering the lack of authentication of the Paleolithic date for the culture of British Mountain (Gordon 1970), the chronological determination of the complex of stone artifacts of the site remains open at present.

The Chel'kun V site (41) is located on the right bank of the Ioniveem River 200 m above the mouth of the Chel'kun River. It is on a point-like 4-m-high knoll at the confluence of a tributary that flows from a small lake (Fig. 52). Here, on a small-rubble surface of the knoll were found 55 flakes (54 of gray, silicified slate, one of chalcedony), 15 fragments of platy argillite and scrapers made from it, 4 microblades of white siliceous slate, 1 of

<sup>7</sup>Originally called Chel'kun II (see Dikov 1980:7).

obsidian, and a subtriangular point of flint (Plate 71:1-7). The latter is similar to the points from the Kurupka II site (15), which may indicate a relatively late age for the site.

The Nekunveem site (42) is located on a point between the Ioniveem River and the Nekunveem River which flows into it. It is on the edge of a point of the 9-m to 12-m terrace, from which a spit overgrown with brush runs more than a kilometer and which separates the Nekunveem River and the Ioniveem River (Fig. 54). The spit is marshy in front of the point that contains the traces of the site. On the dry rubble surface of the site were found a scraper, a burin, nine flakes, and five knife-like lamellae of gray siliceous slate, as well as a scraper on platy slate (Fig. 73:15) and two middle burins of gray and white flint (Plate 73:13-14).

The Ioniveem V site (43) is located 1.5 km below the mouth of the Nekunveem River on the same left bank of the Ioniveem River, on an isolated knoll (Fig. 55). Here, on the small-rubble surface at the brow of the 18-m to 24-m terrace and south of the mentioned knoll (about 5 m high) surface material of rather archaic appearance was collected: seven flakes of gray siliceous slate and one of quartzite, a lateral burin (with retouched handle) of silicified tuff (Plate 71:8), a burin from a thin flake (Plate 71:10), a graver (Plate 71:9), and five knife-like lamellae of both light-gray flint (Plate 71:8-17) and heavily patinized ones of silicified tuff (Plate 71:11-13, 15-17).

The Ioniveem VI site (44) is located on the other side of the stream on the same high terrace. On the surface of the precipitous point only one flint flake was found. It was beside a late *paliakvyn* (Chukchi grave) (Fig. 56).

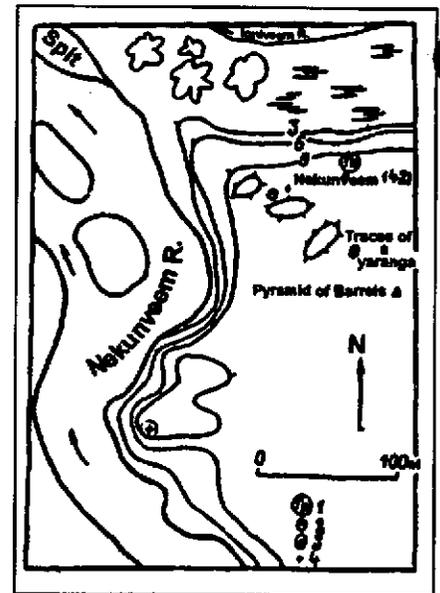


Figure 54. Neolithic Nekunveem site (42).

- 1 - Graffiti; 2 - scraper; 3 - burin;
- 4 - flake.

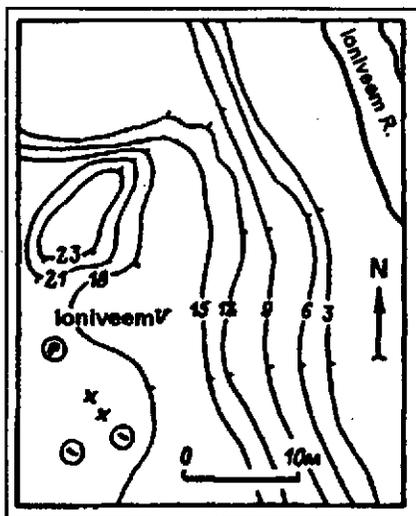


Figure 55. Neolithic Ioniveem V site (43), 1981.

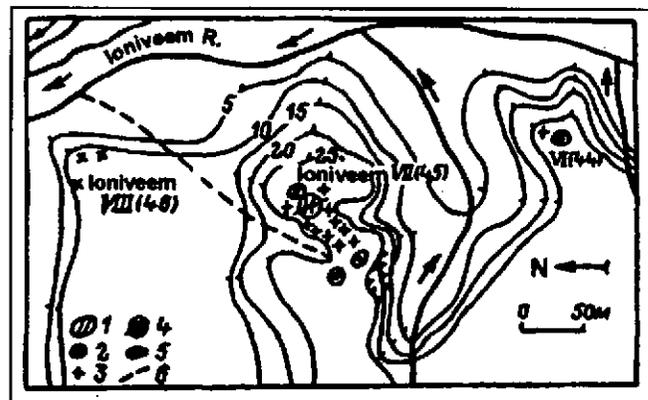


Figure 56. Disposition of Ioniveem VI (44), VII (45), and VIII (46), investigated in 1982.

- 1 - Ocher; 2 - *paliakvyn*; 3 - artifacts; 4 - fragment of a core;
- 5 - ring from a *yaranga*; 6 - tractor route.

The (probably Late Paleolithic) Ioniveem VII site (45) is beside the previous one and beyond a gorge on the same high (25 m) point of this same terrace (Fig. 56). On its rubble surface, among the remains of a Chukchi nomad camp (stone rings of *yarangi*), in 1981-82 we found heavily patinized flakes of light-gray siliceous slate (40 pieces), red and pink tuffite (2), quartzite (2), and chalcedony (1 piece), as well as a lateral burin, six microblades, an edge spall from a prismatic core or more probably an end spall from a wedge-shaped core (Plate 73:4), a piece

of a prismatic core, and a transverse spall from the striking platform of a wedge-shaped core (Plate 73:1) - all of light-gray siliceous slate.

In 1981 we found the Late Neolithic Ioniveem VIII site (46) on the left bank of the Ioniveem River on a point-like knoll 200 m north of the high Ioniveem VII site. It had archaic (similar to Paleolithic) artifacts (Fig. 56). This site is located on a lower place (to 10 m). Here, in a comparatively small (up to 25 m in diameter) area of a blowout on a sandy and small-rubble surface were collected three siliceous arrow points - one of gray siliceous slate (Plate 72:1), another of red flint (Plate 72:2), the third of white flint (Plate 72:4), one middle burin of red flint (Plate 72:5), and two scrapers - of red flint (Plate 72:6) and gray siliceous slate (Plate 72:7), as well as 132 flakes (12 of them large) of gray siliceous slate (149 pieces), red (23), and yellow, obsidian (1), chalcedony (1 piece), and two obsidian knife-like lamellae.<sup>8</sup> In appearance this is Late Neolithic material.

The Ioniveem IX campsite (47) is two km below on the left bank of the Ioniveem River at an elevation of about 8 m to 10 m. It is on the right of the source of a stream that flows from a small lake. In 1981 we found 43 flakes (3 large, 20 medium, and 20 small) of gray silicified slate (one of them retouched) and one microblade of white silicified slate on the small-rubble surface.

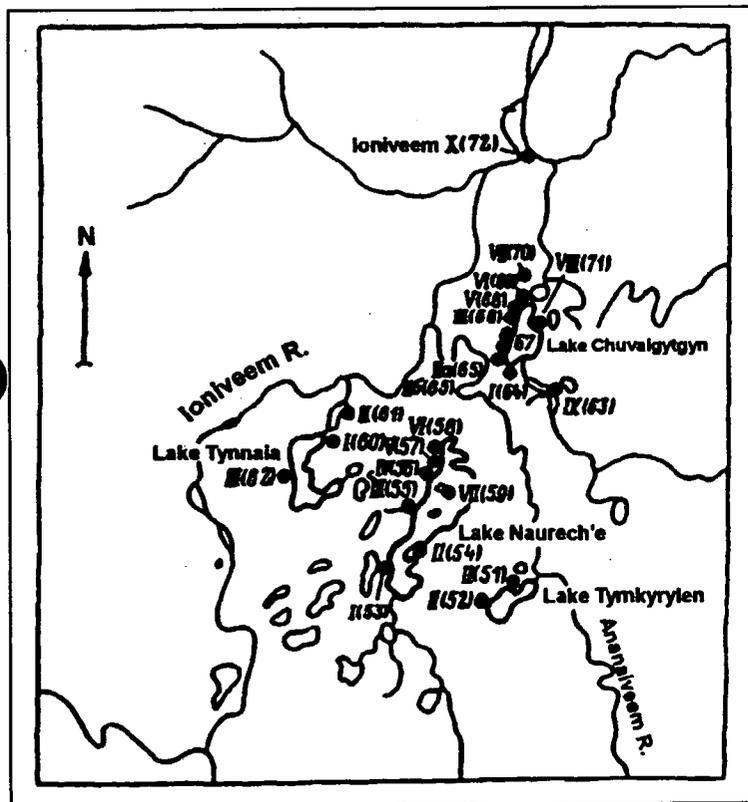


Figure 57. Archaeological sites on lakes and in the valley of the middle course of the Ioniveem River.

### Sites on Lake Tymkyrylen (51, 52)

Tymkyrylen I (51) is located on the north shore of Lake Tymkyrylen, which is near the north slope of Ananai Mountain in the immediate vicinity and on the left side of the Ananaiveem River (Fig. 58). A contemporary carbonaceous hearth stain was found here in 1984 on the slope of a knoll at an elevation of 5 m between Lake Tymkyrylen and a small lake to the north of it (Fig. 57 and 58). On the scattered surface near this hearth a subtriangular flint arrow point, retouched on both sides and of Neolithic appearance, was found. And above, on the upper part of this knoll, at an elevation of 15 m and several hundred meters to the west, more numerous traces of an early site were found - flint and siliceous slate flakes and several fragments of gray clay vessels coarsely modeled by hand.

Tymkyrylen II (52) is located on the same north shore of Lake Tymkyrylen, on a cape 8 m high, and 500 m west of the Tymkyrylen II deposit. Here on a rubble surface only a few flakes of white silicified slate were found (Fig. 58).

<sup>8</sup>The numbers in this sentence are a little confused. - Trans.

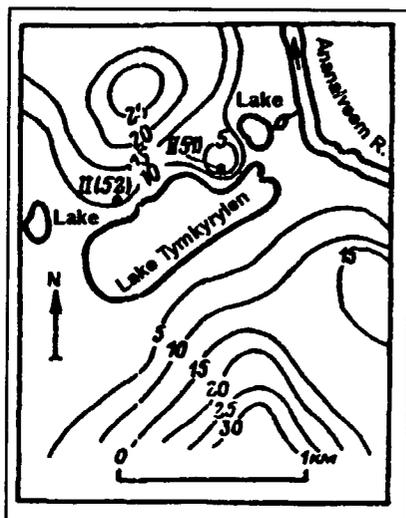


Figure 58. Stone Age sites of Tymkrylen I (51) and II (52), examined in 1984.

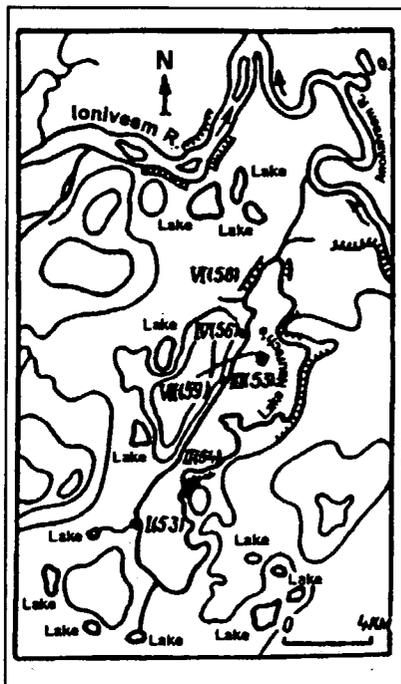


Figure 59. Stone Age sites on Lake Naurech'e.

### Sites on the Shore of Lake Naurech'e (53-59)

Fish-filled Lake Naurech'e is joined by a channel to the Ananiveem River, which flows on the right into the Ioniveem River (Fig. 59). In 1979 six Neolithic sites were found on its banks: one on the east (Naurech'e II), the others on the west (Naurech'e I, III, IV). In 1981 the Naurech'e VII site (59) was added.

The Naurech'e I site (53), on the southeast shore of the lake and right of the mouth of a stream, is on a bank about 2 m high. It contained three gray siliceous slate flakes (Fig. 59).

The Naurech'e II site (54) is on the eastern shore of the lake and on the northern side of a peninsula at a narrows in the lake (Fig. 59). The bank here is 4 m high. On a bare part of the sandy surface were found flakes of gray silicified slate (23 pieces), white (5), and pink (4); 22 microblades of gray, white, and red siliceous slate, chalcedony, and obsidian; as well as a blank of a prismatic core and two spalls from a core. Immediately under the sod in our 3-m x 2-m test pit, there were seven more flakes of brown, white, and pink siliceous slate; a prismatic core; and an obsidian microblade - all this on the eastern side of a carbonaceous hearth stain (1.2 m x 1.3 m). The sandy cultural layer contained many gravels.

The Naurech'e III site (55) is located on a point-like knoll 4 m high. It is on the western side of the lake, north of its narrows, and left of the mouth of a creek (Fig. 59). On several bare places on the surface of the knoll were two conical cores and a ribbed microblade from a similar core (Plate 74:1-3); a piece of an arrow point of platy slate retouched on one side (Plate 74:5), a graver (Plate 74:6); a scraper and two fragments of a knife of a silicified, platy slate (Plate 74:9-11); and 169 flakes - of gray (63), white (4), yellow (1), and red (1) silicified slate, as well as one microblade of gray, siliceous slate. All the artifacts have an entirely Neolithic appearance.

The Naurech'e IV site (56) is a half kilometer northeast of the previous site on a point 5 m high (Fig. 59). Just as at the Naurech'e V site, here on a sandy bald spot in the sod were encountered two pieces of arrow points of platy silicified slate retouched along the edges (Plate 74:12, 16) and 176 flakes of the same slate, as well as one of quartzite, one of chalcedony, and two of red-brown flint. A fragment of gray thin-walled ceramics without any design or stamp on the surface (Plate 74:18) was also found here.

The Late Neolithic Naurech'e V site (57) is 200 m more to the northeast along the shore of the lake. It is on a 4-m to 5-m high knoll from which a large spit extends into the lake (Fig. 59, 60). The knoll is 100 m across, and its top is two-humped and in large part covered with sod. The surface cultural layer was found in places where there is no sod, with sandy blowouts.

In one such blowout (Location 1), on the northwest side of the northern "hump" (Fig. 60), as a result of excavating to a depth of 0.5 m to the basal permafrost, we found an elongated leaf-shaped bifacially convex arrow point with broken base (Plate 75:10) and two truncated, leaf-shaped ones with slightly grooved base (Plate 75:11-12), as well as a blank of a point (Plate 75:13); a knife-like lamella; and 10 flakes (light-gray siliceous slate - 7, gray-brown - 2, and chalcedony - 1). There were also three fragments of thin-walled ceramics with "waffle" imprints (Plate 76:1-3).

In the 13 remaining locations of blowouts of the cultural layer there were fragments of four more of the same elongated, leaf-shaped, flat or convex arrow points (Plate 75:2-3, 6, 23), truncated leaf-shaped points (Plate

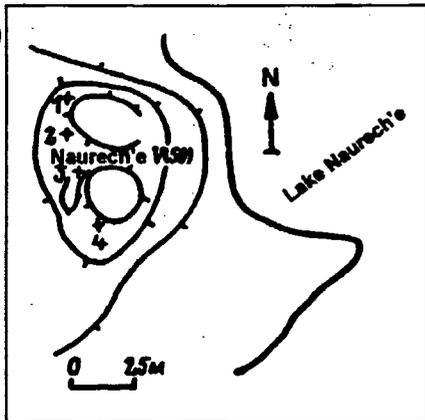


Figure 60. Neolithic Naurech'e V site (57), 1979, 1981.

The Naurech'e VI site (58) is 200 m to 250 m farther to the north, on the opposite (north) side of the entrance of the stream into the lake on a point-like knoll (4 m high), and divided into two parts by a small hollow (Fig. 59, 61). Finds were made in two large, sandy blowouts, primarily in the southerly one. There were 135 stone objects there, including 111 flakes - of gray, siliceous slate (91 specimens), brown (1), white (6), red silicified jasper (1), obsidian (2), chalcedony (10), as well as 14 pieces of platy, silicified slate, 1 obsidian microblade, 1 edge spall from a prismatic core, 19 stone tools and their fragments, and 1 piece of pottery.

The following were assigned to the tool category: five broken arrow points, including 1 elongate leaf-shaped bifacially convex (Plate 77:10), 2 flat and retouched only along the edges (Plate 75:2-3), and 2 subtriangular with lightly grooved base (Plate 75:19) and with lightly outlined stem (Plate 75:4); the middle part of a distinctive large projectile point or knife with 4 lateral projections, made from a slab of silicified slate by bifacial edge working (Plate 75:8); 5 broken, platy knives (Plate 76:10; 77:4, 16-18) and a blank of such a knife; a large end scraper on a massive flake (Plate 76:14); 3 small end scrapers, one with a side spall removed; 2 side scrapers on flakes (Plate 77:9); a small chisel-like/adze-like instrument (Plate 77:15); 1 triangular flake with pointed working end (Plate 77:5); and 10 platy pieces of silicified slate with retouch along the edges (broken knives?). A fragment of ceramics (7 mm thick) is part of a side of a coarsely modeled vessel with heavy sand temper. It is interesting that on its

surface vertical, parallel furrows - "kaneliury" [flutes - *Trans.*] - are preserved (Plate 77:7). In this way it is similar to the ceramic piece from the Late Neolithic of the Kurupka II site (15). The whole complex of artifacts of the site is definitely Late Neolithic.

The Naurech'e VII site (59) was found in 1981 on a small island in the northern part of the lake (Fig. 59, 62). It is located on the left of a spring on the eastern shore of the island (its height is 4 m). Under the sod in a bare spot two prismatic single-platform cores of yellow and gray flint (Plate 77:1-2) were found. In another place not far away, in this same layer, a fragment of a ground knife and six pieces of white silicified slate were found.

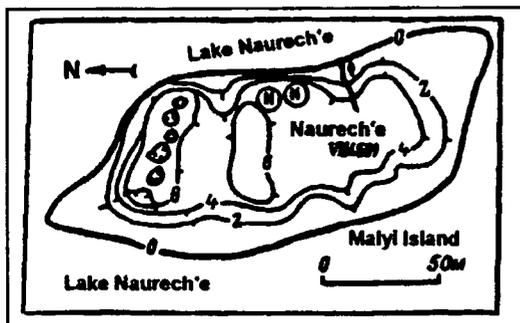


Figure 62. Neolithic Naurech'e VII site (59)b, 1981.

75:5), leaf-shaped from platy slate (Plate 75:29), stemmed (Plate 75:9), and a blank of an elongated point (Plate 75:26); fragments of broad, bifacially leaf-shaped knives (Plate 75:21-22, 25; 76:7, 9, 15), 2 fragments of a ground slate knife (Plate 76:16), 11 pieces of platy knives retouched along the working edge (Plate 75:7, 17, 25, 27; 76:13), and 6 fragments of narrow, bifacial, leaf-shaped knives (Plate 75:28; 76:4, 8); three end scrapers (Plate 76:12), three side scrapers (Plate 75:15); and one burin of pink flint (Plate 75:5).

In addition, in blowouts and in the examined profiles of the cultural layer, 14 more knife-like lamellae and 632 flakes of siliceous slate of various colors (495 specimens), brown flint (78), chalcedony (21), red jasper (10), obsidian (3), and quartzite (4) were found. A comparatively large number (28 specimens) of pieces of silicified, platy slate were collected as well, some of them with coarse edge retouch. Thus, stoneworking technology was based on the wide use of silicified platy slate, along with the production of flakes and knife-like lamellae from specially prepared cores.

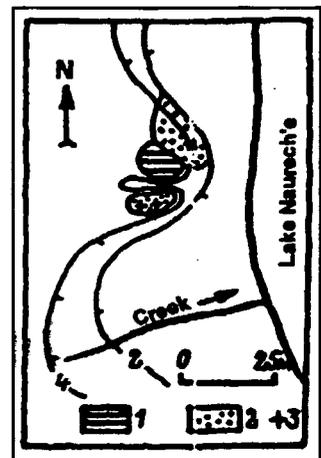


Figure 61. Neolithic Naurech'e VI site (58).

- 1 - Sandy blowout;
- 2 - sod-covered area;
- 3 - stone artifacts.

Sites on Lake Tynnaia (60-62)

This lake is located near lakes Naurech'e and Chuvaigytkhyn and is joined by a channel to the Ioniveem River (Fig. 63). The channel passes through another small unnamed lake. The sites discovered on its shore, just as on Lake Tynnaia, we called by one name: Tynnaia I-III.

Tynnaia I (60) is located on a knoll at the place where the channel begins from Lake Tynnaia (Fig. 63). The knoll is 8 m high, precipitous on the lake side, and gently sloping on the opposite. On its top, on a rubble surface, near the stone hearth ring of a Chukchi *yaranga* were found 10 small flakes of siliceous slate - gray (8), red (2); chalcedony (3), and 6 platy pieces of silicified slate, 2 pieces of knives of platy, siliceous slate retouched along the edges; a fragment of a truncated leaf-shaped arrow point of dark-gray flint; a piece of a tip of a biface arrow point; and a whole stemmed point (Plate 77:11, 12, 14), as well as a carefully made miniature tool, probably a graver, with micro-retouch on both sides.

Tynnaia II (61) is located on a similar knoll on the east side of the small lake (Fig. 63), also with a rocky precipice on the side to the water (height of the knoll is 12 m). On the flattened rubble top of the knoll by the precipice were found the upper part of a platy, biface arrow point (Plate 77:13) and flakes of silicified slate - gray (10), white (1), brown (3), light-brown (2), and chalcedony (5).

Tynnaia III (62) is also on a precipitous knoll, but on Lake Tynnaia itself, on the western side (Fig. 63). On the rubble surface at a height of 12 m, flakes were found - gray siliceous slate (87) and white (2), three platy pieces of silicified slate, a stemmed point and a piece of a platy knife with edge retouch - both of gray, siliceous slate (Plate 77:8).

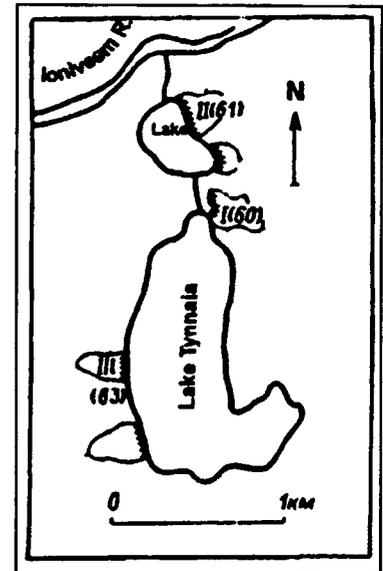


Figure 63. Disposition of Stone Age sites on Lake Tynnaia: Tynnaia I (60), II (61), and III (62) sites.

Sites on Lake Chuvaigytkhyn (63-72)

On Lake Chuvaigytkhyn in 1979 four Neolithic sites were discovered, Chuvaigytkhyn I-IV, and in 1981 five more - Chuvaigytkhyn V-IX (Fig. 64, 65).

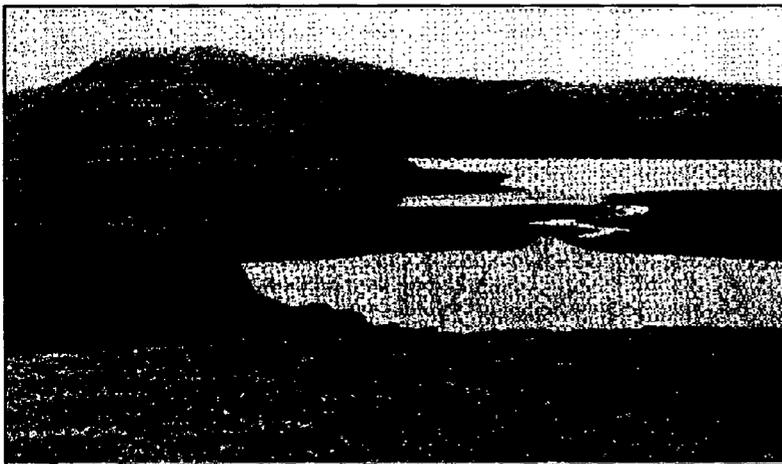


Figure 64. View of Lake Chuvaigytkhyn from the north from the Chuvaigytkhyn VII site (70).

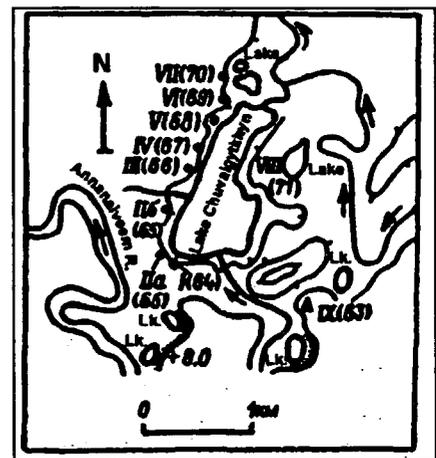


Figure 65. Location of Stone Age sites on Lake Chuvaigytkhyn.

The Chuvaigytkhyn I site (64) is located at the extreme southwestern corner of the lake. Here on the top of a precipice 16 m high were found several flakes and knife-like lamellae (Fig. 65).

The mixed site of Stone Age Chuvaigytkhyn II (65). Traces of this site were found in 1979 and 1981 150 m from the previous site on the broken-up small-rubble surface of the same 16-m terrace (Fig. 65). The largest cluster of stone artifacts is associated with a knoll on the south side of the terrace (50 m from the shore) where traces of a Chukchi nomad camp in the form of a stone ring of a *yaranga* were preserved. In 1979 this place was given the designation "Chuvaigytkhyn IIA." At that time the following artifacts were found there: three prismatic micro-cores, two transverse spalls from prismatic cores (Plate 78:17), two cores similar to wedge-shaped (Plate 78:1-2), two scrapers (Plate 78:18-19), two bifacial leaf-shaped arrow points (Plate 78:3, 5), a patterned artifact (Plate 78:6), the majority of the small flakes (211 specimens), and knife-like lamellae (99 specimens) - in particular the thinnest and smallest knife-like lamellae (19 specimens). Farther to the north along the island (for a distance of more than 100 m) fewer finds were made. But on the point of the precipice itself, at the point called "Chuvaigytkhyn II," a prismatic core and a fragment of an arrow point with straight base were found. At the site there were a total of 22 stone tools and their fragments, as well as 632 flakes (439 of them small, to 10 mm); 163 knife-like lamellae, including 20 miniature ones to 3 mm wide (five of them with retouch); and 11 edge microblades split from ribs of microcores. All these were of light-gray siliceous slate (504 specimens), as well as green (29) and pink (10), of yellow flint (4), obsidian (26), chalcedony (913), jasper (60), quartzite (3), and platy, silicified slate (3 specimens).

The stone tools are represented by two chalcedony biface arrow points, one rhomboid (Plate 78:3) and one truncated, leaf-shaped (Plate 78:5); pieces of points with slightly concave base (Plate 79:15) and straight base (Plate 79:16); one piece of a leaf-shaped, biface knife (Plate 78:7); a unifacial knife on a lamellar flake retouched along the edges on the back side (Plate 78:12); one end scraper (Plate 78:18) and two side scrapers (Plate 78:19-20); and a polyhedral burin (Plate 79:19) and a lateral burin (Plate 79:17).

The most remarkable artifacts collected at the site are those noted above found near the stone ring of the Chukchi *yaranga* (Chuvaigytkhyn IIA). These include the patterned artifact of obsidian reminiscent of a turtle or skin of an animal, perhaps a bear (Plate 78:6), and two objects of gray siliceous slate which with a great degree of probability can be interpreted as wedge-shaped (end) cores - elongated horizontally (Plate 78:1) and vertically (Plate 78:2) - since the side part of the second was broken off (evidently in the process of flaking microblades). On the butt-end of these artifacts, the negative flake scars of microblades can be clearly seen. One bifacially retouched artifact of red stone is quite like a broken wedge-shaped core with knocked-off end part (Plate 79:20).

It is possible therefore that in the mixed, regarding the cultural stage, archaeological material of the site, there are typically Late Paleolithic elements present (wedge-shaped cores) which form, together with bifacial leaf-shaped points, a characteristic Beringian complex. And it is probably not by chance in this connection that so little of the platy slate (only three pieces) was used at the site, and ceramics are entirely lacking. It can only be regretted that the cultural layer of this site is completely disturbed.

The Chuvaigytkhyn III site (66). In the gap between this and the previous sites there is a creek. Its north bank becomes lower, not exceeding 8 m to 12 m here (Fig. 65). The Chuvaigytkhyn III site is located on the north side of the creek and, as usual, is represented by surface material in blowouts on the small-rubble surface of the 8-m to 12-m terrace. Here in 1979 and 1981 flakes were found - gray siliceous slate (91), red (3), yellow (1); black hornfels-like slate (2); flint (1); jasper (1); and chalcedony (1); and not a single knife-like lamella.

The stone artifacts represented here were one prismatic single-platform flint core (Plate 80:8), six broken platy blanks of flat arrow points with straight bases (Plate 80:1-6, 10) retouched completely or only along the edges, one knife, and two scrapers from pieces of silicified slabs (Plate 80), as well as a fragment of a coarsely flaked flint biface and a large segmented skreblo-knife made by bifacial percussion flaking and reworking of the convex working edge of a flake of gray hornfels-like slate (Plate 80:9).

In general, the complex of finds can be classified as Late or Remnant Neolithic.

The Chuvaigytkhyn IV site (67) is in the immediate vicinity of the previous site, north of the narrow valley with the stream. On the surface of this same 8-m to 12-m terrace the surface material assigned to this site was collected (Fig. 65, 66). Here fragments of coarse, thick ceramics (34 pieces); 60 knife-like lamellae; skreblos; and scrapers of late appearance, as well possibly as earlier typically Neolithic artifacts were found. The

latter are a small conical core, six knife-like lamellae, a lateral burin, and a fragment of a knife on a flake. All are of gray (only four flakes of black) siliceous slate (Plate 80:11-20). In this same place a quite distinctive instrument in the sub-rhomboid form of a grooved end scraper made of pink chalcedony was found (Plate 79:27).

The Chuvaigytkhyn V site (68). Traces of a Late Neolithic site were discovered in a large sandy blowout at an elevation from 4 m to 6 m above lake level on the northwestern shore (Fig. 65). It is in the immediate vicinity of the Chuvaigytkhyn IV site (67) (Fig. 66). Here there were 308 flakes primarily of light-gray and yellow, siliceous slate (including one of basalt and two of quartzite); 11 knife-like lamellae (two of obsidian, the remaining of yellowish-gray slate); and 25 fragments of hornfels-like, platy slate, as well as 59 stone tools and two fragments of clay vessels - thick-walled below the rim (Plate 81:1) and thin-walled with hardly noticeable "waffle" stamp.

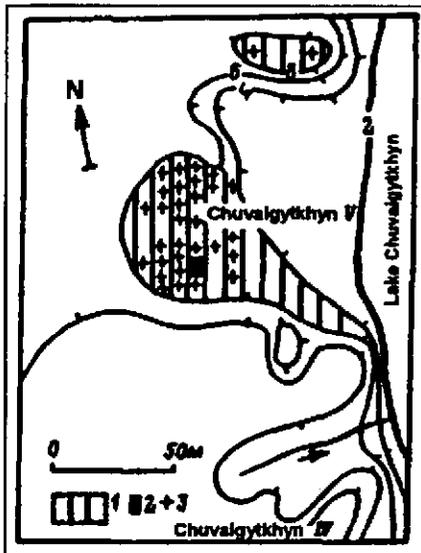


Figure 66. Late Neolithic Chuvaigytkhyn IV (67) and V (68) sites.

1 - Dispersed part of site; 2 - fragments of clay vessels; 3 - stone artifacts.

the same terrace were found a conical core of yellowish-gray flint; a piece of a knife of yellow-gray, silicified, platy sandstone; a piece of a knife on a flake; and a flat trapezoidal adze of the same material (Plate 79:21-23, 25). Twenty-two flakes of grayish, silicified slate and 13 platy fragments of hornfels-like slate, three of which with traces of edge retouch, were collected as well.

The Chuvaigytkhyn VII site (70) also produced material from a sandy blowout on the edge of the same terrace and opposite two small lakes (Fig. 67): 27 knife-like lamellae made of gray, siliceous slate and a fragment of a core with scars from these same lamellae, an end scraper on a lamellar flake, a lateral burin on an obsidian knife-like lamella, a broken arrow point with straight base, a pointed flake retouched along one edge, and a lateral burin on an obsidian knife-like lamella (Plate 83:1-10). In addition, of 58 flakes there were obsidian (27), siliceous slate gray (6), white (19), jasper (4), and brown flint (2).

The Chuvaigytkhyn VIII site (71) was not productive. A total of 16 flakes and 12 knife-like lamellae of gray, silicified slate and obsidian (17 specimens) were found on the eastern shore of the lake, on a knoll 6 m to 8 m high on the north side of the narrow valley with the creek (Fig. 65).

The tools are represented by 12 fragments of knives of platy, silicified slate bifacially retouched along the working edge (Plate 81:3); 2 ground slate knives (Plate 82:4-5); 3 lamellar scrapers (Plate 82:6); 7 side scrapers from flakes of gray and yellow, siliceous slate (Plate 79:1-4, 12-14); a carefully retouched scraper-graver (Plate 82:22); and 6 whole (Plate 82:1-3, 7-8, 25) and 17 broken (Plate 82:4-6, 9-16, 18-20) arrow points and 4 blanks of them (Plate 82:17-21, 23-24) made for the most part of greenish-gray, silicified platy slate (the remaining - Plate 82:7, 20, 22-24 - of yellow siliceous slate). The arrow points are predominantly truncated-leaf-shaped and elongated triangular with a straight or grooved (in two cases - asymmetrically) base. One point is short and three-sided, so-called "file-shaped" (Plate 82:7) - the earliest tool in the complex. On the whole the collected artifacts can be assigned to Late and Remnant Neolithic times.

The Chuvaigytkhyn VI site (69) is situated beside the previous one (Fig. 65, 67). In blowouts of

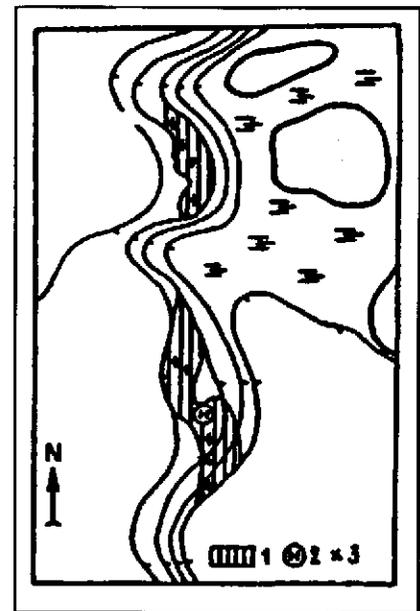


Figure 67. Neolithic Chuvaigytkhyn VI (69) and VII (70) sites.

1 - Dispersed area of site; 2 - core; 3 - other stone artifacts.

The Chuvaigythyn IX site (63) is situated on the gentle slope of a point of a high terrace (12 m to 16 m) in the bend of the river that flows from the south into Lake Chuvaigythyn (Fig. 65). There in 1984 were found 2 single-platform prismatic cores; a lateral burin; 60 knife-like lamellae of gray, silicified slate; and a fragment of a rim of a gray, clay vessel distinctively decorated by vertical grooves (Plate 83:11-16). Fifty-seven flakes of gray-yellow siliceous slate were collected as well. All this was in a blowout on the slope at an elevation of 5 m to 6 m.

The Ioniveem X site (72) is located on the point of a 6-meter terrace on the left of the mouth of the river that flows from Lake Chuvaigythyn and empties into the Ioniveem River. On a sandy knoll, which is exposed to the wind, in 1979 a small amount of surface material was collected: several fragments of coarse flat-walled ceramics, 17 knife-like lamellae, and 9 flakes of gray, siliceous slate. A test pit (0.5 m x 0.5 m) indicated that at a depth of 0.5 m in sand there is a slightly carbonaceous lens and at 20 cm deeper are gravels.

The Ioniveem XI campsite (72-a) is on a rocky point (about 5 m to 6 m high) on the right of the mouth of the river that flows from Lake Chuvaigythyn. In a test pit in the surface layer (0.4 m - the basal rubble is below this) a ground slate knife was found (Plate 79:26).

The Ioniveem XII campsite (72-b) is 15 km above the channel from Lake Ioni. It is on the right bank of the Ioniveem River on a point (about 5 m high) and on the left of the mouth of a creek entering the right side of the river. In a test pit at a depth of 0.6 m in a humic layer a fragment of a coarse flint knife-skreblo percussion flaked on both sides was found. An oval grave wall of stone 2.5 m long (with wood charcoal under the sod) is located 35 m to the east.

Sites at Lake Ioni (73-85)

In 1977 A. E. Katenin, conducting botanical investigations, found seven Stone Age sites on the south shore of Lake Ioni (Dikov and Katenin 1980). Some of these sites (Ioni I, I-a, I-b, II, VII) were examined by the author in 1979 (Fig. 68). In 1981 five more Stone Age sites were revealed - Ioni VIII (81)-Ioni XII (85), one of them - Ioni X (83) - being the most interesting and probably Late Paleolithic.

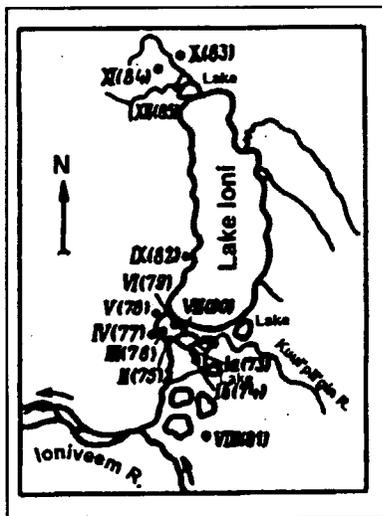


Figure 68. Archaeological sites in the region of Lake Ioni.

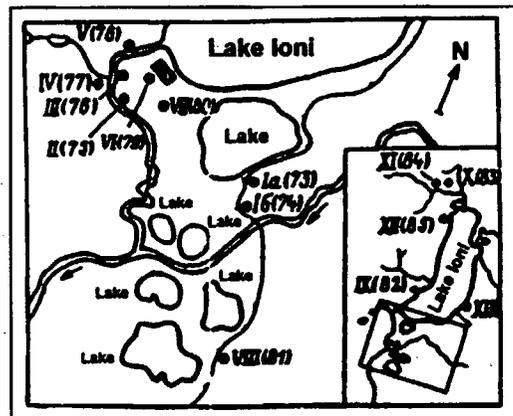


Figure 69. Early sites on the south side of Lake Ioni.

The Ioni IA site (73) is situated on the point-like edge of the third and lowest lake terrace (4 m to 6 m high), which rises on the southeast side of an unnamed lake located south of Lake Ioni and separated from it by two parallel shore berms (Fig. 69). The slope of the terrace here is composed of gravels and sandy loam and is heavily damaged. The surface is somewhat fragmented into small knolls on which finds were made in blowouts. Katenin found here in 1977 two prismatic cores - one with double-platform of yellow flint and a flattened uniface of gray siliceous slate (Dikov and Katenin 1980:Fig. 2:1-2), a ground one of gray argillaceous-sandy slate (Plate 84:15), flakes, knife-like lamellae, and several pieces of ceramics: black smooth-walled with a brownish exterior surface and entirely black with soot on the grooved surface (Plate 84:16). In 1979 the author found here in the damaged surface cultural layer, in a part extending for 150 m, 1 uniface prismatic core; 2 end scrapers; a large skreblo of gray, siliceous slate; 14 knife-like lamellae (only 1 of obsidian and 3 of pink flint); and 27 flakes also primarily of this same material - only 7 of chalcedony (Plate 84:1-14). On the whole the complex of artifacts of this disturbed site may be assigned to the Late Neolithic.

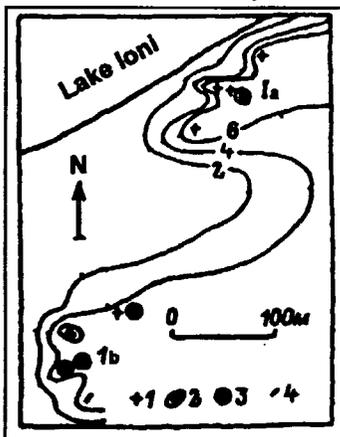


Figure 70. Neolithic Ioni IA (73) and IB (74) sites.

1 - Flakes; 2 - stone ring of Chukchi yaranga; 3 - core; 4 - knife-like lamella.

slope (in the slumped soil) of the terrace to its very bottom. The most remarkable finds here in the slump, in the bare parts of the surface, and in excavating the surface cultural layer (to a depth of 0.3 m) were the following: a single-platform, prismatic core flattened on one side (Plate 85:1); a bifacial, stemmed arrow point (Plate 85:8) and a truncated leaf-shaped unifacial arrow point (Plate 85:9); 4 middle and lateral burins on knife-like lamellae (Plate 85:1-3, 12-13); a graver (Plate 85:27); 2 end scrapers (Plate 85:18-19); and a smooth-walled fragment of 8-mm thick ceramics black in the fracture (Plate 85:25). Judging by the appearance of the finds, the surface cultural layer of the site primarily is mixed Late Neolithic (see also: Dikov and Katenin 1980:31, Fig. 3).

The Ioni IV site (77) is situated on the right bank of the river that flows from Lake Ioni. The site is on a point (4 m high) to the right of the mouth of the creek which flows through a rather broad gorge (Fig. 69, 71). Opposite this place, somewhat above the mouth of the creek, a tractor crossing goes through the river. Finds were made in the soil slumped from under the sod, where the surface cultural layer can be traced. The latter is underlain by basal gravels and reaches a thickness of about 15 cm to 20 cm. Here there were 9 knife-like lamellae and 7 flakes, all of silicified tuffite, and a piece of thick-walled ceramics. The circumstances (the

The Ioni IB site (74) is located 200 m to the southwest on the lowest projection of the terrace (its height here is 4 m) and is represented by surface materials from the surface cultural layer (Fig. 70). Here in places free of sod were encountered (all made of siliceous slate) 4 subprismatic microcores, 3 blanks of scrapers, 26 knife-like lamellae, and 34 flakes, including 3 of obsidian and 9 of chalcedony (Plate 84:17-32). In general, the site has a Neolithic appearance.

The site also has a *paliakvyn* (the stonework oval of a Chukchi burial).

The Ioni II site (75) is situated on the edge of the lowest terrace (3 m to 4 m high) on the left bank 300 m to 350 m above the mouth of the creek that flows from Lake Ioni and empties on the right into a channel (Fig. 69). The edge of the terrace, which has cultural remains in the sub-sod layer, is being eroded by the river here and is collapsing. The layer of sod filled with flakes is brown, and pebbles as well were tinged in this color at a depth of 10 cm (the whole visible thickness of the terrace to a depth of 1.5 m is formed by these pebbles). In 1977, 1979, and 1981 flakes (105 specimens), knife-like lamellae (12), and other artifacts (24) of gray, siliceous slate; chalcedony; and quartzite were found working out of the sod along the whole

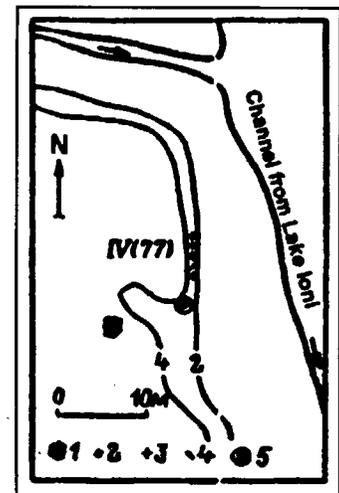


Figure 71. Neolithic Ioni IV site (77).

1 - Stone masonry; 2 - fragment of ceramics; 3 - flakes; 4 - knife-like lamellae; 5 - burin.

necessity to abandon the place) did not permit carrying out a more detailed survey there.

The Ioni VI site (79) is located on a nearby pebble lake-berm (to 1.5 m high, new and damp). The flakes found here, knife-like lamellae, were possibly pulled out by the treads of ATVs and moved a distance of up to 150 m (Fig. 69). A flint point was found here in 1976, and in 1977 - burins, scrapers, a piece of a biface, and blanks (Dikov and Katenin 1980:Fig. 4:1-7).

The Ioni VII site (80). This site is the richest in finds on the lake for a site situated on the second and highest pebble beach berm (3 m above water level in Lake Ioni). It is about 10 m wide and stretches parallel to the south shore of the lake (Fig. 69). The surface material of Late Neolithic appearance is localized in the extreme western part of the berm over a distance of about 200 m. On its surface in 1977 a quantity of flaked chalcedony was found that was brought by early man from the top of the low stone ridge located to the southwest. In the site there is yellowish-brown flint, as well as much gray, siliceous slate, but very seldom is obsidian encountered.

In 1977 Katenin found at the site a prismatic, flattened, double-platform core; a ground slate knife; and a roundish end-scraper (Dikov and Katenin 1980:Fig. 5), as well as 2 stemmed and 1 truncated, leaf-shaped, bifacially retouched arrow points (Plate 86:25, 27, 16) and a piece of a three-edged blank for a so-called file-shaped arrow point, characteristic of Late Neolithic times. The author collected here in 1979 1 prismatic unifacially flattened core (Plate 86:1), 3 whole and 2 fragments of leaf-shaped arrow points (Plate 86:2-5, 9), 3 fragmented leaf-shaped biface knives (Plate 86:18-19, 23), 3 scrapers, 1 end scraper (Plate 86:17) and 3 roundish scrapers (Plate 86:6, 21), 3 graters (Plate 86:10, 12), and blanks of a skreblo and an adze (Plate 86:25, 28), as well as 13 knife-like lamellae and 329 flakes of the above-named types of stone (as well as of red [1 specimen] and green [9 specimens] siliceous slate) and 313 pieces of chalcedony.

The Ioni VIII site (81) is located at the approach to the lake on its south side (2 km from Lake Ioni and 1.5 km from the Lorino Sovkhoz base). It is on a point of the 4-meter terrace to the left of the mouth of a creek that enters on the left into the channel that runs from Lake Ioni to the Ioniveem River (Fig. 69). On the small-rubble surface there were 105 flakes and one knife-like lamella of colored, siliceous slate; chalcedony; quartzite; and obsidian (1 specimen).

The Ioni IX site (82) is on the highest (about 25 m) rocky point on the west side of the lake (Fig. 69). On its small-rubble flat top were two flakes (of chalcedony and siliceous slate) and nothing more.

The Ioni X site (83) is on the north side of the lake, approximately 2.5 km from its shore, on the eastern slope of a sharp-peaked hill located between a river on the east and a creek on the west (Fig. 68, 72). The hill has a height of 26 m and in general a small-rubble surface, with the exception of parts overgrown with lichens (Fig. 73). As on the Likvylenveem site, traces of occupation of early man were found on that side of the hill protected from the prevailing north wind coming from the Arctic Ocean (we had to undergo the ocean's fierce icy force here

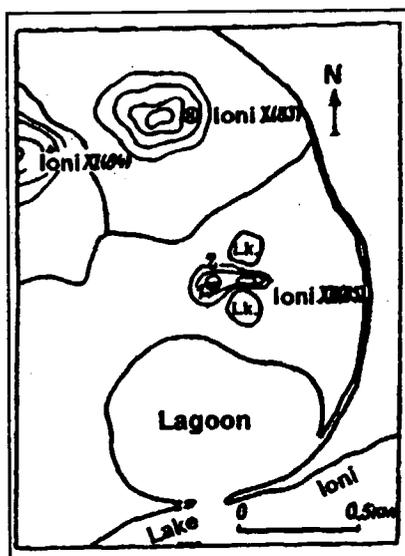


Figure 72. Early sites on the north side of Lake Ioni.

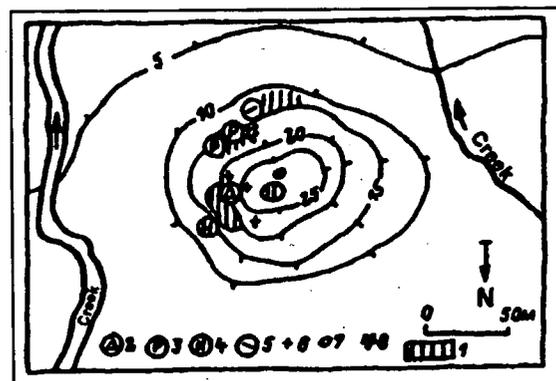


Figure 73. Ioni X site (83) (possibly late Paleolithic).

- 1 - Dispersed area; 2 - point; 3 - burin; 4 - core;
- 5 - knife-like lamellae; 6 - flakes and other artifacts of stone; 7 - pit; 8 - stone of an old hearth.

during a blizzard in the middle of August when we examined this site). The slope most protected from the fierce north wind was the steeper southeast slope of the hill with patches of sod. Both here, on its rubble surface, and under lichens were found 62 flakes and fragments of knife-like lamellae and 11 other artifacts of siliceous slate and tuffite of various colors - white, gray, red, and green (Fig. 73). The most remarkable are two small middle burins of light-gray, siliceous slate (Plate 87:5-6) found in a patch of lichens, where the remains of a stone hearth ring of late origin were preserved; a large middle burin of light-gray flint (Plate 87:4); a pointed flake (point?) of green, siliceous slate (Plate 87:3); a short end-scraper of white flint (Plate 87:17); and a quite distinctive probable combination tool in the form of a uniaxially convex spokeshave-graver of yellow-white-red fine-grained quartzite (Plate 87:18), as well as a bifacial end core of light-gray flint (Plate 87:1) and a spall of the same gray flint, probably from the end part of a wedge-shaped or prismatic core (Plate 87:2). The high position of the site, relative to the river, and such archaic artifacts as an end core (Plate 87:2) and a bifacial end core (Plate 87:1), as well as the rather archaic appearance of the other stone artifacts of the complex make quite probable a Late Paleolithic age for the campsite, though at present is impossible to be completely certain of this.

The Ioni XI site (84) is on a hill (the remnant of a terrace) 20 m high. There were two flakes and five fragments of gray, siliceous slate, quartzite, and chalcedony, but no other finds. The hill is located in the immediate vicinity of the Ioni X site. It is to the west of it, beyond a creek (Fig. 72). On the hill there are traces of a Chukchi nomad camp - stone rings and hearths of *yarangi*.

The Ioni XII site (85). This last site was found on a sand dune in swampy lowlands in the immediate vicinity of the north shore of Lake Ioni. It is by the lagoon at the mouth of the river that flows past the Ioni X site (Fig. 72). The height of the dune is 3 m. In the blowout area (at an elevation of 2 m) we found a carefully made biface knife with convex blade made from a slab of gray, siliceous slate (Plate 85:28). The campsite, judging by its topography and by this find, is possibly Neolithic.

The Kainytynrel'khvaam site (86) is on a point of the first floodplain terrace. It is on the right of the mouth of the creek that enters on the right side into the Kainytynrel'khvaam River, a left tributary of the Ioniveem River [the direction of flow on the map seems to be backward - *Trans.*]. Here the Kainytynrel'khvaam River approaches closest the source of the Kus'iuveem River (Fig. 2). The height of the point with the cultural layer is 4 m to 6 m and is situated opposite the ford through the river. On the surface of the cultural layer, which is represented by brown peat-covered sandy loam with rubble, at a depth of 30 cm to 40 cm several fragments and amorphous flakes of reddish-brown flint were found (Fig. 74).

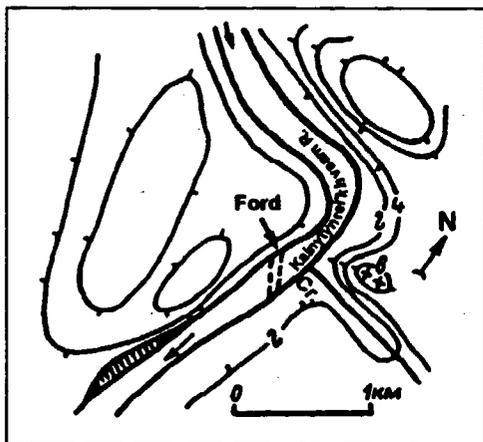
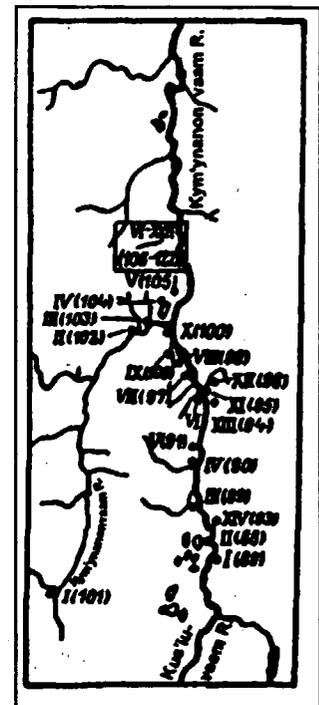


Figure 74. Disposition of Kainytynrel'khvaam (86).

Figure 75. Archaeological sites in the valleys of the Kus'iuveem and Kym'ynanonvyvaam rivers.



Sites in the Kus'iuveem River Valley (87-100)

The Kus'iuveem River is the right tributary of the Kym'nyanonvyvaam River. The confluence of the latter with the Leurveem River forms the short but deep Uliuveem River, which flows from the south into Koliuchin Bay of the Chukchi Sea (Fig. 2). The narrow valley of the Kus'iuveem River runs between scarred canyons with comparatively low (to 150 m) gently sloping hills, formed by red-colored tuff of acidic composition. The canyons are covered at the bottom on the stream terraces by a thin cover of gravel, evidently of glacial origin. The canyons were formed by erosion activity of rapid, deep streams that flow on the left into the Kus'iuveem River, on whose points at the mouth a large portion of the early sites was found. There were 10 early sites here (I-X). The remaining (XI-XIV) are on the right bank of this river (Fig. 75). Each of these campsites cited below was named, as usual, with the name of the river plus their ordinal number conferred in the course of the survey from up river to down (Kus'iuveem I-X) and then from down river to up (Kus'iuveem XI-XIV).

The Kus'iuveem I site

(87) is a surface site on a point-like hill in the bend of the river. It is on the right bank 4 km downstream from the entrance into the river on the right of a large channel coming from a large lake (Fig. 75). The height of the hill is about 25 m, its surface small rubble. On its flat top area, about 50 m across, there were nine flakes of gray, siliceous slate, one flake of light-green flint, and one flake of pink silicified tuffite (Fig. 76).

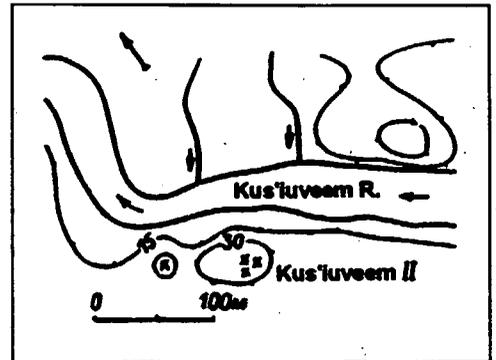


Figure 77. Stone Age Kus'iuveem II (88) site.

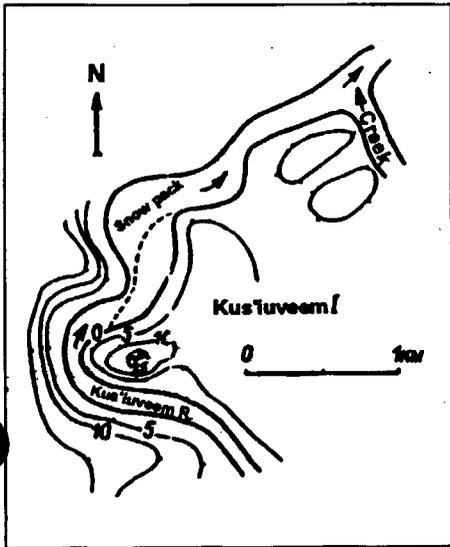


Figure 76. Disposition of Stone Age Kus'iuveem I (87).

The Kus'iuveem II site

(88) is 2 km farther downstream on the Kus'iuveem River. It is on a hill about 30 m high on the left bank. Here six white, green, and brown, silicified slate and gray tuffite were found, and lower along the slope of the broken-up, terrace, at an elevation of about 20 m from the river, a core-like blank of a tool of yellow flint (Fig. 77).

The Kus'iuveem III site (89) is 5 km farther below on the left bank of the river. It is on an oblong cape-like point, formed by the river and a creek entering on the left (Fig. 75). The elevation of the point here reaches 10 m. On its north broken-up small-rubble slope (over an extent of about 100 m) surface material was collected: a subprismatic, single-platform core (Plate 88:15); a segmented biface knife with convex blade (Plate 88:12); and two pieces of the same kind of knives (Plate 88:2, 5) - all three could have served as blanks of wedge-shaped cores - two middle burins (Plate 88:7, 10) and two lateral burins (Plate 88:9, 13); an adze-like core (Plate 88:8); three knife-like lamellae; and 126 flakes - all these of yellow and gray, siliceous slate, as well as 18 flakes of jasper-like flint, and one obsidian knife-like lamella (Plate 88:11).

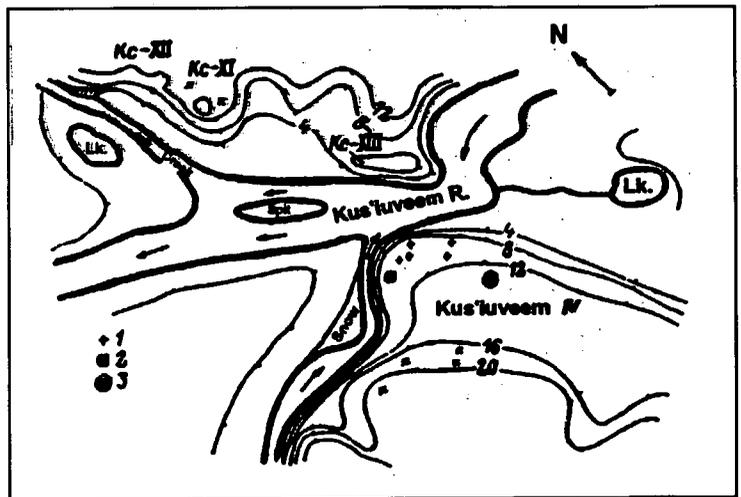


Figure 78. Disposition of Kus'iuveem IV (90) (Neolithic and probably Paleolithic). 1 - Artifacts; 2 - core-like artifacts; 3 - blank.

The Kus'iuveem IV site (90) is one and a half kilometers downriver from the Kus'iuveem III site (89). It is on the same left bank on a sloping point of the high terrace at the right of the mouth of a creek. The terrace is sloped and descends to the river here in steps that are quite visible on the enclosed plan (Fig. 78) of the location of the early site. Flakes and blanks, tools and pieces of them of yellow, brown, and gray, siliceous slate, red-yellow jasper, and chalcedony were found on the small-rubble surface on two steps: the lower, 8 m to 12 m high, and the higher, 16 m to 20 m high. On the lower step, nearer the river, a significant number of flakes (103 specimens) was encountered, and 150 m southeast - a core-like artifact of yellow flint and two pieces of quartzite. Also found on the lower step were a piece of an oblong arrow point with a slightly concave base (Plate 88:23); a knife-like lamella, more precisely, the edge of a spall (Plate 89:2) of light-gray, siliceous slate; and a large middle burin-graver on a large flake of brown flint with micro-retouch along the edge of one of the sides that forms the burin corner (Plate 89:1).

Artifacts found on the upper step appear more archaic. In addition to 164 flakes, fragments, and blanks (and there were no knife-like lamellae here), we collected three pointed flake-gravers with traces of retouch along one edge - on the ventral side (Plate 88:16-17) and on the dorsal side (Plate 88:18); a pointed flake similar to the primitive Chel'kun stemmed points (Plate 89:3); a distinctive oblong instrument with retouched grooved narrow working edge (Plate 88:22); and also an oblong blank, but with a wide transverse blade (Plate 88:25), as well as two transverse (functionally similar to ski-shaped) spalls from subprismatic or possibly broad wedge-shaped cores (Plate 88:20-21), and two blanks (it is possible that these are even wedge-shaped cores [Plate 88:19; 89:4], though this cannot be confirmed). Typologically the whole complex leans toward the Late Paleolithic, but this requires corroboration by further field research.

The Kus'iuveem V site (91) is only 1 km downstream on the river from the previous site. It is to the right of the entrance here of a creek into the Kus'iuveem River (Fig. 79). Traces of an early industry of Neolithic times in the sod-covered, small rubble were found at three points (A, B, and C) on steps of different heights in the second floodplain terrace. These steps corresponded to elevations of 7 m, 5 m, and 3 m from the

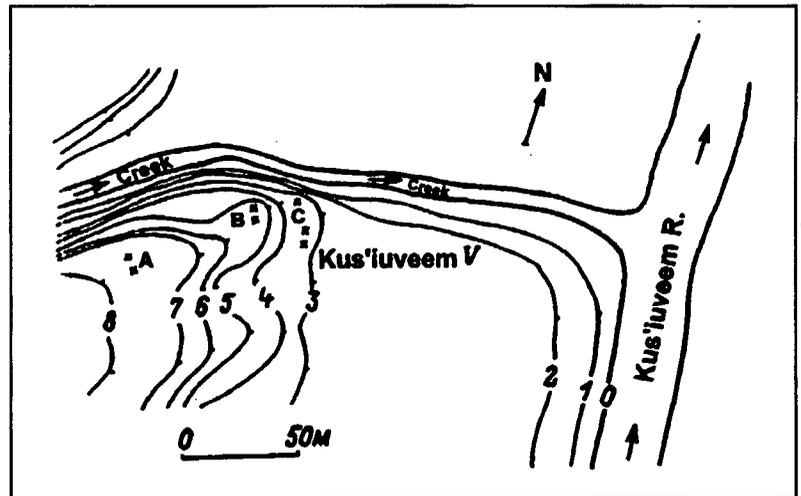


Figure 79. Occasionally occupied Neolithic campsite Kus'iuveem V (91).

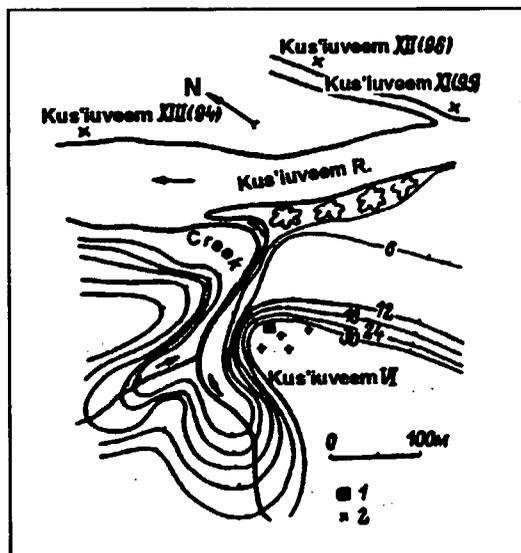


Figure 80. Stone Age workshop Kus'iuveem VI (92) and Kus'iuveem XI (95), XII (96), and XIII (94) sites. 1 - Test pit; 2 - artifacts.

river level. At Point B, on the surface of the cultural layer (in an excavation of 6 m<sup>2</sup> to a depth of 20 cm at flat basal rubble), there was a large accumulation of debitage and flakes of brown and gray, siliceous slate (718 specimens), quartzite (3), basalt (2), jasper (2), white and yellow flint (3), for a total of 728 specimens, of which 560 were small. Among them were a large edge spall from a core of gray, siliceous slate (Plate 89:5) and artifacts of light-brown, siliceous slate: two scrapers (Plate 89:7, 9) and a piece of an unfinished biface knife (Plate 89:8), as well as a massive knife or scraper, which can also be interpreted as a blank of a wedge-shaped core with a still unprepared striking platform and from which no microblades had yet been struck (Plate 89:6). For the determination of age of this probably pre-Neolithic complex additional materials are required. At Point C nine flakes of yellow and gray flint, three blanks, and a

middle burin were encountered. On the upper step at Point A there were 29 flakes of light bluish-gray flint and two punches: pointed lamellar flakes.

The Kus'iuveem VI site (92) is 2.5 km downstream from the Kus'iuveem V site on the 30-meter terrace. It is on the point of land on the right of the mouth of a creek that flows into the river on the left (Fig. 80, 81). Here there were many flakes (243 specimens) of light-brown, siliceous slate and yellow-red jasper (7 specimens), all concentrated in a comparatively small area (50 m x 60 m) on the end of the point of the terrace. In this same place a pencil-like core (Plate 90:1) turned up. In a small (2 m<sup>2</sup>) exploratory excavation (opened to basal rubble at a depth of 30 cm) a large accumulation of such flakes and fragments (203 specimens) was revealed, in particular, six large slab-like pieces, which probably are evidence of a former workshop. Among them, as well, was one large flake of yellow, siliceous slate worked similarly to a spokeshave by unifacial retouch along one concave longitudinal edge (Plate 90:3), as well as a flake-blank (wedge-shaped core?) retouched along the edge and of the same material (Plate 90:2). Also encountered there were three pieces of coarsely made biface knives of a gray slab-like slate, a fragment of a leaf-shaped biface point (Plate 90:12), pieces of cores, and blanks of indeterminate assignment. In spite of the apparent ancient age of all these artifacts, they do not yield a date at present.

The Kus'iuveem VII site (97) is located even farther down the river, 1.5 km from the Kus'iuveem VI site on the same left bank of the river. It is on the right of the mouth of a dry stream on a point of land. In an area of a small-rubble surface free of sod, 10 flakes of yellow siliceous slate were found. The elevation of the hill from the river level here is about 10 m (Fig. 82).

The Kus'iuveem VIII site (98) is on the other side of this same dry creek and on the same hill. Here two more flint flakes were found (Fig. 82).

The Kus'iuveem IX site (99) is on a broad point of the 20-m terrace between the next two creeks down river, at a distance of about 1 km from the previous campsite (Fig. 75). A certain number of flakes of siliceous slate was collected here at two points IX-a and IX-b on a small-rubble surface. At Point IX-a 19 light-gray flakes were found, and at Point IX-b 25 pieces of the same material and a fragment of a discoid core (Plate 90:19).

The Kus'iuveem X site (100) is located on a high point at the confluence of the Kus'iuveem River with the Kym'nyanonvyvaam River (Fig. 83). The elevation of the point here is about 15 m to 17 m. In an area free of sod were found approximately 200 flakes of flint and siliceous slate, two pieces of knife-like lamellae, a corner burin, and a blank of a wedge-shaped core in the form of a flake with traces of two long parallel scars on one side (Plate 93:9-12). By the appearance of these artifacts the campsite can be considered Late Paleolithic.

The Kus'iuveem XI site (95) is on the right bank of the Kus'iuveem River opposite the Kus'iuveem VI campsite (Fig. 75, 80). On the surface of

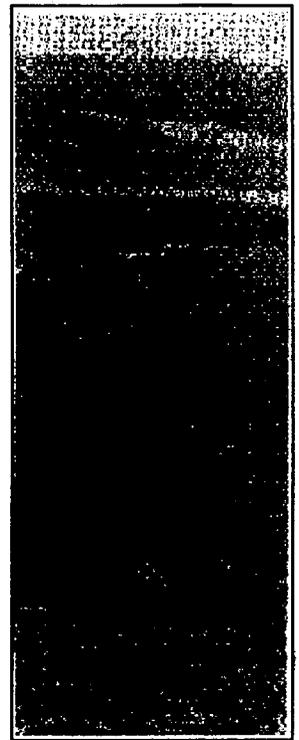


Figure 81. Stone Age Kus'iuveem VII (97) and VIII (98) sites.

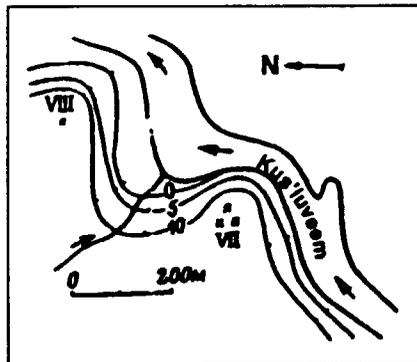


Figure 82. Stone Age Kus'iuveem VII (97) and VIII (98) sites.

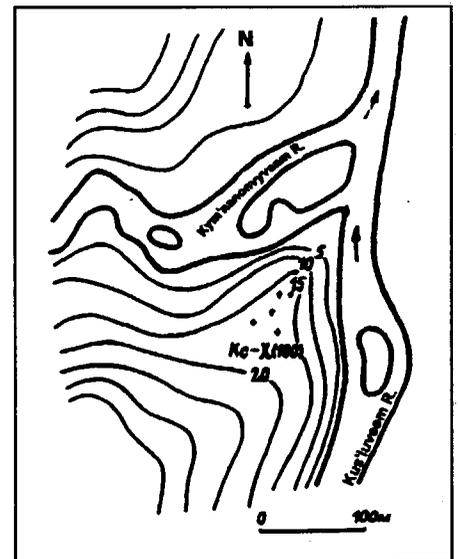


Figure 83. Stone Age Kus'iuveem X site (100).

a point of the terrace (elevation of 12 m) to the left of the mouth of a creek were found: 82 flakes of light-gray and yellow, siliceous slate; a piece of a knife-like lamella; and a stemmed arrow point (Plate 90:18) similar to points of Chel'kun II, or a blank of an ordinary retouched point.

The Kus'iuveem XII site (96) is beside the previous site. It is 100 m up the same creek, on the next point of land (elevation of 15 m), on the same left side. Here were found 91 flakes of gray, silicified slate (Fig. 75, 80).

The Kus'iuveem XIII site (94) is also opposite the Kus'iuveem VI site, even nearer to it. It is on a right-bank point of the Kus'iuveem River formed by a bend. On a 12-m high rubble surface, 61 flakes of gray silicified slate were found (Fig. 75, 80).

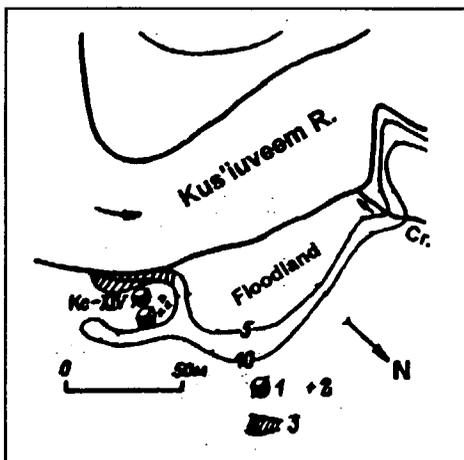


Figure 84. Stone Age Kus'iuveem XIV site (93).

1 - Fragments of stone knives; 2 - cliff of the bank.

kaolinized and covered by a thin layer of gravels, probably of glacial origin. On high (10 m to 20 m) points at the mouths of creeks were found traces of occupation of man, assigned to the Late Paleolithic and Neolithic. The creeks often form canyons. The most significant canyon, 10 m to 20 m deep, is formed by a cut of Verbliud Creek, in the bed of which geologist K. S. Sukhov of the Eastern Chukchi Geological Survey expedition noted natural pieces of yellow jasper-like flint (some with dubious traces of work) and passed them on to the author in 1983.

Of quite different character is the valley of the Kym`yanonvyvaam River above the entrance into it of the Kus'iuveem River. There the valley is composed not of the same oxidized stone, rather of dark-gray; and archaeological survey revealed almost no traces of the presence of early man. The only exception is several kilometers of valley in the immediate vicinity of the Kus'iuveem River (Fig. 2).

In all, in the valley of the Kym`yanonvyvaam River, 21 campsites were found (I-XXI) with traces of early occupation in the Paleolithic, Neolithic, and in later times. Descriptions of five of them - Kym`yanonvyvaam VII (107), VIII (108), XII (112), XIII (113), and XIV (114) - determined as Paleolithic, were given above in the section corresponding to Paleolithic sites. The description of the remaining places we will provide below in order of their sequence from up river to down.

The Kym`yanonvyvaam I site (101) is located approximately 20 km above the mouth of the Kus'iuveem River. Here we investigated, as one would expect, a high cape (point) with good prospects at the entrance to the river by a large tributary (Fig. 75). However, nothing except one isolated, quite insignificant fragment of green, silicified tuffite and two flakes of silicified jasper were found on the surface of the point. Therefore this so-called campsite only formally fell into the list of early sites. Actually it is not such, and for this reason we do not give its topographic plan here.

The Kym`yanonvyvaam II site (102) is located on the left bank of the river 2.5 km from the entrance into it of the Kus'iuveem River. It is to the right of the mouth of the creek on a gentle slope at an elevation of about 15 m

The Stone Age Kus'iuveem XIV site (93) is on the right bank of the Kus'iuveem River in a large bend, approximately 6 km above the previous site. It is located on a remnant of a steep bank that is divided by a deep gorge on the side opposite the river (Fig. 84). The elevation of the small-rubble surface of this remnant is 10 m above river level. In the surface material, in addition to a large quantity of small and medium-sized flakes (141 specimens) generally of gray, siliceous slate (chalcedony - 1 specimen, brown flint - 1 specimen) and 11 knife-like lamellae, there were 2 pieces of one-and-the-same leaf-shaped, bifacially worked knife of gray, siliceous slate (Plate 90:5-6); a piece of another similar biface (Plate 90:4); two scrapers of brown flint (Plate 90:7-8); an oblong spall with micro-retouch on opposite edges (Plate 90:10); and a scraper-point of red flint, made on a large lateral spall from a subprismatic core (Plate 90:9). The age of the site, meanwhile, cannot be determined.

#### Campsites in the Kym`yanonvyvaam River Valley (101-122)

The character of the valley of this river (below the entrance of the Kus'iuveem River) is the same as that of the Kus'iuveem River. It is formed of the same red-colored tuff of acidic composition, in places

above river level (Fig. 75). Here on a surface free of sod, several flint flakes and insignificant scraper-like artifacts were found.

The Kym`ynanonyvvaam III site (103) is on the same left bank of the river 1 km closer to the mouth of the Kus`iuveem River. It is on a gentle slope to the right of the mouth of the next stream beside a rocky point, at an elevation of more than 25 m above river level (Fig. 75). Here, on a rubble surface free of sod, were found 12 flakes of gray, yellow, red, and greenish-gray, siliceous slate; 5 slab-like pieces of black slate; and 2 microblades with lateral micro-retouch made of red and white siliceous slate (Plate 90:20).

The Kym`ynanonyvvaam IV campsite (104) is on the same left bank of the river opposite the mouth of the Kus`iuveem River (Fig. 75). It is on a gentle slope above a small lake, at an elevation of 15 m above the latter. Here three large flakes of yellow and light-gray, siliceous slate were found.

The Kym`ynanonyvvaam V campsite (105) is one km farther downriver on a point of land on the slope of a hill. It is to the right of the mouth of a creek at an elevation of about 12 m, in a horizontal small-rubble area. Here 20 flakes were found (Fig. 75): 1 chalcedony, 17 of gray siliceous slate, and 2 of light-green, siliceous slate.

The Kym`ynanonyvvaam VI site (106) is 5 km farther downriver on the left side and to the right of the mouth of a creek. Traces of a stone industry (flakes of flint) were found here on the surface of a monadnock on the point of the terrace at an elevation of 15 m and on the terrace above, at an elevation of 15 m to 20 m (see illustration - Fig. 85 to map, Fig. 75 and Fig. 86). In the surface material on the higher part of the site the largest flake, of yellow flint, attracts attention. It is a transverse spall from a subprismatic core, which by technique of preparation and material is reminiscent of a core-like piece at the Kus`iuveem II site. It is worked on the ventral side like a skreblo (Plate 91:1). Also found were a flake-point (Plate 91:2), a small prismatic core (Plate 91:4), two corner burins made from pieces of tools (Plate 91:3, 5), and two fragments of smooth-walled (8 mm to 9 mm thick) ceramics coarsely modeled with inclusions of grass (Plate 91:6).

The Kym`ynanonyvvaam IX site (109)<sup>9</sup> is located on the right of the mouth of Verbliud Creek on a point of the 20-m terrace (Fig. 85, 87). Here a wealth of surface material, predominantly in the form of flint and jasper-like variegated flakes (523 specimens) and knife-like lamellae (5 specimens), was collected. The largest cluster was found 4 m from the end of the point. Among them were a subprismatic, core-like artifact pointed on the base (Plate 91:8), a blank possibly of a knife or oblong wedge-shaped core (Plate 91:10), a scraper-graver (Plate 91:7) and a middle burin (Plate 91:9), two large flakes of brownish-yellow flint, seven pieces of jasper-like flint, and one of basalt found in the channel of the creek near the site.

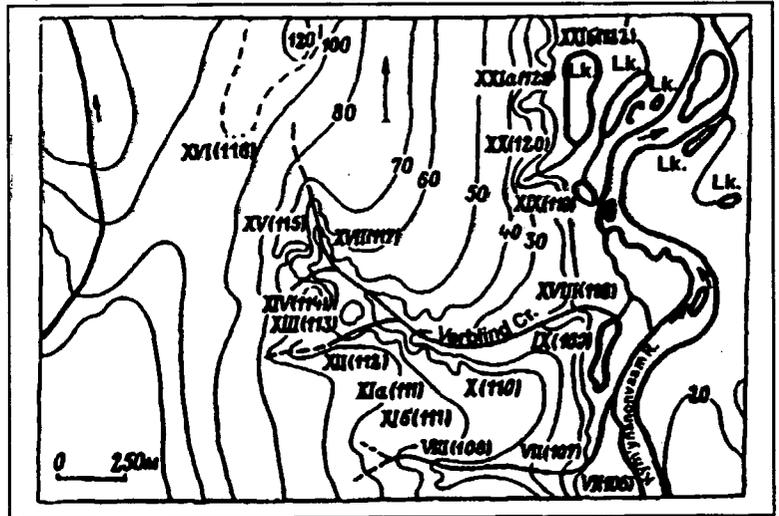


Figure 85. Archaeological sites (Stone Age sites) in the valley of the Kym`ynanonyvvaam River in the vicinity of Verbliud Creek (cut from general map - see Figure 75).

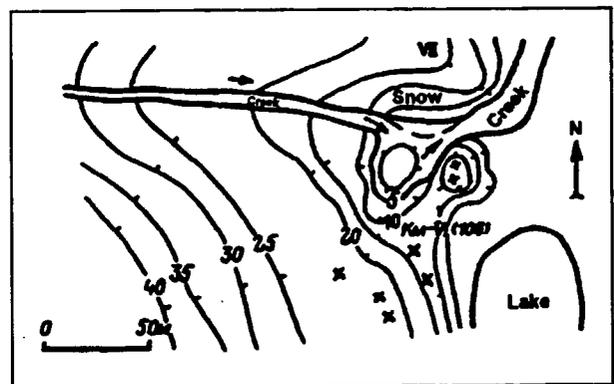


Figure 86. Location of Stone Age sites Kym`ynanonyvvaam VI (106) and VII (107).

<sup>9</sup>For descriptions of the late Paleolithic Kym`ynanonyvvaam VII and VIII sites, see pages 16-17.

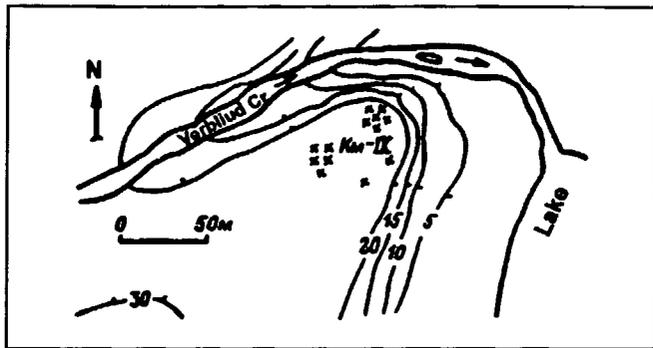


Figure 87. Stone Age Kym'ynanonvyvaam IX (109).

The Kym'ynanonvyvaam X site (110) is on the same right side of Verblud Creek 500 m up its course on the edge of a canyon. It is on a point at an elevation 40 m above river level and 15 m from the level of the creek (Fig. 85). On the surface we found only a flake of siliceous slate and a massive subprismatic cobble tool of the same material, worked by the removal of broad spalls from three sides and having on the opposite ends convex and concave reworked, by edge retouch, spokeshave-like working edges (Plate 93:6). Another cobble tool is almost the same, but smaller - with one working edge (Plate 93:7).

The Kym'ynanonvyvaam XI site (111) is located 100 m above along the edge of the canyon at the same high mark (Fig. 88). The surface material here was collected at two points XI-a and XI-b, which are 35 m from each other. At Point XI-b there were no flakes of siliceous slate and jasper-like flint, as in Point XI-a (where there were 18), rather predominantly chalcedony (8 specimens), among which were identified a corner burin (Plate 90:16), a small scraper with a miniature convex blade (Plate 90:15), a point on the base of a discoid core (Plate 90:17), and a blank of a wedge-shaped core or knife (Plate 90:14). It is interesting that below, on the edge of the channel of the stream, a local deposit of chalcedony nodules was found, and in the channel of the creek four chalcedony flakes and four jasper-like flint pieces.

The Kym'ynanonvyvaam XV site (115)<sup>10</sup> is located farther up the creek at the 70 m contour line. An oblong point with steep slopes rises here in the canyon more than 20 m above the creek (Fig. 89) and is joined by a long narrow isthmus with a bordering slope of a hill. On the upper flat area of this point were found 51 predominantly small flakes: yellow siliceous slate (43 specimens), black (3), siliceous (1), and chalcedony (4 specimens); two

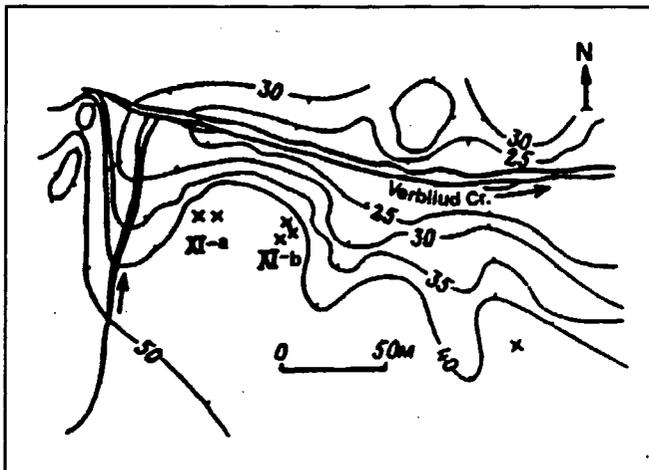


Figure 88. Location of Stone Age (probably late Paleolithic) Kym'ynanonvyvaam XI site (111).

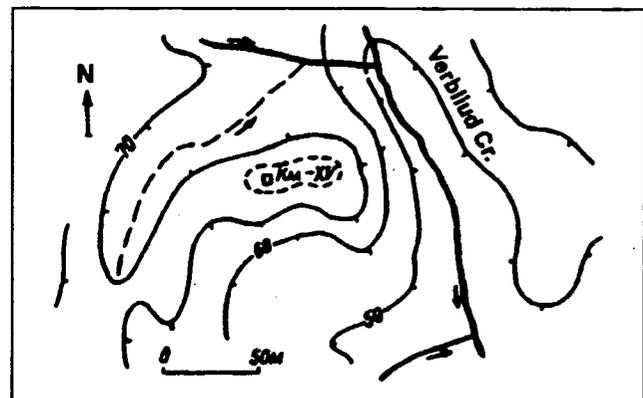


Figure 89. Neolithic Kym'ynanonvyvaam XV site (115) and test excavation in it.

slab-like pieces of slate; 13 micro-flakes; and three microblades of jasper-like flint (Plate 92:4-5). For that reason an excavation (2 m x 2 m) was made there to a depth of 0.4 m (to the basal dense rubble layer), in which immediately under the sod in brown sandy loam, together with rubble, were found flakes (12 specimens) of light-gray siliceous slate (11) and tuff (1), as well as a chopper-like artifact from a large quartzite cobble roughly flaked out by the removal of three large spalls from one side of its wider edge (Plate 92:3). The site may be Neolithic or earlier.

<sup>10</sup>For the description of Paleolithic Kym'ynanonvyvaam sites XII-XIV, see pages 17-19.

The Kym`ynanonvyvaam XVI site (116). This is the largest site situated in the pass between Verbliud Creek and the basin of Vetvisty Creek. It is at an elevation of more than 100 m above the level of the Kym`ynanonvyvaam River (Fig. 85). From here a broad view opens up both to the west into the valley of Vetvisty Creek and farther, and into the valley of the Kym`ynanonvyvaam River and the whole canyon of Verbliud Creek. The surface of the pass is represented by a lightly sod-covered, large, relatively level area about 350 m long and about 250 m wide and almost everywhere right on the surface are encountered rather numerous remains of the stoneworking activity of early man - flakes (583 specimens) and knife-like lamellae (61 specimens) of different flint and jasper-like stones of different colors, but predominantly of yellow (as well as from chalcedony - 13 specimens, basalt - 2, quartzite - 2 specimens). In relatively small number there are prepared stone artifacts: three small prismatic cores (Plate 92:6, 14-16), a massive longitudinal edge spall, from a massive core, with micro-retouch on both edges (Plate 92:17), two end micro-scrapers (Plate 92:18), a perforator (Plate 92:19), and two larger artifacts. One of the last is a grooved spokeshave (Plate 92:13) of yellow and brown siliceous slate similar to the stone that occurs in Verbliud Creek. An especially large accumulation of all these (in general Neolithic) artifacts is noted in the northern part of the site.

Quite close to this place, a few tens of meters to the north in the direction of the mountain that rises over the saddle and is the source of Verbliud Creek (110 m horizontally), we placed an exploratory excavation (3 m x 1.5 m) which uncovered in the surface cultural layer (at a depth to 0.4 m) 181 more flakes and six knife-like lamellae, a large unifacial prismatic single-platform core (Plate 92:2), and a wedge-shaped core of yellow flint with its end part almost completely taken off (Plate 92:1). No ceramics were discovered either on the surface of the site or in the excavation.

Further investigation of the site is extremely promising. It is possible that two cultural complexes may be stratigraphically and chronologically determined here - a Neolithic and a late Paleolithic. On the south side of the saddle, on the area of the gentle slope facing Verbliud Creek (100 m horizontally), we isolated the Kym`ynanonvyvaam XIVA campsite (at present only 13 flakes of gray and jasper-like, siliceous slate and chalcedony have been found there).

The Kym`ynanonvyvaam XVII site (117) is located in the upper reaches of Verbliud Creek on the left side. It is on a point of land in the canyon, at the high mark of 50 m, opposite sites XV and XIV (Fig. 85). At the foot of the point bearing this site lay a snow patch. Finds occurred, as always, on a rubble-gravel surface of a small point rising about 10 m above the stream. In addition to two flakes of light-yellow flint, we picked up here three cores made of the same material - conical, prismatic single-platform, and unifacial prismatic with pointed base (Plate 93:1-3).

Kym`ynanonvyvaam XVIII (118). This point on left of the mouth of Verbliud Creek turned out to have almost no tools (only three lamellar flakes of gray flint on the surface). But it is expedient to continue the search for them here (Fig. 85). Above we have already noted the presence of the appearance of yellow, jasper-like flint on the right side of the channel of Verbliud Creek at the base of the point (on its north side) - beside the early Kym`ynanonvyvaam XI site. This probably occurs even in the upper-most reaches of this creek, though to examine it would be possible only if the upper reaches of the creek became free of ice and snow. But particularly here near the locations of Kym`ynanonvyvaam XII-IV and XVII, in the channel of the creek, were found the largest number of nodules of jasper-like flint, chunks, spalls, and blanks made from it, as well possibly as cores, flakes, and axe-like tools (Plate 22-24). Sometimes these are chunks, blanks, and quite unworked chalcedony nodules, as for example in the channel of the creek beside site XI, which we noted above. And the quality of the chalcedony is low. It has dark and dull tones. Judging by the presence at the sites in the vicinity of Verbliud Creek of tools and flakes of similar jasper-like yellow-brown flint and chalcedony, the upper and lower reaches of this stream long ago served the early population here as the basic source of raw material for stone-working production. Downstream the early people prepared nodules and pieces of excellent jasper-like flint and chalcedony by primary working, and then carried them up to their camps for final working. In the course of time some artifacts slid down the slope returning to the stream, since they are occasionally encountered there in the channel of the stream.

The Kym`ynanonvyvaam XIX campsite (119) is 400 m to the north of the mouth of Verbliud Creek on a point of land to the right of the mouth of a small creek that flows into a small lake (Fig. 85). The elevation of the point is about 20 m above river level. On its surface was insignificant surface material in the form of four lamellar flakes of greenish-gray, siliceous slate and several flakes of yellow flint and chalcedony, one of them being - with a

burin spall - a corner burin (Plate 93:5). In the same place a blank, probably of a wedge-shaped core (Plate 93:8) of greenish-gray, siliceous slate, was found.

The Kym`nnonovyvaam XX campsites (120) is on the opposite side of the same creek on the point of a slope. It is on a rubble surface at an elevation of 18 m to 20 m above river level (Fig. 85). Here 15 flakes of yellow jasper-like flint and gray siliceous slate were found.

The Kym`nnonovyvaam XXI campsites (121) is on the next point of land to the north and with the same elevation. It is on the left side of the next small stream that enters into the same lake, in a quite favorable broad area (Fig. 85). Here two large flakes of red-yellow jasper-like flint and four lamellar pieces of hornfels (Point XXI-a) were found, as well as two flakes of siliceous slate together with slab-like pieces of hornfels (Point XXI-b). This campsites, as the previous one, has very mediocre surface material with respect to dating.

### Campsites in the Igel'khveem River Valley (123-149)

This comparatively large river, the Igel'khveem, flows from north to south, entering Mechigmen Bay near the Krasnaia Yaranga reindeer-herding base (Fig. 2). In its valley glaciofluvial deposits also prevail, while Pleistocene alluvial ones are very little developed, which we considered in the survey method. The route of the expedition in 1983 went from the mouth of this river to its upper reaches and back. On the return trip we angled from the Chyserytveem River to Krasnaia Yaranga by Lake Naulyngytgyn, on the banks of which were found three Neolithic sites (XXIV-XXVI). A total of 27 sites of various antiquity were found and examined in the Igel'khveem River basin, including several (presumably) Paleolithic ones - Igel'khveem V (141), VI (140), IX (137), XVI (131, and XXII (123). The following description of the Igel'khveem archaeological sites is given in their geographic sequence from downstream to up.

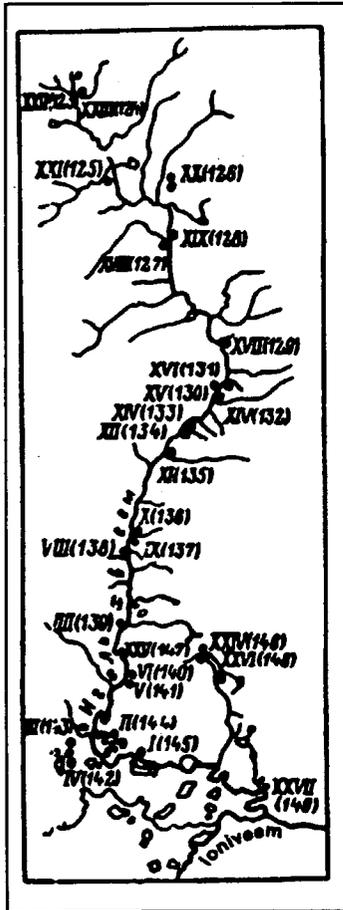


Figure 90. Early sites of Igel'khveem I-XXVII (123-149) in the valley of the Igel'khveem River.

approximately 20 km from its mouth (Fig. 90). The elevation of the hill is 10 m. It is located on the southeastern edge of the lake. In its upper part directly on a small-rubble slope eight flakes of siliceous slate, chalcedony, and quartzite, and a single-platform prismatic unifacial micro-core of yellow chalcedony were found (Plate 94:3).

The Igel'khveem III campsites (143) is also surficial, poor, and of little promise. It is on the other side of the Igel'khveem River, 200 m from it, and on a lakeside glaciofluvial knoll 6 m high. The knoll is on the right of a creek

The Igel'khveem I campsites (145) is on point-like knoll at the mouth of a creek that enters the Igel'khveem River on the left, 15 km from its mouth. The elevation of the knoll is 6 m. A scraper on a piece of a slab of silicified slate (Plate 94:2), 12 siliceous flakes, and seven pieces of slab-like hornfels-like slate were found directly the rubble surface. Traces of the site are very scanty and investigation here does not appear promising.

The Igel'khveem II campsites (144) is on a glaciofluvial knoll on the shore of the largest lake between Kugtitivuisin Mountain (4 km from it) and the Igel'khveem River (2 km) where it makes a turn from northwest to northeast,

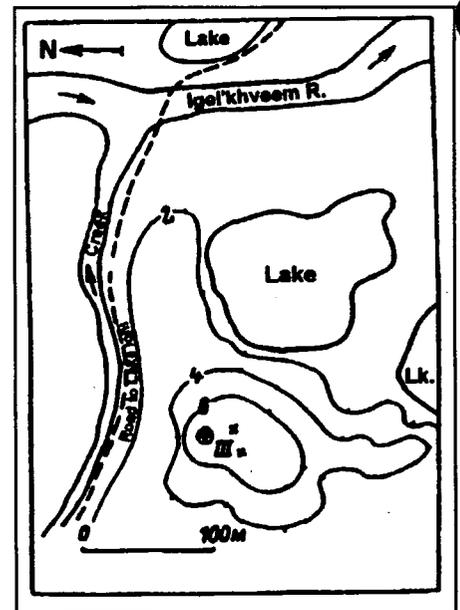


Figure 91. Disposition of Igel'khveem III site (143). Arrow point and flakes are designated by conventional signs.

that is beyond a small lake (100 m in diameter) (Fig. 91). There were only eight gray and red siliceous flakes, a small piece of quartz crystal, a fragment of stemmed retouched arrow point of Neolithic appearance, a unifacial double-platform subprismatic micro-core (Plate 94:10), and two ground slate knives, a small one (5.5 cm) with straight blade and a larger (8 cm long) with a convex blade (Plate 94:4).

The Igel'khveem IV campsite (142). A fragment of a stemmed ground slate knife (Plate 94:5) and 94 small flakes of chalcedony, gray and red siliceous slate, and a small piece of quartz crystal were found on the surface of a glaciofluvial knoll (8 m high) on the south side of a small lake, located beside the previous one 2 km from the Igel'khveem River (Fig. 92).

The Igel'khveem V site (141) is located 6 km below on the Igel'khveem River, on its right bank, to the left of the mouth of a creek on a high 15-meter glaciofluvial knoll (Fig. 93, 94). On its small-rubble surface were found three flakes of yellow, siliceous slate, and near the northeast slope were found six fragments of knife-like lamellæ of gray flint (Plate 95:2-4, 6-7), a lateral burin on such a lamella (Plate 95:5), a skreblo (Plate 95:8), and a transverse spall from a unifacial prismatic or wedge-shaped core (Plate 95:1). These finds have a comparatively archaic appearance, patinized and can be assigned either to the Early Neolithic or Mesolithic, or even the late Paleolithic. But, unfortunately, the site is extremely poor in finds.

The Igel'khveem VI site (140) is situated beside the previous one on the opposite side of the creek, on the same kind of knoll (Fig. 93). On its rubble surface were found nine flakes of gray, red, and yellow, siliceous slate and chalcedony; a flattened unifacial prismatic core with sharpened base of yellow flint, somewhat reminiscent of a wedge-shaped core (Plate 95:9); a blank of a conical or wedge-shaped core of black silicified tuff (Plate 95:10); 70 pieces of hornfels-like, slab-like slate.

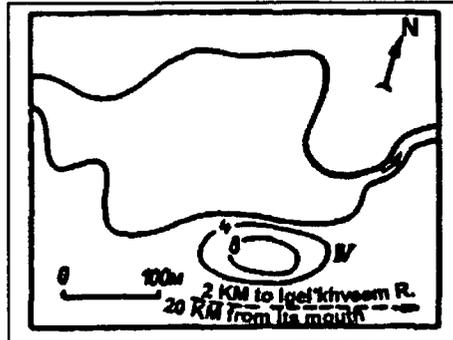


Figure 92. Disposition of Igel'khveem IV site (142).

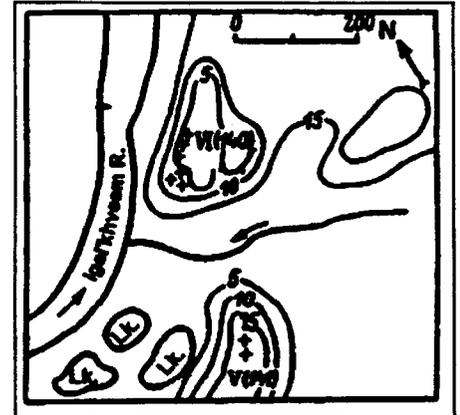


Figure 93. Igel'khveem V site (141) and Igel'khveem VI site (140) (possibly late Paleolithic).

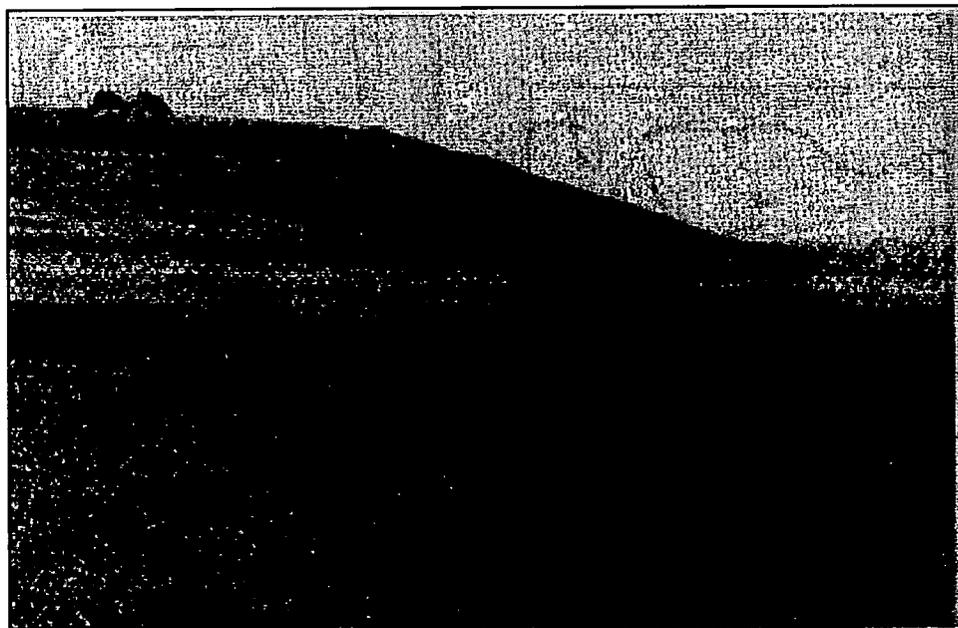


Figure 94. View of the Igel'khveem V site from the east.

The Igel'khveem VII site (139) is located 5 km below. It is on the left bank of the Igel'khveem River on a high (20-meter) glaciofluvial knoll between two creeks at a distance of 1 km from the mouth of the Nevynkveem River (Fig. 95). On the flat small-rubble surface of the knoll were found 127 flakes of gray, brown, yellow, red, and white, siliceous slate and yellow-red, silicified jasper. There among them was found a small (3.4 cm x 2.5 cm) slab of yellowish-gray slate with a schematic representation of a *shalash* manifested by carved lines, as well as some kind of rectangular sign and several other unclear strokes (Fig. 143, Plate 94:1).

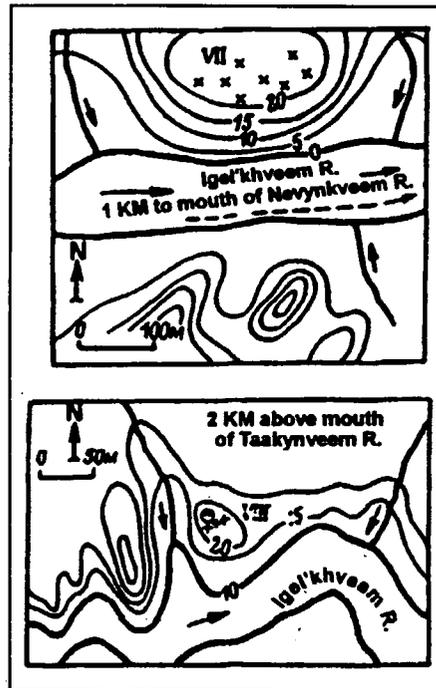


Figure 95. Igel'khveem VII site (139) and Igel'khveem VIII site (138).

The Igel'khveem VIII site

(138) is located 7 km farther down on the same left bank of the Igel'khveem River. The river here makes a sharp turn and flows between precipitous banks with rocky ledges. The site is situated 2 km from the mouth of Taakynveem Creek, which enters the Igel'khveem River on the left, on a point-like knoll left of the creek (Fig. 95). This knoll is located in the middle of a slope facing the river. The surface of the knoll is sandy and dispersed by the wind. Surface material was collected particularly in these blowouts. It was predominantly slab-like pieces of silicified slate (35 specimens), flakes of variegated siliceous stone, and six artifacts - a piece of a coarsely flaked leaf-shaped biface of gray siliceous slate (Plate 94:19), four pieces of silicified slate with traces of working on the edges (fragments of knives or skreblos), and a piece of a blank of an arrow point reformed into a corner burin. Not a single knife-like lamella was found here. The elevation of the knoll above the river is 20 m.

The Igel'khveem IX site (137) is situated on the left bank of the river. It is 2 km below Teiuevem Creek, which enters on same side, on a point of the terrace at the mouth (left of it) of an unnamed creek (Fig. 96). On the small-rubble gentle slope of this point at an elevation 8 m above the river were found flakes of light-gray and brown, siliceous and hornfels-like slate (72 specimens), one knife-like lamella, and two scrapers (Plate 94:6-7), the second of which is with a burin spall (Plate 94:6).

At a distance of 120 m from the edge a 2 m x 2 m test unit was placed to a depth of 1 m (Fig. 96). In it the following stratigraphy was revealed: 1) at a depth of 10 cm to 30 cm, beginning from the surface (inclined) - yellow, sandy loam; 2) brown humus with cultural remains (its thickness 20 cm); 3) again a layer of the same yellow, sandy loam (about 40 cm); 4) a layer of pink, sandy loam (20 cm); 5) again yellow, sandy loam (10 cm); 6) basal rubble (Fig. 96). At a depth of 10 cm in the upper part of the brown, humic layer a kind of cleaver-like (axe-like with a transverse blade) tool of brown flint (Plate 95:11) we encountered - from another perspective it can be seen as a blank of a large wedge-shaped (boat-shaped variant) core - and a large flake of this material (Plate 95:13). Somewhat deeper in the same layer were two more flakes: at a depth of 35 cm and at a depth of 0.5 m (Plate 95:12). These artifacts have a quite archaic appearance, and the cultural layer with further examination may turn out to be Paleolithic.

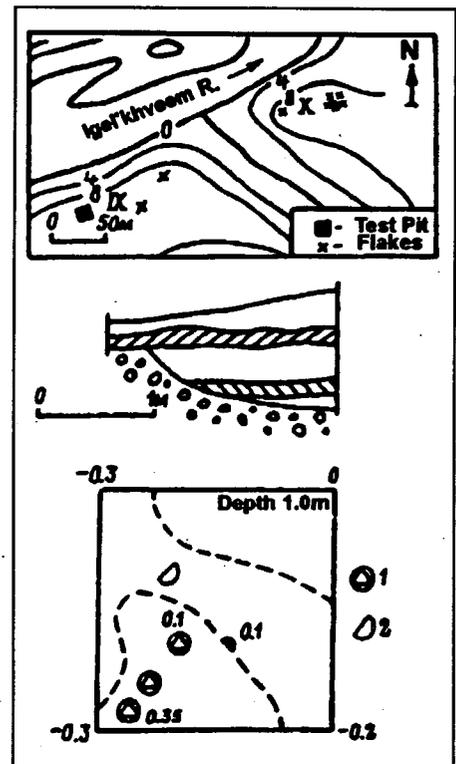


Figure 96. Sites Igel'khveem IX (137) and Igel'khveem X (136) and plan (with profile) of test in site Igel'khveem IX (possibly Paleolithic).

1 - Massive flake; 2 - chopper-like tool.

To the east of the test unit, on a sandy blowout surface of the site, several flakes of hornfels-like slate were found, but of lighter color.

The Igel'khveem X site (136) is situated beside the previous site. It is on the opposite side of the stream and also on a point of a terrace 8 m high (Fig. 96). Here, on the sandy surface of this oblong point, over a stretch 70 m long, we found a significant number of flakes of gray, red, and yellow, siliceous slate and chalcedony (261 specimens). Eleven slate-slab pieces and one microblade were found, as well as a chalcedony prismatic, single-platform micro-core (Plate 94:12), a small stemmed biface point (Plate 94:11), and a lateral burin on a piece of a biface point or knife (Plate 94:13).

The Igel'khveem XI site (135) is located to the right of the mouth of the Chesrytveem River. It is on the left bank of the Igel'khveem River on a very oblong point of a terrace 8 m high. On the opposite side of the stream is a reindeer herder's cabin (Fig. 97). Traces of this early site were found on the surface in the form of an accumulation of fragments of light-brown, thin-walled (6 mm to 9 mm), coarsely modeled ceramics with temper of coarse sand and gruss. This was 4 m north of a single *paliakvyn*, that is, Chukchi grave in the form of an oval (2.5 m x 1 m) of stone, present here on the point. The remains of this vessel, coarsely modeled with temper of coarse sand and gruss (having a straight rim with scarcely noticeable "cornice" on the outside), were undoubtedly connected with the ritual of burial in the *paliakvyn*. There were no finds other than two flakes of brown hornfels-like slate on the small-rubble surface of the point and in its base are along the bank.

The Igel'khveem XII campsite (134) is located on the left bank of the Igel'khveem River 5 km below Linkyl'khvuveem Creek. It is on a point on the right of the mouth of a dry creek. The point is about 4 m high. Nothing was found there, except eight flakes of white, siliceous slate and chalcedony (1 specimen) and five slab-like pieces of hornfels-like slate on the slope of the point of the terrace.

The Igel'khveem XIII campsite (133) is also located on the left bank of the river 4 km below its tributary, Linkyl'khvuveem Creek. It is opposite the mouth of an unnamed creek on the edge of a terrace 12 m high. Here on the surface only 14 siliceous, slab-like pieces were found (Fig. 98).

The Igel'khveem XIV site (132) is situated on a precipitous point. The point washed on the west side by the Igel'khveem River and on the south by its tributary, Linkyl'khvuveem Creek (Fig. 98, 99). On this broad point 10 m above the river, 100 m to the north of a stone ring - the base of a Chukchi *yaranga* preserved here - were found a broken knife of light-gray, siliceous slate (biface) and two flakes, and beside them, near the base of the *yaranga*, an accumulation of fragments of coarsely modeled, gruss-tempered, thin-walled (5 mm to 10 mm thick) ceramics with barbed-lined surface and with the rim beveled inward. No other finds were made. The site has little promise of further finds.

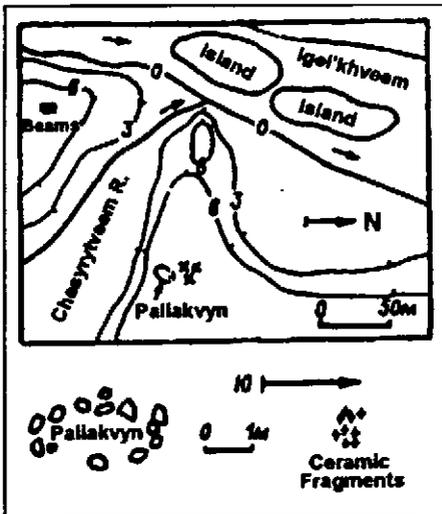


Figure 97. Stone Age Igel'khveem XI site (135).



Figure 98. Stone Age sites of Igel'khveem XIII (133) and Igel'khveem XIV (132).

The Igel'khveem XV site (130) is situated on the right bank of the Igel'khveem River 1 km above Linkyl'khvuveem Creek. Here on the right between two knolls a small unnamed creek enters the river. On the right of the mouth of this stream is a knoll with traces of a Stone Age site (Fig. 100). Its surface is of small-rubble at an

elevation more than 8 m. At the top is a *paliakvyn* (Chukchi grave) in the form of the plan of a *yaranga* around a bed-curtain, all bordered by stone. Seventy meters to the north, directly on the surface were 20 pieces of slab-like slate and 23 patinized small flakes of light-gray and yellow, siliceous slate, as well as a piece, covered by a light patina, made of black tuff of a crescent, leaf-shaped knife carefully retouched on both sides (Plate 94:9), two pieces of roughly worked biface knives, a short knife-like lamella of irregular form, three thin flakes of roundish and trapezoidal form used as scrapers (Plate 94:14), and a corner burin from a larger flake (5 cm).

The Igel'khveem XVI site (131) is located on the left bank of the Igel'khveem River 3 km above the mouth of Linkyl'khvuveem Creek (Fig. 90). The 8-meter terrace with the site forms a point 200 m up from the mouth of a stream that empties into the Igel'khveem River. The area between the stream and the point is a broad floodplain (Fig. 101). Several siliceous flakes, including one of quartzite and one of chalcedony, were found on the north edge of the terrace by the creek; but most of them (13 specimens) were found on the point mentioned, at the brow of the terrace, which faces the creekside floodplain. Flakes of brownish-gray, hornfels-like slate predominated. All this was collected on the small-rubble surface. Since several of the flakes protruded from the earth, we made two test units in the location of their largest accumulation (Fig. 101-103).

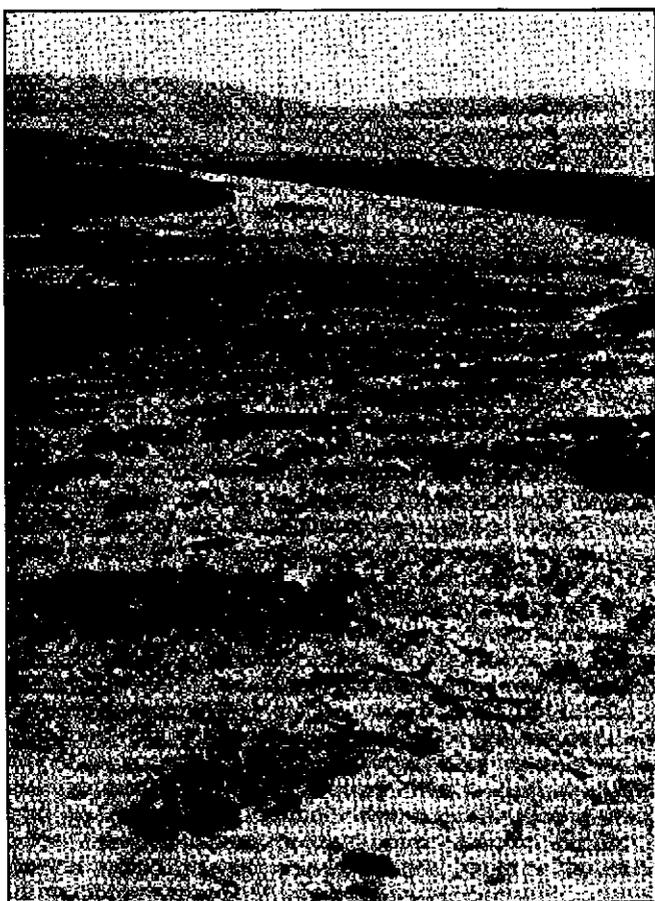


Figure 99. View from south of the Igel'khveem XIV site (132) (in the foreground - cluster of fragments of clay vessels).

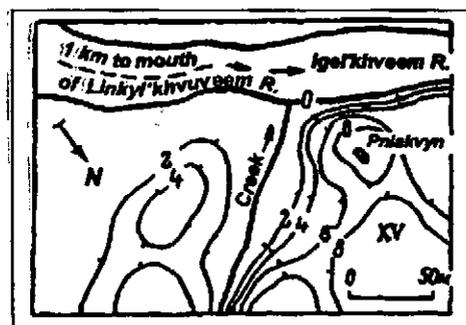


Figure 100. Disposition of Igel'khveem XV (130).

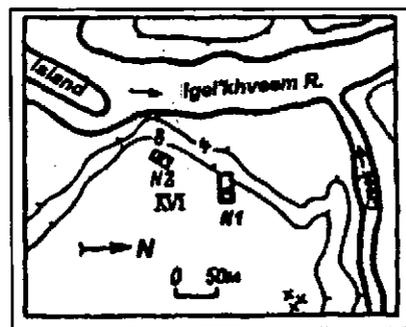


Figure 101. Igel'khveem XVI site (131) (possibly Paleolithic). In plan two test pits are marked in it (No. 1-2).

Test Unit No. 1 (1 m x 1 m) was the richest (Fig. 102). In the surface layer of brown, sandy loam with rubble we found 16 tools and tool blanks, as well as simply flakes and pieces of brownish-gray, slab-like silicified argillaceous-sandy slate (121 specimens) - all this to a depth of 20 cm, beginning at the very surface. All tools and blanks have the appearance of coarsely struck and flaked off slabs of various form (dimensions from 4 cm to 10 cm) depending on what their intended use was (Plate 96). They differ among themselves: a broad bifacial truncated leaf-

shaped double-bladed knife-graver, the pointed working end of which is formed by two flat edges left without secondary work (Plate 96:1); two oblong single-blade knives of irregular outline, very coarsely percussion flaked on two sides and with an uneven blade only slightly worked on one edge (Plate 96:8-9); five gravers in the form of slab-like flakes with one point favorable for a graving end, natural or slightly worked by small sparing retouch (Plate 96:2, 5, 7); one graver with a specially modified working end-"beak" on the oblong side of a slab (Plate 96:6); a spokeshave with a short (15 mm) slightly concave blade with retouch on one side (Plate 96:3); a scraper with an arc-shaped natural blade on the thinned transverse side of a flake; a corner burin on a thin and broad lamellar flake with uneven edges (Plate 96:10); and four slabs with traces of microblade spalls from their ends (Plate 97:1-4). It is possible to view them as experimental blanks of large end cores, and they appear uncommonly "coarse," owing to the coarseness of the material from which they were attempted to be made. It looks as if the first attempts at flaking microblades from them was not very successful.

Test Unit No. 2 (1.5 m x 2 m) also revealed an accumulation of debitage at the surface in the rubble at a depth to 15 cm. But here only 180 flakes of gray and yellowish-gray, siliceous slate were found (Fig. 102). This test unit was placed at a distance of 70 m from the previous unit, at the very end of the point. (This test unit, just as did Test Unit No. 1, included all the kinds of stone blanks and flakes contained in the clusters: found).

The Igel'khveem XVII campsite (129) is on the left bank of the river 5 km above Srednii Creek and on a knoll on the left of the mouth of a dry creek (Fig. 90). The elevation of the knoll is 6 m. Eight small, light-gray, siliceous flakes, among them a lamellar one (length 5 cm, width 1.5 cm), is all that was found here - found down on the eastern slope. The place offers little promise to further investigation.

The Igel'khveem XVIII site (127) was found 5 km above the entrance of Srednii Creek into the Igel'khveem River, on the right bank. It is on the left of the mouth on an unnamed creek, on the point of

a 4-meter terrace. Here, 150 m from the river and 100 m from the creek (Fig. 104), in a blowout we found a fragment of the lower part of an arrow point of gray flint (Plate 99:3) and a piece of a knife-like lamella (Plate 99:4). The arrow point has an asymmetrically concave base and is typically Neolithic.

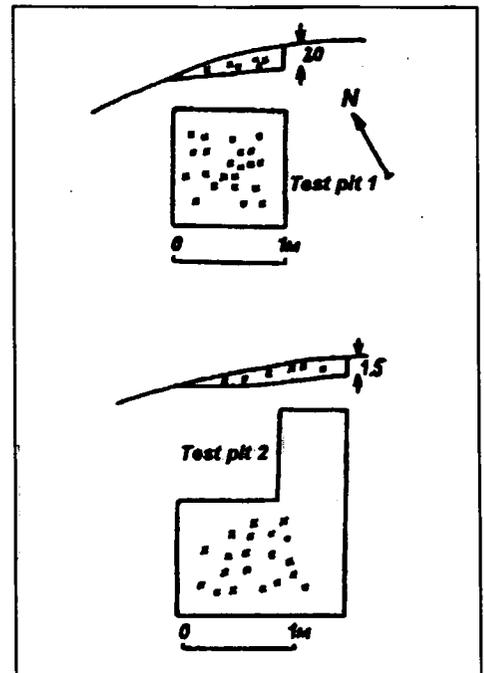


Figure 102. Plan of distribution of stone artifacts in test pits 1 and 2 in the Igel'khveem XVI site (131).

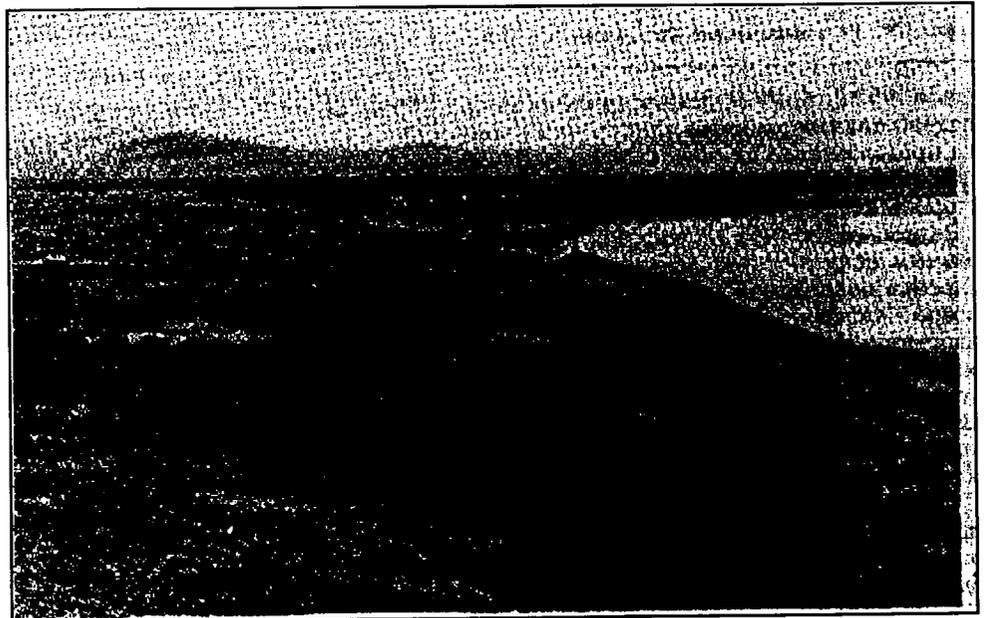


Figure 103. View of the Igel'khveem XVI site (131). The first test pit is marked by the shovel, the second by the worker.

The Igel'khveem XIX campsite (128) is on the opposite bank of the Igel'khveem River (Fig. 104). Here on a sandy, broken-up slope of a knoll (12 m high) at an elevation of 5 m, a blank of gray, hornfels-like slate was found but no other artifacts or flakes. This object probably turned up here accidentally, carried from campsite XVIII (127).

The Igel'khveem XX campsite (126) is at the entrance of Ponechgoivu-vaam River into the Igel'khveem River. It is on a low (to 25 m) flat-topped glaciofluvial rise (monadnock between the mouth of the named tributary and a small lake) (Fig. 105). On the western part of its summit stands a high topographical benchmark (1). Below, on the slope close to the saddle, 60 m from the benchmark and directly on the small-rubble surface, a stemmed arrow point (3) with a broken tip, made of dark-green flint (Plate 94:15), was found. Its stem is "button-like" and on the whole it is very similar to some kinds of stemmed points from the seventh Paleolithic layer of the Ushki I site in Kamchatka. Careful inspection of the surface surrounding it produced no other finds. Two meters east of it there was a surface pit 2.5 m across (60 cm deep) and 40 m to the northwest a stone-ringed hearth (2). The hearth pit (30 cm in diameter and 20 cm deep) was filled, under the sod, with modern charcoal. Insufficient time did not permit subjecting this campsite to more careful investigation, though it merits this. Both because of its topographic position and the discovery here of an archaic point quite distinctive typologically, this campsite deserves further careful examination.

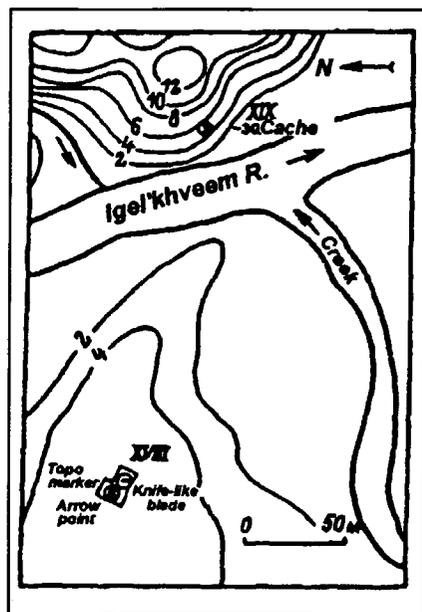


Figure 104. Disposition of Igel'khveem XVIII (127) and XIX (128).

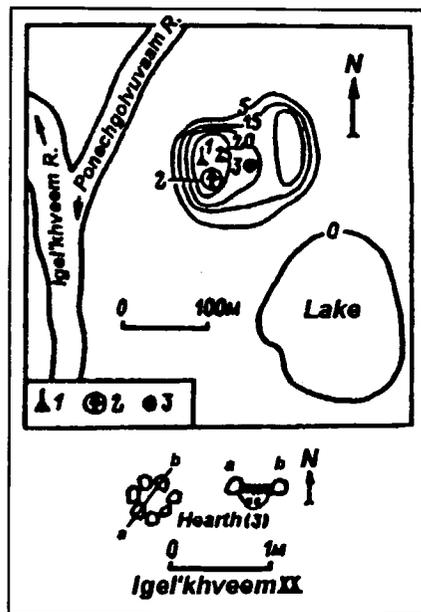


Figure 105. Disposition of Igel'khveem XX (126).

1 - Bench mark; 2 - stone hearth ring; 3 - siliceous stemmed arrow point.

The Igel'khveem XXI campsite (125) is set in the upper reaches of the river at the entrance on the right of Letalianveem# River (1.5 km from the mouth). It is on a low "two-humped" hill (30 m high) to the right of the stream (Fig. 106). One knife-like lamella and 15 flakes of red, yellow, and gray, siliceous slate and three lamellae of chalcedony were found in the saddle of this hill (at an elevation of 20 m) on small rubble, 40 m south of a *paliakvyn*.

The Igel'khveem XXII site (123) is, possibly one of the most interesting sites found in the valley of the Igel'khveem River. It is located on the north shore of a lake that is connected to the river by a channel 2.5 km long (Fig. 107). The locality appears very gloomy. The northern shore of the lake is represented by series of knoll-like foothills about 12 m high. On a rubble surface one such knoll of glaciofluvial origin, situated on the left of a stream



Sites on Lake Naulyngytgyn (146-149)

We investigated this large lake on the return trip. It is located in the valley of the Igel'khveem River, in its lower reaches, where the valley is significantly widened and contains many lakes, including large ones rich with fish. One in particular, Lake Naulyngytgyn (more than 2 km long and 0.5 km wide), is situated among high hills (Fig. 90). On the shores of this lake two Neolithic sites were found and examined - Naulyngytgyn XXV (147) and XXVI (148) - and a third, Naulyngytgyn XXIV (146), which is possibly late Paleolithic (Fig. 109).

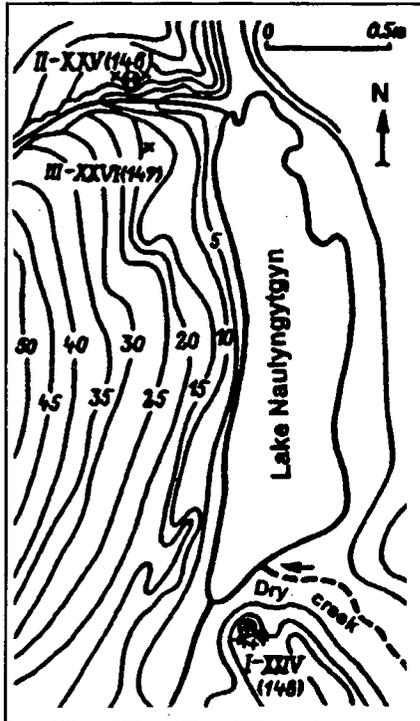


Figure 109. Stone Age Igel'khveem XXIV (146), XXV (147), and XXVI (148) sites on Lake Naulyngytgyn.

The Igel'khveem XXIV - Naulyngytgyn I - site (146) is located at the exit of a canyon and on the left of the stream which flows in it. This stream enters Lake Naulyngytgyn from the north (Fig. 109). The canyon is formed by steep rocky precipices on both sides of the half-dry creek. The height of the walls of the canyon is from 5 m at the exit to 50 m or more (from the level of the lake) at the source of the creek. The site is situated on an area at a height of about 20 m at the edge of a cliff. The cliff appears here in two rocky points. The first finds - flakes (904 specimens) and knife-like lamellae (19) of yellow (532 specimens), red (217), gray (13), brown (46), white (21) siliceous slate [these do not 904 - *Trans.*] - were found on parts of the surface free of sod. Then, at the place of greatest accumulation, a 2 m x 2 m excavation was made in the shallow sod (to be more precise - of lichens and moss) to a depth of 5 cm to 10 cm, to the dense basal rubble. Within the boundaries of this exploratory excavation the same kind of flakes (58 specimens) and microblades (3) were found, of the same siliceous slate and obsidian (1 specimen), as well as an incipient wedge-shaped core with cobble cortex remaining on one side and with two longitudinal end facets from microblades already flaked from it (Plate 99:10) and a core-like tool (Plate 99:9) - both of yellow, siliceous slate. The remaining artifacts at the site are two blanks (also, probably of wedge-shaped cores) with negative scars from narrow end microblades (Plate 99:13) and a simple oblong blank of a knife or wedge-shaped core (Plate 99:19), as well as a thin lamellar flake with micro-retouch along the edge (Plate 99:12), four flake-gravers (Plate 99:11), and a trapezoidal flake-scraper without any retouch. They also are all of yellow, siliceous slate. The surfaces of the points of land are of small rubble, the rubble almost everywhere being dense, and such places

where one might expect to make finds, not just on the surface but deeper. There is probably little here. The site, however, requires further investigations for confirmation of a late Paleolithic age.

The Igel'khveem XXV - Naulyngytgyn II - site (147) is located on the opposite, right side of the canyon, opposite the former site (Fig. 109). Here, on the surface of the slope above a cliff 20 m x 25 m [20 m to 25 m? - *Trans.*] high, were encountered flakes of the same yellow, siliceous slate as in the former site (the surface of the slope is also rubble, in places sod-covered). No stone artifacts were found.

The Igel'khveem XXVI - Naulyngytgyn III - site (148) is located near the south end of the lake. It is on a gently sloping side of a hill that is located on the right of a creek that enters the lake from the south, and on the left of the exit of a dry channel from the lake (Fig. 109). Here at an elevation of over 4 m on a 40 m x 40 m small-rubble, partially sod-covered surface and in two test units to a depth of 1 cm (at Points 1 and 2) rather significant surface material of Neolithic character was collected: a flattened prismatic unifacial double-platform core (Plate 94:16); a single-platform prismatic micro-core (Plate 94:18); two spalls from prismatic micro-cores, one of them (of red-brown flint) probably used as a miniature wedge-shaped end core (Plate 94:17); two broken arrow points, one of red flint (Plate 94:21), the other of obsidian with an asymmetrically-fluted base and secondarily used as a corner burin (Plate 94:20); an obsidian scraper with secondary use in the role of corner burin (Plate 94:22); a middle burin on a lamellar flake (Plate 94:8); a piece of an oblong, leaf-shaped knife coarsely percussion-flaked on both sides; six scrapers on flakes, some lightly worked by edge retouch, a piece of a scraper-graver of high form, six graters on sharpened flakes with and without retouch; a sharpened microblade thinly retouched on both its edges on the dorsal

side; seven microblades; and 327 flakes, predominantly small, of yellow (123), red (137), yellow-red (63), gray (2), and white (2) siliceous slate. Especially many flakes were found in places cleared of sod: at Point 1 on the northwest side of the site (having red flakes) and at Point 2 on its southeastern slope (yellow flakes predominated). A cluster of yellow flakes was also found near one of the Chukchi *paliakvyn* present here on this hill, as well as on the southwest edge of the site. The site is, judging by all the finds, mixed. That is, Neolithic with possible elements of late Paleolithic (wedge-shaped cores, it is true, are somewhat problematic).

The Igel'khveem XXVII campsite (149). This is the last site found at the end of the return trip along the Igel'khveem River. It is 5 km from the mouth of the river (Fig. 90, 110). Here on a slope at the summit of a low, oblong hill (height to 30 m) on the small-rubble surface, we found a piece of a bifacially retouched stone knife made of light-gray flint (Plate 99:16), an end scraper on a spall from a prismatic core (Plate 99:18), a small ground adze (Plate 99:20), and 16 flakes of gray and yellow siliceous slate and chalcedony. All this was beside a *paliakvyn* (to the southwest of it). This hill is located by a small lake which is joined by a channel with the Igel'khveem River. Further investigations here are of little promise.

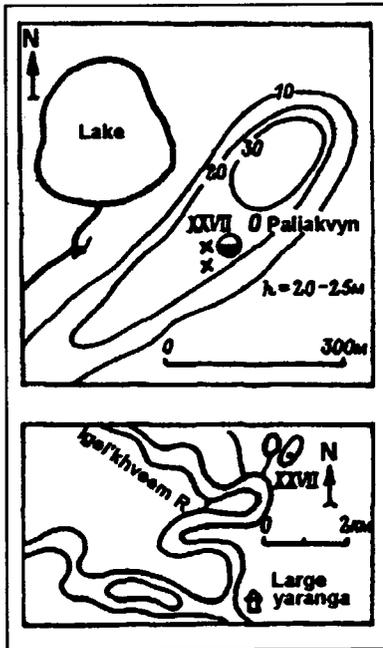


Figure 110. Disposition of Stone Age Igel'khveem XXVII site (149) and old Chukchi burial (149).

Sites near Lake Koolen' (150-155)

Surveys were conducted on the east side of Lake Koolen', where the Koolen'veem River flows out (Fig. 111). Pedestrian surveys were conducted and not only were the littoral terraces visited, but those surrounding Lake Koolen' - a unique geographic phenomenon on the Chukchi Peninsula. It is one of the largest lakes (15 km x 2 km) and is probably indebted for its origin to a heavy tectonic shift, which determined its unusually great depth (about 100 m), though there exists the opinion that it is a trough (Kriukov 1985). Surrounded by mountain ranges, girded by bright yellow sandy beaches and broken up terraces, and shining with the cleanest transparent water, it appears very picturesque. In its waters can be found many fish, especially at the source of the Koolen'veem River where four Neolithic sites and early burials were found (Fig. 111, 112).

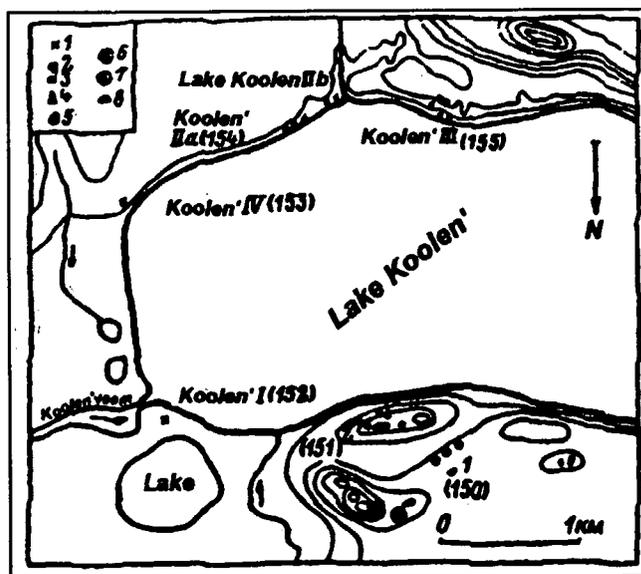


Figure 111. Archaeological sites around the northeastern part of Lake Koolen'.

- 1 - Finds of Stone Age sites;
- 2 - old burials;
- 3 - excavated old burials;
- 4 - bench mark;
- 5 - stone ring of old yarangi;
- 6 - shrine location;
- 7 - stone "kurgan" ["burial" mound];
- 8 - small kurgan.

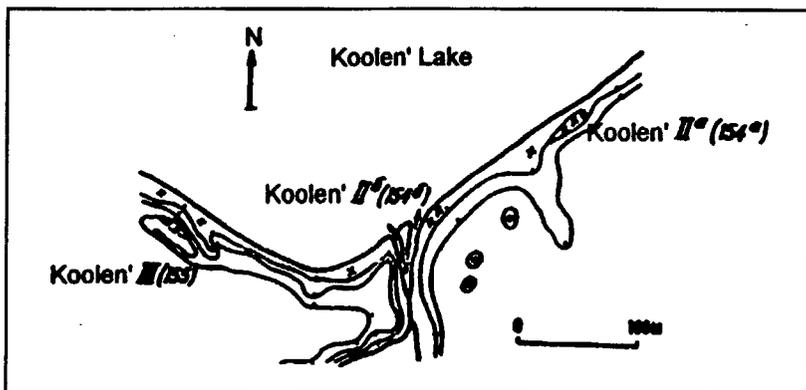


Figure 112. Stone Age sites on Lake Koolen'.

The Koolen' I site (152) was discovered on a relatively low (about 2 m high) sandy terrace of a lake beside a fisherman's cabin on the right of the source of the Koolen'veem River (Fig. 113). With the examination of the bank in a blowout of the terrace several thin, gray, clay fragments appeared, then 20 flakes of gray, red, and white siliceous slate, obsidian, and chalcedony, six knife-like lamellae, and four broken arrow points, retouched on both sides, subtriangular (with concave and straight base), and of leaf-shaped form (Plate 100:1-6). Among the fragments of

ceramics some were furrowed and some with a very small impressed stamp (Plate 100:8-9). The general appearance of all these finds is Late Neolithic. They were encountered in a part of the shore that stretched for 180 m.

In order to clarify the stratigraphy of a site, 60 m to the west of the mentioned cabin, on a lakeshore edge of the 2-m terrace, a profile 1 m wide and 1.5 m deep was made. It revealed the following sequence of layers (from top to bottom): gray sand (40 cm), peat-covered brownish-gray sand (40 cm), and gray sand (to the base of the terrace). In the middle part of the layer of peat-covered sand a humic lens (to 10 cm thick) could be clearly traced, while over it a carbonaceous area was noted (and in it a flake of gray, siliceous slate) - a clear sign of a cultural layer, to which all the surface material collected in the eroded area in front of the terrace point, enumerated above, is assigned.

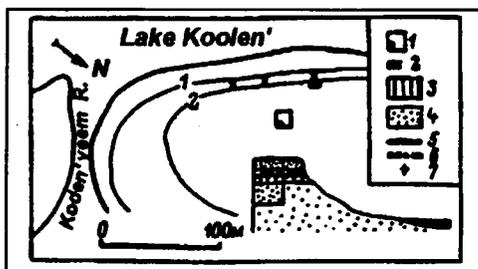


Figure 113. Plan and profile of Koolen' I site (152).

- 1 - Hunter's cabin; 2 - profiled bank;
- 3 - sod-covered sand; 4 - sand;
- 5 - humic lens; 6 - charcoal; 7 - flake.

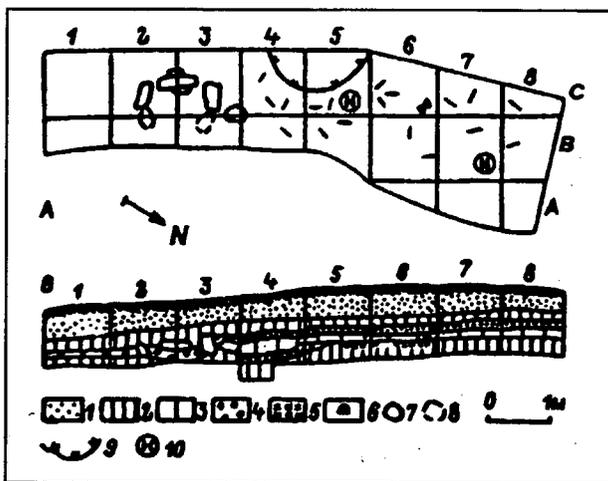


Figure 114. Excavation (A) and stratigraphic profile (B) at the Neolithic Koolen' III site (155).

- 1 - Gray sand;
- 2 - brown sod-covered sand;
- 3 - light-brown sod-covered sand;
- 4 - small gravels with sand;
- 5 - charcoal;
- 6 - hearth stones;
- 7 - hearth stones, having fallen into the slumped dirt of the bank precipice;
- 8 - siliceous blank;
- 9 - carbonaceous stain;
- 10 - cores.

The Koolen' II site (154) is located on the south shore of the lake 2.5 km to 3 km to the southeast of the previous site. It is on the right of the mouth of an unnamed creek entering the lake (the first from the mouth of the Koolen'veem River). This site is associated with the higher lake terrace (3 m to 4 m) and is broken by a gorge into two separate parts: Koolen' II-a and Koolen' II-b with a distance of 100 m between them (Fig. 112). The stratigraphy, judging by the sod-free terrace edge, is in general the same here as at the Koolen' I site: at the top gray sand, in the middle peat-covered sand 0.5 m to 1 m thick, and in the base layer gray sand. In the sandy blowouts along the slopes of the edge of the terrace a rather rich surface material was collected, which is related both to part of Koolen' II-a and to part of Koolen' II-b. This includes 72 flakes of gray, siliceous slate, obsidian, chalcedony, and quartzite; nine knife-like lamellae; and fragments of gray, smooth-walled ceramics of various thickness (from 5 mm to 14 mm): the thin ceramics are tempered with reindeer hair, the thick with inclusions of large sand and gruss (Plate 100:4, 14). At Koolen' II-b, in addition to this, a piece of a biface point, a lateral burin on a lamella, and an end

scraper (Plate 100:10-13) were found. These finds also appear to be Late Neolithic.

The Koolen' III site (155) is located 200 m from the Koolen' II site on the other side of the stream (Fig. 112). Here the edge of the lake terrace reaches a height of 6 m. It is composed (from top to bottom) of gray sand (40 cm), lighter sand (8 cm), brown peat-covered sand (30 cm), a light-brown peat-covered sand, again brown peat-covered sand (about 0.5 m), and again gray sand at the very base. This particular sequence of layers was revealed by profiling the bank at the shore, and approximately the same appeared in the course of later excavations at this site. The excavation, an area of 14 m<sup>2</sup>, was placed along the upper edge (brow) of the terrace (Fig. 114). Its length was 8 m, greatest width 2.5 m, depth 1.2 m to 1.5 m (Fig. 114, A). The stratigraphic peculiarities are indicated in the profile (Fig. 114, B). In the peat-covered brown sand, at a depth of 0.8 m, could be traced here a lens (about 10 cm thick) of gray sand, the peat-covered sand under it having a lighter color, and still deeper - darker again.

The upper cultural layer corresponds more to the dark peat-covered sand over the sand lens, but it was destroyed (as a result of being washed away by the lake) and no longer appeared within the boundaries of the site. Its cultural remains, mixed with earlier ones, were found in the cutbank of the terrace and in the shore zone in redeposited condition in the form of surface material. The earliest cultural layer, which was preserved in unmixed form, is associated with the lower part of the peat-covered sand, under the sand lens, at an average depth of about 1 m. In the excavation it was noted by a large (1.6 m across) charcoal stain and some pieces of charcoal, flakes, and stone artifacts in the western part of the excavation and the remains of a stone hearth in the eastern. The hearth (1.2 m across) is represented by an unclosed wall of large stones. The space between them was filled with small gravel and sand. This layer of gravel was traceable as well on the southeast external side. Near the hearth no stone artifacts were found. While on the northwest side of the excavation, in the cultural layer near the carbonaceous stain (2 m across) noted above, were encountered 25 flakes and 85 knife-like lamellae of brown (101 specimens), yellow (1), gray (5), and red (2) siliceous slate, obsidian (1) and chalcedony, as well as a piece of a biface knife (Plate 101:9), three lateral burins on knife-like lamellae of gray siliceous slate (Plate 101:3), and a quite distinctive core. The last has two striking platforms, for flaking off knife-like lamellae, which are located at right angles to each other and are made of light-brown siliceous slate (Plate 101:1). One of its striking platforms (as well as the two lateral sides) was formed by flattening retouch. On the broad frontal side, on the side of this striking platform, the two first knife-like lamellae were taken off. The opposite side of the core is flat, lightly worked by small retouch on one edge, which forms, as it were, a scraper-like blade. The unworked side served as a second striking platform for the core, from the end of which knife-like microblades were struck: traces of the removal of four of these is clearly visible (Plate 101:1). In this perspective the core ceases to be the usual prismatic type and may be viewed as a distinctive end core, a variety of core without keel or wedge. In the same place, in the northwest part of the excavation in Quad 6C, were found two large (8.5 cm x 8 cm x 5 cm and 9 cm x 7.5 cm x 3.5 cm) blanks of skreblos of brown, siliceous slate (Plate 105:1-2) and a lamellar flake of hornfels-like slate (Plate 101:8). From a carbonaceous stain a charcoal sample was taken, the age of which turned out to be 5,700 ± 300 years ago (MAG-717). This well-stratified site may serve as a key site for the Early Neolithic in Chukotka.

Surface material was collected consisting of 42 flakes and 86 knife-like lamellae of gray and yellow, siliceous slate (20 specimens); gray and pink tuffite; quartz (1); white flint (1); and obsidian (1 specimen); as well as a prismatic double-platform core (Plate 101:10); a unifacial prismatic micro-core with a pointed base (Plate 101:11); two broken bifacial leaf-shaped arrow points, one of which has a straight base (Plate 101:12-13); a leaf-shaped knife of yellowish-gray, siliceous slate coarsely percussion-flaked on two sides (Plate 101:16); a piece of a ground slate knife (Plate 101:18); and a fragment of a clay vessel. The latter was represented by two thin-walled (4 mm to 5 mm thick) pieces with temper of sand, one of which has a furrowed surface, and the other, tempered with reindeer hair, a smooth surface (Plate 101:17, 20); and a fragment of thicker-walled (to 10 mm) coarsely modeled ceramics tempered with small grass (Plate 101:19). This surface material was collected from a broken-up sandy cutbank on a slope of the terrace edge at an elevation of 1 m to 5 m and in cultural-chronological respect is, of course, mixed. That is, it is related to both the upper and lower cultural layers.

The Koolen' IV site (153) is located 1 km to the south of the mouth of the Koolen'veem River, in the very corner (*kultuke*) of the lake. Here, in a bare place by the lake and in blowouts at the terrace edge, were found several flakes and fragments of ceramics (Fig. 111).

Grave No. 1 (150) is solitary. It is located in the saddle between two hills on the northeast side of Lake Koolen' near three stone rings of Chukchi *yarangas* (Fig. 111). It consists of a rectangular stone fence of five large stone slabs buried vertically and surrounded by stones set up on the ends and along one of its longitudinal sides. The

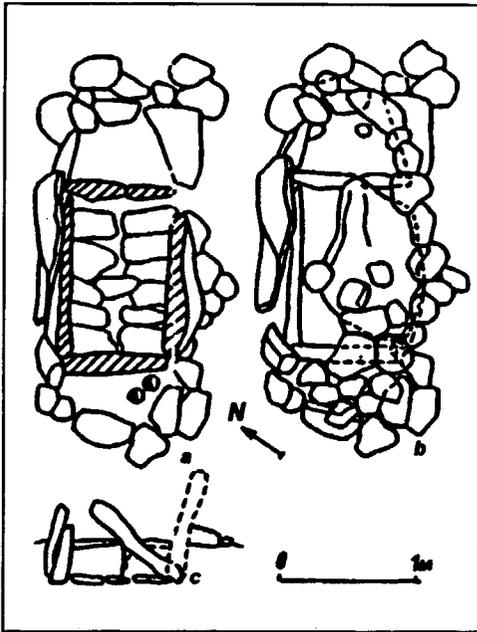


Figure 115. Burial No. 1 at Lake Koolen' (150) - plan and profile.

a - Before the excavation; b - after excavation; c - profile (dotted line indicates stone slab in its original position, circles - fragments of slate tools).

points) is typologically close to finds in the Neolithic sites of Koolen' I, II, and III, which permits their preliminary assignment to Neolithic times. It looks just as if they were left by the inhabitants of the Koolen' sites.

#### A Cemetery near Lavrentiia Settlement (156)

This cemetery (156) is located 3 km to the southwest of the settlement of Lavrentiia on the upper part of the slope of the 15-meter terrace. It is by the road leading to the settlement and on the right bank of a stream that empties into the Bering Sea (Fig. 117). On the right of the road (if one looks toward the village of Lavrentiia) stands a large stone monadnock. To the left is the cemetery itself. It consists of four graves, which are represented by inlaid stones, in some cases reminiscent in outline of a whale. We excavated all four graves (Fig. 138:7, 9, 11).

Grave No. 1 is in the form of a fence of irregular oval outline, bordered by 12 stones, and oriented from SE to NW. It is 1.9 m long by 1 m wide. Within the fence immediately under the sod were found two more stones, an accumulation of charcoal, a small piece of iron slag, two pieces of bone (reindeer), and a ground slate knife and its pieces. All this at a depth of 5 cm to 15 cm. The radiocarbon date for the charcoal:  $490 \pm 170$  (Le-3034).

Grave No. 2 has an outline of a broad oval sharpened at the ends and densely inlaid by stones (Fig. 138:7). Its dimensions are 2.7 m x 1.9 m. It is oriented N-S on the long axis. Among the stones were several pieces of charcoal (Fig. 117). The radiocarbon date of the charcoal:  $610 \pm 40$  (Le-3035).

grave is oriented with its long axis northeast to southwest. At the time of the excavation the southeastern large slab of the grave fence was collapsed inward in a very great angle (Fig. 115). After the extracting the fill from the stone "case" of the grave (in the form of earth and stones), it was ascertained that the bottom of the grave was inlaid with flat stone slabs. No finds within the stone fence were encountered, but beyond its boundaries near the southwest slab among the stones surrounding it, under the sod, were found two pieces of ground slate knives (Plate 105:3).

Grave No. 2 (151) was located in a group of four graves on the southeast slope of a lakeside hill. Situated below the others on the slope at an elevation of 30 m from the foot of the hill, it is also represented as a rectangular slab fence surrounded by stones and oriented by the long axis to SSW-NNE. After the extraction of the earth mixed with rubble which filled it, it turned out that only the northern part of the bottom was inlaid with five stone slabs (Fig. 116). In the middle of the grave on the named slabs a ground slate knife (Plate 100:16) and two fragments of thin-walled ceramics with furrowed surface (Plate 100:17-18) were found. In the very center of the grave was a carbonaceous accumulation, and still farther toward the south side a piece of a flint arrow point with an asymmetrically grooved base (Plate 100:1-5).

The investigated graves are for intra-continental Chukotka a completely new, previously unknown type of site. They combine in themselves the distinctiveness of maritime Eskimo burials (construction in the form of a fence) and intra-continental Chukchi (signs of cremation in the form of carbonaceous accumulations). Their burial inventory (ceramics, slate knives, and retouched biface

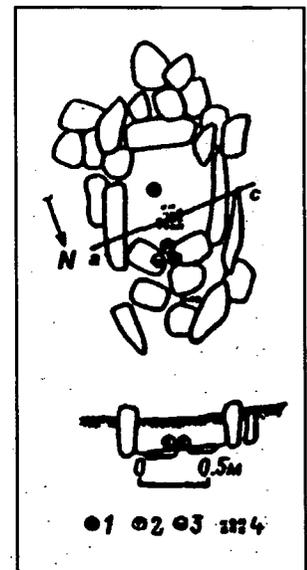


Figure 116. Burial No. 2 at Lake Koolen' (151).

- 1 - Siliceous arrow point;
- 2 - fragments of clay vessels;
- 3 - slate knife;
- 4 - charcoal.

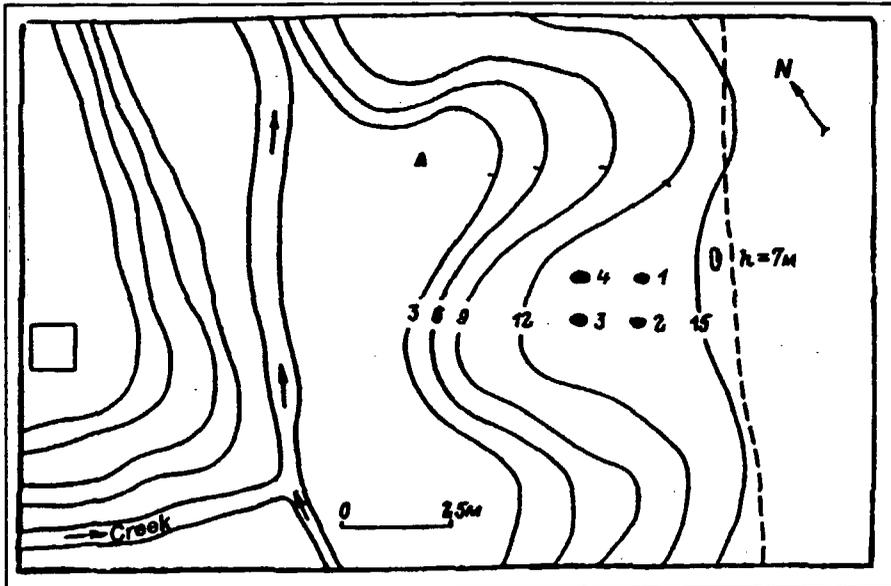


Figure 117. Plan of burial ground southwest of Lavrentiia village (156).

**Grave No. 3.** Its burial pavement has the most clearly expressed whale-like form (3.4 m long, 1.7 m wide), is oriented from SE to NW; the "head" is NW (Fig. 118). Carbon was found immediately under the sod at a depth of 10 cm to 20 cm. In the center, among the charcoal, was an accumulation of pieces of gray, smooth-walled ceramics and a ground slate knife. There in the same place were pieces of indeterminate burned bone, which were also found in the southeast part of the grave. In its northwestern and southeastern parts were also found fragments of wooden laths (from 1 cm to 10 cm long). In the head part were found

small pieces of red hematite, a fragment of a small iron artifact, and a grinding stone. The sample of charcoal from the grave gave a radiocarbon date of  $260 \pm 40$  (Le-3033) and  $800 \pm 50$  (MAG-917).

**Grave No. 4** has stonework of a whale-like outline (2.6 m x 1.5 m[?]) also; the "head" oriented NW. It was incompletely investigated to the basal rubble. No finds were made. The charcoal found in the stonework of the grave was determined by radiocarbon dating to be contemporary.

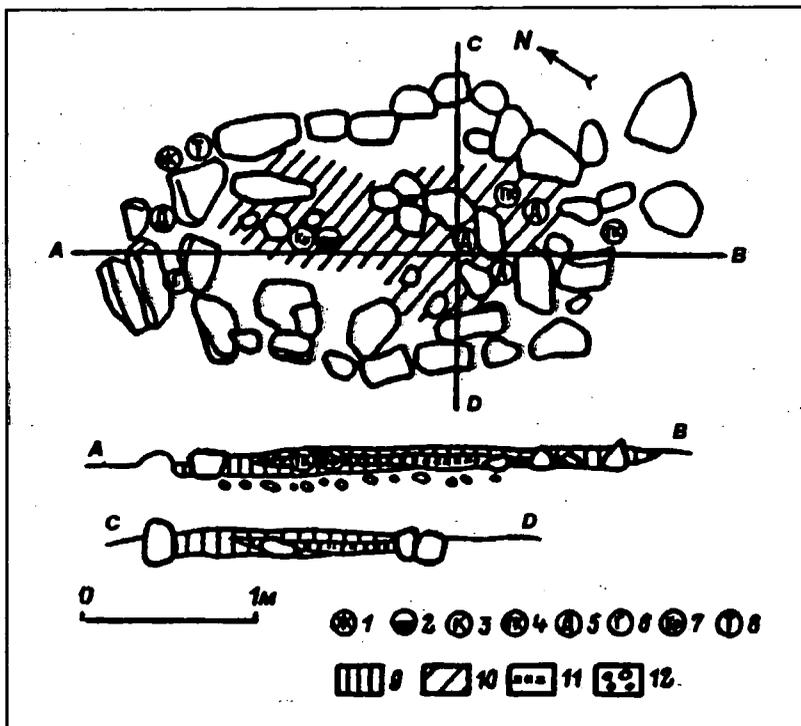


Figure 118. Grave No. 3 (156).

1 - Iron artifacts; 2 - knife; 3 - bones; 4 - burned bones; 5 - wood; 6 - hematite; 7 - ceramics; 8 - grinder; 9 - soil; 10 - carbonaceous area; 11 - rubble.

Sites in the Utaatap River Valley (158-159)

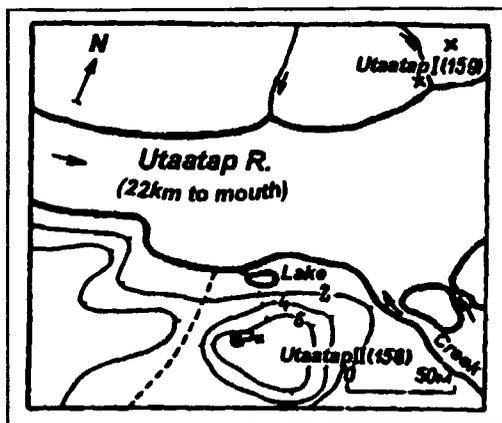


Figure 119. Sites of Stone Age Utaatap I (158) and Utaatap II (159). Excavation noted in Utaatap II site.

On the short Utaatap River, which flows from the mountains into Mechigmen Bay (Fig. 2), in 1983 we found the following Neolithic sites.

The Utaatap I site (158) is on the right bank of the Utaatap River 25 km from its mouth. It is on the right side of a creek that flows into the river and on the gentle slope of a point at an elevation 5 m above river level (Fig. 119). The part of the slope here is sod-covered, but in some places there is no sod. It is there, on the surface, that coarse, slab-like flakes and pieces of yellowish-gray, hornfels-like slate (35 specimens) were noted, as well as some (2 specimens) that were coarsely percussion flaked and lightly retouched along the edges as knives (Plate 102:5-6), a flake of red-brown flint with small retouch along the edge (Plate 102:1), a knife-like lamella of white, siliceous slate and two slab-like pieces of pinkish, calcareous slate with traces of heating action (probably in the fire of a hearth).

On the surface of one of these slabs a graphic sketch illustration executed by incised lines is quite evident. It represents

some kind of waterfowl, such as a swan, goose, or duck with its sweeping wings, probably trying to fly from the

water but grasped by the tail by the mouth of some kind of probably mythological water beast, such as a large fish or some other mythological chthonic entity (Plate 102:2). The tablet with the graphics was examined in 1990 with the aid of a binocular microscope by the well known use-wear analyst N. A. Kononenko. As a result, it was established that the composition was executed by a sharp stone burin, by which the lines of the head, the long neck, wings, and tail of the bird were applied, as well as the upper jaw and contour of the lower part of the head of the "fish." The latter was engraved with a burin along the natural line of the fracture as if it were reinforcing and stressing it. For the remaining elements of the representation (the back of the bird, the lower edge of its trunk, and the upper contour of the head of the beast) only the lines (thin and deep) of the natural fracture of the stone were used. Two or three of them (the upper and lower and, possibly, the middle) are parallel and are adopted as lines signifying water, and thereby organically supplement the whole composition. On the whole, it is distinguished by deliberate sketchiness. Bold straight lines without curves mark the basic elements of the contour of the entities. The transition of the lines of the long neck of the bird into the lines of its trunk is not denoted; the roundish line of its breast is only to be estimated (Fig. 120). The cultural layer of this

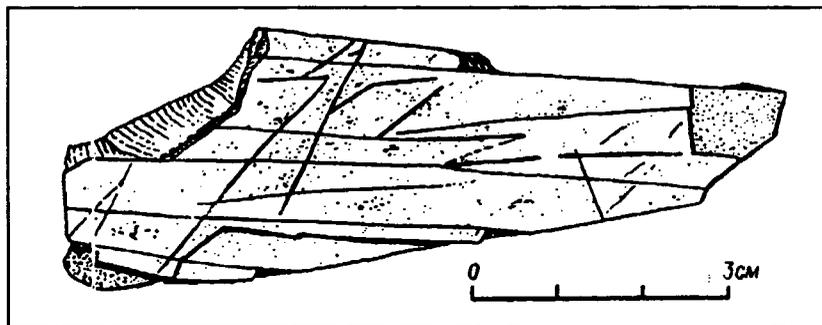
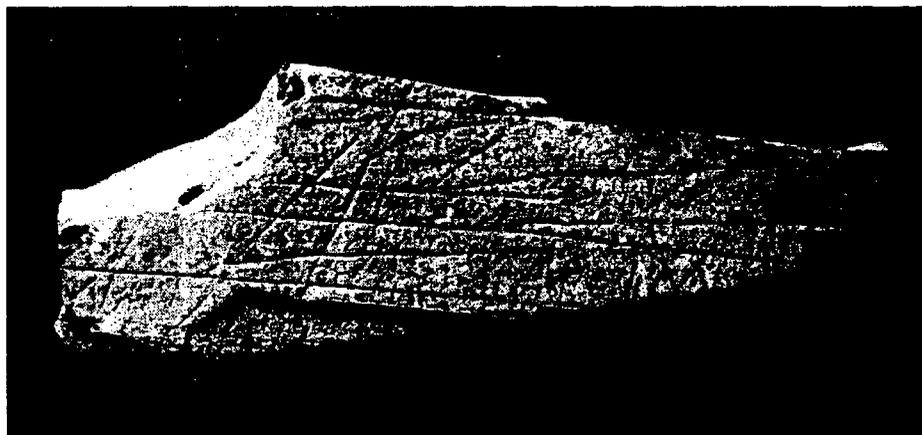


Figure 120. Image on stone slab from the Utaatap I site (158).

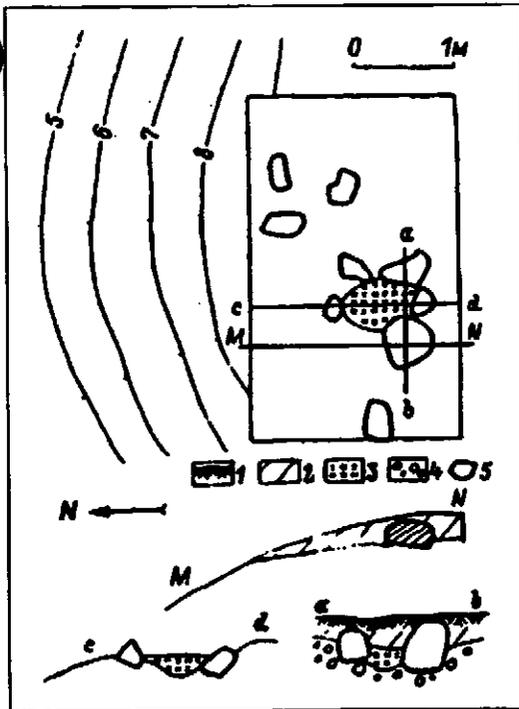


Figure 121. Plan and profile of excavation at Utaatap II.

1 - Sod; 2 - light-brown sandy loam; 3 - charcoal; 4 - rubble; 5 - hearth stones.

middle course deposits of alluvial Karginisk and later times. The latter form the fragmented second floodplain terrace 6 m to 7 m high (Kriukov 1985), to whose surface, as well as to the glaciofluvial hills, the Early Neolithic and earlier sites found here are principally related.

The Getlianen-istok site (160) is located on the high (more than 10 m) left bank of the Getlianen River at the sharp turn from north to east, 5 km to 6 km from the river's source (Fig. 2). Here on a rubble surface we found two pieces of a chopper-like biface tool made of dark-gray, hornfels-like slate (9.5 cm long, about 5 wide, 3 cm thick). The preserved lateral blade, lightly retouched along the edge, may have served as a skreblo or knife (Plate 105:4).

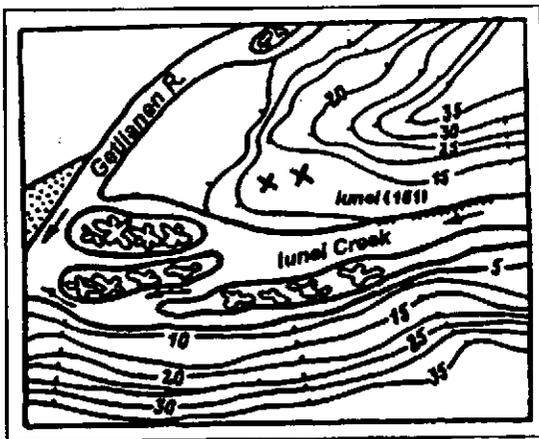


Figure 122. Lunei site (161).

site was a surface one and poor. Judging by everything, it should be assigned to no earlier than the Late Neolithic.

The Utaatap II site (159) is located on the river 3 km below the previous site. It is on the left bank, on a knoll 6 m high on the left of the mouth of the creek, and on the right of the tractor trail 22 km from the mouth of the Utaatap River (Fig. 119). A flake of flint was found in the cutbank of the lakeside slope, and then 233 flakes of red, gray, and green, siliceous slate on top of the knoll. Here, on the top of the southwest slope of the knoll facing toward the river, a small (6 m<sup>2</sup>) excavation was placed that revealed a very simple stratigraphy and a hearth in a surface cultural layer (Fig. 121). It is in a sub-sod brown, sandy loam, spread over with rubble, in which it can be satisfactorily seen in the lateral profiles. The hearth pit, filled with charcoal, was [partially] surrounded by an incomplete circle of stones. Near the hearth we found four biface arrow points of a truncated, leaf-shaped form of siliceous slate (Plate 102:3-4, 7) and 39 flakes of red and gray siliceous hornfels-like slate.

A radiocarbon date on the charcoal from the campfire is 2840 ± 40 (Le-2659).

#### Sites in the Getlianen River Valley (160-165a, 171)

The Getlianen River, a comparatively short mountain stream that is deep in its lower course is embraced by ravines in its upper reaches, but in its lower course comes out into a valley. It has developed Quaternary deposits. In the upper reaches there are Sartan glacial deposits, in the lower reaches maritime deposits, and in the

The Lunei site (161) is situated on the left bank 40 km from the mouth of the Getlianen River. It is on a point of land to the right of the mouth of Lunei Creek, at an elevation 10 m above river level (Fig. 122). Here in a small-rubble blowout were two lateral burins on knife-like lamellae of gray, silicified tuff (Plate 104:24-25), a knife-like lamella pointed on the end similar to a graver (Plate 104:23), four small pointed flake-gravers (Plate 104:29-30), a piece of a knife-like lamella that probably served as an arrow point (Plate 104:22), three more unretouched knife-like lamellae (Plate 104:26-27), and eight flakes, three of them large (Plate 104:28, 31), the remainder being quite small (less than 1.5 cm), and all of dark-gray silicified tuff and covered then with a heavy, almost white, patina. Judging by the appearance of these artifacts they are either Early Neolithic or possibly Mesolithic.

The campsite on Ovrazhnyi Creek (171). This creek falls on the right into the Getlianen River in the middle of its course. A campsite with surface material (three knife-like lamellae and a flake) is on an isolated knoll 12 m high located 1 km upstream from the mouth and on the left side (Fig. 123). The knoll has a small-rubble surface on which was preserved a stone ring where a Chukchi *yaranga* had once stood. Ten meters to the east three knife-like lamellae retouched along the edge and a roundish scraper of light-gray and green, siliceous slate (Plate 104:6-9), as well as three pieces of the same kind of material were found in 1984.

The Stone Age site of Getlianen I (162), found in 1982, is located on the right bank of the Getlianen River on its lower course. It is by the tractor road to Yanrakynnot that crosses the river here. Beginning at this place in the valley, and [continuing] to the mouth of the river itself, late Quaternary deposits were formed. These are very rare in the valleys of mountain streams of eastern Chukotka. Stone artifacts were collected here in sandy blowouts on the top and south slope (at an elevation of 10 m to 12 m) of one of the glaciofluvial knolls at the river's edge (Fig. 123). These included a piece of a biface arrow point (Plate 103:2), two prismatic cores (Plate 103:7-8) and two fragments thereof (Plate 103:9-10), three scrapers - one double ended (Plate 103:15), an end one (Plate 103:16), and a high form (Plate 103:18) - and a piece of a slab-like knife (Plate 103:17), as well as 122 flakes and 86 knife-like lamellae (Plate 103:3, 6), some with retouch along the edges (Plate 103:11-14), all of gray and yellow, siliceous slate. The most remarkable thing here was a piece of a high and narrow wedge-shaped core (Plate 103:1), a definite feature of the Paleolithic. On the slope near the top of the knoll a small (5 m<sup>2</sup>) and shallow (to 40 cm depth) exploratory excavation was made in 1982 (Fig. 126-127). It revealed in the light-brown sandy loam a cultural layer: lenses of humic, sandy loam in the profile of the north wall of the excavation and several finds of lithic production (two knife-like lamellae, three flakes, and a large double-platform prismatic core) - all at a depth to 30 cm above coarsely angular gravel (Plate 104:1).

In 1983 we continued the excavation at this site. On the northwest side an area of 10 m<sup>2</sup> more was opened (Fig. 126). The cultural layer could be traced in those same stratigraphic levels: under the sod, which was preserved here and there, was the primary cultural layer - a yellow loam from 15 cm to 40 cm, under which spread the basal rubble. In the northern part of the excavation was pit (No. 2), about 35 cm across, 20 cm deep, filled by red ocher, and with two stones over it. Near this pit were two more: one of the same dimensions (No. 3) and another larger (No. 1) and oval (70 cm x 45 cm). Both pits contained only mixed loam. Not far from these pits were a subprismatic core (Plate 104:2), two knife-like lamellae, and several flakes. And in the east part of the excavation, at the same depth of 0.3 m and in a large cluster of stones, a hearth was found. A carbonaceous stain almost one-half m in diameter was [partially] surrounded by a ring of large stones on the south side of this cluster (Fig. 126, 127). Beside the hearth, on its south side, a split-in-half stone hammer made of a flattened cobble (13 cm long, 6.5 cm wide, 3.5 cm thick) was found. On the west and east sides of the hearth were a unifacial subprismatic micro-core (Plate 104:4) and a polyhedral burin made from a prismatic core (Plate 104:3), and on the north, west, and south sides were flakes (49 specimens) and knife-like lamellae (53 specimens) - all of gray siliceous slate. Judging by these remains, here near the hearth the occupants of the site occupied themselves with the preparation of stone tools.

In 1984 excavations at the site were completed (the excavation amounted to a total area of 26 m<sup>2</sup>). A large oval carbon-ash stain (2.3 x 1.5 [m<sup>2</sup>]) was completely revealed. It contained a pit filled with wood charcoal (depth to 20 cm, width 0.5 m, and length 0.8 m) on its northeast side (Fig. 125). From the pit a complete sample of charcoal was taken for age determination by radiocarbon analysis. Around the whole carbon-ash stain was revealed a cultural layer in an area 11 m<sup>2</sup>, within the borders of which were found two more knife-like lamellae and 11 flakes - all this in a 30-cm to 40-cm layer of brown, peat-covered sandy loam.

Thus, in the site a rather representative economic-cultural complex was revealed. It includes a hearth surrounded by stones, a fire pit on the edge of an ash stain, and three pits without charcoal, but one with red ocher. Unfortunately, the complete sample of charcoal from the fire pit was lost in the radiocarbon laboratory of SVKNII DVO AN SSSR [Northeastern Interdisciplinary Science-Research Institute, Far East Branch, Academy of Science, USSR]. Nevertheless, judging by the technological features (itemized: probably a wedge-shaped core, complete lack of ceramics, the developed character of the industry of microblades), this complex is pre-Neolithic and could even be late Paleolithic.

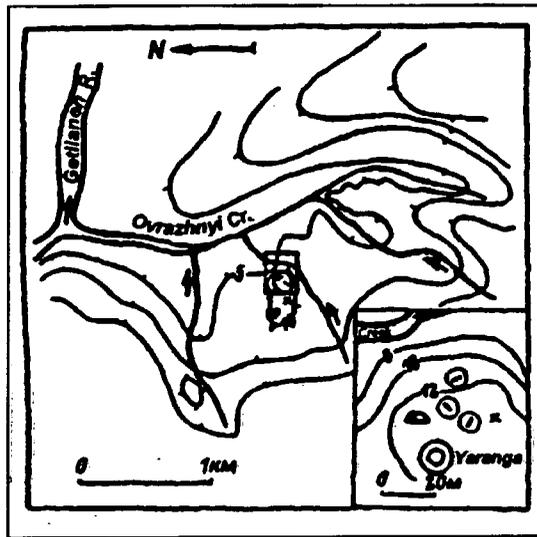


Figure 123. Neolithic campsite at Ovrzhnyi Creek (171).

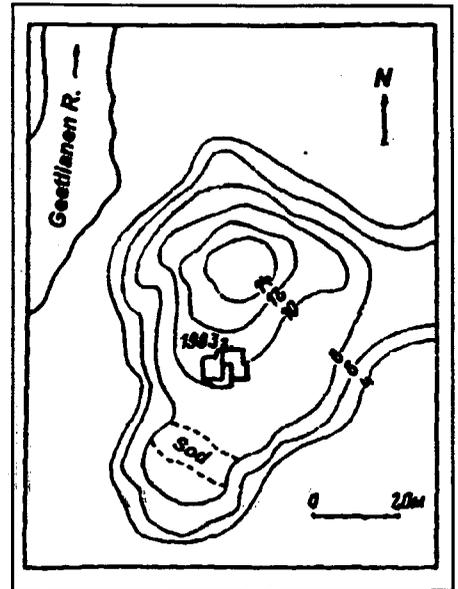


Figure 124. Neolithic Getlianen I site (162) and excavation in it.



Figure 125. Excavation at Getlianen I site (162) in 1982.

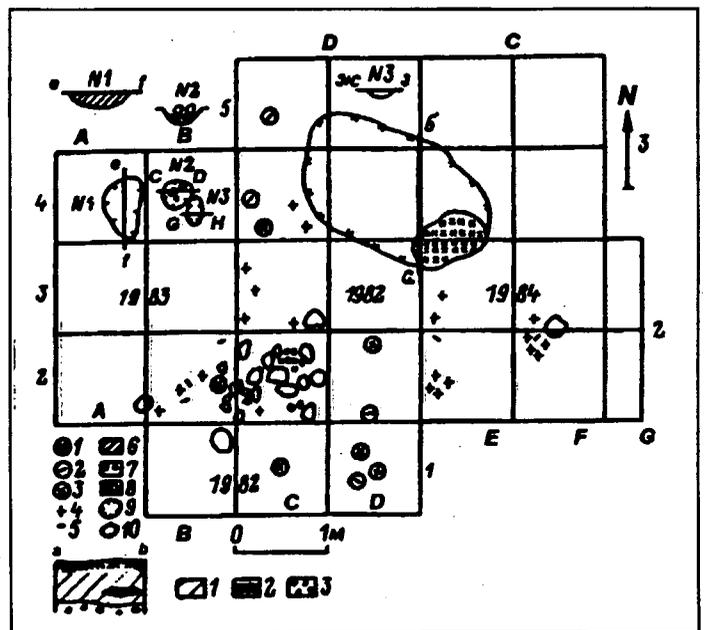


Figure 126. Plan of excavation and stratigraphy at Getlianen site (162).

Conventional signs to the plan (1 - core; 2 & 5 - knife-like lamellae; 3 & 4 - flakes; 6 - red ocher; 7 - yellow loam; 8 - charcoal; 9 - pit; 10 - stone) and conventional signs for profile (1 - yellow-brown sandy loam; 2 - humic carbonaceous sandy loam; 3 - coarsely rolled pebbles).

The Getlianen II site (163) is located 5 km below the Iunei site on the right bank of the Getlianen River. It is on a point of land 8 m high at the foot of a low hill (about 50 m high) on the left of the mouth of Ovrazhnyi Creek (Fig. 128). The whole surface of this finger-shaped point is covered with sod. On its eastern edge, 15 m northeast of an aluminum cabin (*balka*) - an intermediate base for reindeer herders - we dug a small exploratory excavation 9 m<sup>2</sup> in area (Fig. 129) in 1982. It was ascertained that the cultural layer was contained in a black peat-covered soil (at a depth of 29 cm to 30 cm) underlain by rubble in yellow sandy loam. Within this layer was a carbonaceous hearth stain surrounded by a half circle of hearth stones. A remaining 10 stones formed the outer enclosure of a probable former dwelling. Between the northern side of the wall and the hearth, an accumulation of thick-walled (9 mm to 13 mm) pieces of coarsely modeled clay vessels with inclusions of grass (Plate 105:7) was found. One was also found on the opposite side (in Quad 3C) near a piece of deer antler; a core-like fragment; a flake of gray, siliceous slate, and a slab-like blank of a knife (Fig. 128).

The Getlianen III site (164) is also on the right bank of the Getlianen River 2 km below the previous one. It is on a point-like spur of a hill at an elevation 15 m above river level and to the left of the mouth of an unnamed stream (Fig. 130). In an excavation (5.5 m<sup>2</sup>), under the sod in brown, sandy loam underlain by yellow, sandy loam, at a depth of 30 cm to 40 cm, a pavement of stone slabs was found on the north side of the excavation. Near it was a knife on a flake of siliceous slate coarsely retouched on both sides (Plate 105:5), and on the side were pieces of coarsely modeled,



Figure 127. Getlianen I site. View from east of stone in hearth cluster.

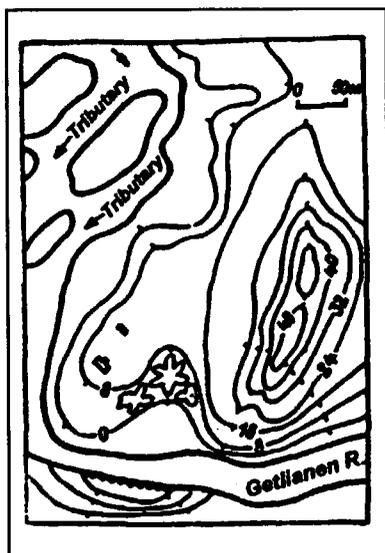


Figure 128. Location of Remnant Neolithic site Getlianen II (163) and the excavation in it.

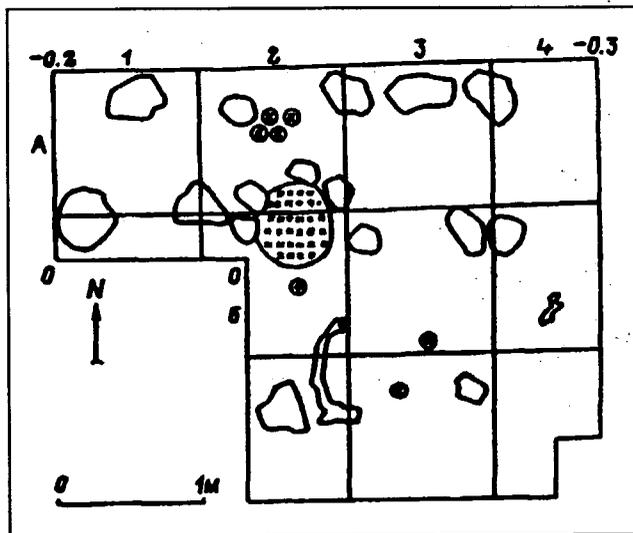


Figure 129. Plan of excavation at the Getlianen II site (163).

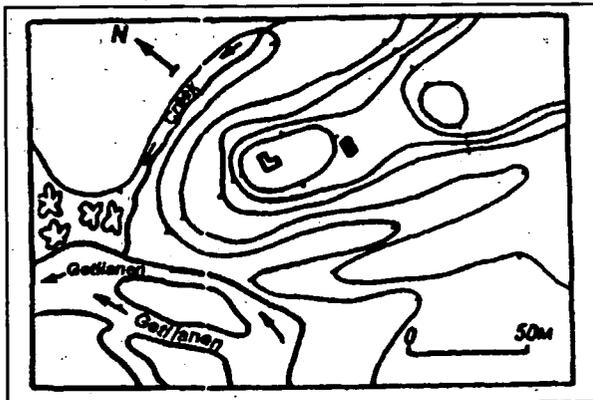


Figure 130. Location of Remnant Neolithic Getlianen III site (164) and excavation in it and in the neighboring early grave.

straight rimmed clay vessels with paste of gruss (5 mm to 10 mm thick), both furrowed-hatched and smooth-walled (Plate 105:11-13). There were pieces of burned bone and charcoal everywhere under the sod (Fig. 131).

Twenty meters southeast, on the slope of a saddle-like depression of this point, stones that were intrusive into the earth peered out from under the sod. After the sod was taken

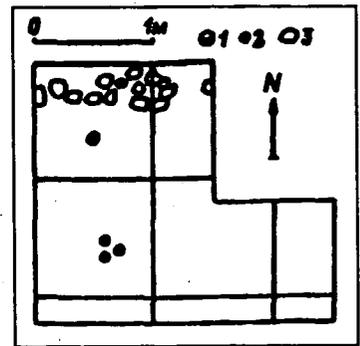


Figure 131. Plan of excavation at the Getlianen III site (164).

1 - Slate knife; 2 - thick-walled ceramics; 3 - stones.

off, this turned out to be the stonework of a grave in the form of an oval wall-pavement 3.5 m long by 1.8 m wide. Some stones were placed within it. Between these, in the earth immediately under the sod (on the rubble), was a substantial amount of charcoal, especially in the south corner of the enclosure (Fig. 132). In the same place fragments of burned bone were encountered, apparently human. Also found were a flake-scraper of yellow, hornfels-like slate (Plate 105:6) and two pointed lamellar flake-gravers, one of the same kind of slate (Plate 105:8) and one of gray (Plate 105:9). The two fragments of ceramics found here were of average thickness (5 mm to 7 mm). They were tempered with coarse sand and their surface slightly furrowed (Plate 105:10) or with hardly noticeable impressions of small rectangular stamps (Plate 105:1). Approximately 1 m north of this stonework grave, a deer antler protruded from under the sod. A heap of eight stones was piled over the antlers. This is a common scene for Chukchi burials with cremation (so-called *paliakvyn*). Here we undoubtedly deal with a very early *paliakvyn*. From two places (under the sod and deeper) charcoal was taken for age determination by C-14, and the

dates turned out to be different:  $3,460 \pm 80$  (Le-2661) and  $390 \pm 40$  (Le-3030).

#### The Getlianen IV site

(165) is located on the river 2 km below the Getlianen I site. It is on a point 16 m high in the immediate vicinity of the mouth of the river, on the right side, and near the southwest slope of a red-colored hill (Fig. 133). A part of the surface of this point is free of sod and is covered with large, sandy blowouts in which we found numerous siliceous flakes (143 specimens) and knife-like lamellae (24), predominantly of gray, siliceous slate (only one of red) and chalcedony (1 specimen), as well as two



Figure 132. Burial wall at Getlianen III site (164) during the course of excavation (1982).

middle burins on knife-like lamellae (Plate 104:10-11) and two end scrapers (Plate 104:17-18). On the sod-covered part of the surface were two scarcely perceptible depressions with projecting stones, probably of *paliakvyny*, similar to those described above, which should be investigated later. Meanwhile we opened a small exploratory trench-excavation (3.5 m<sup>2</sup>). In the trench in yellow, sandy loam were found fragments of thin (4 mm to 6 mm) smooth-walled ceramics (Plate 104:21) at a depth of 30 cm. The depth of the trench was 0.5 m.

A test probe (3 m from the trench) produced no finds. Under the yellow, sandy loam in the probe was a lens of pink sandy loam, and deeper - yellow sand - to permafrost, which curtailed digging.

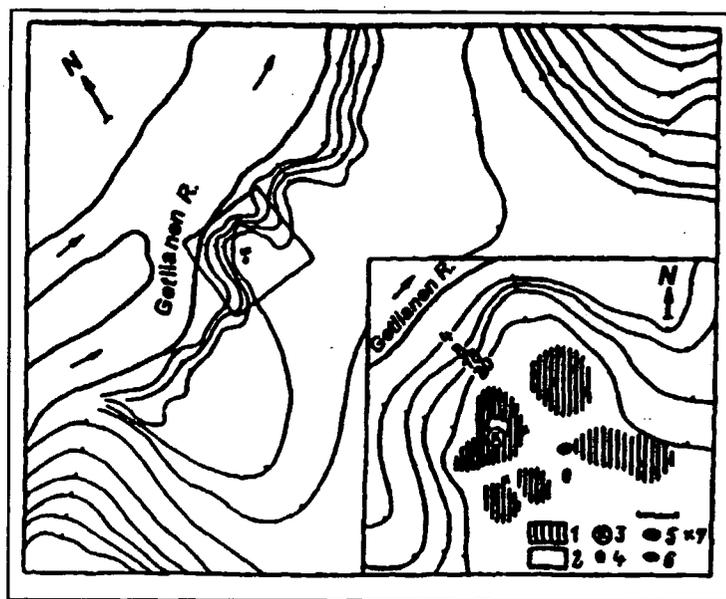


Figure 133. Getlianen IV site (165) and its disposition.

Sites in the of the Marich River Valley (166-170)

In the valley of this small mountain river, which flows into the Bering Sea near the settlement of Yanrakynnot, the deposits were predominantly glaciofluvial, with entirely no Pleistocene alluvial deposits. All four sites are from the surface level of glaciofluvial deposits in open, entirely treeless, tundra with infrequent bushes. They seem quite early both by their geomorphological situation and in the character of the stone artifacts. Some of them, for example Marich I (166) and II (167), with further investigation might turn out to be Paleolithic. The remainder, judging by everything, are later, of various periods of the Neolithic, including the latest Remnant Neolithic.

We will look at all these sites along the valleys of the rivers in the order of their discovery, in their geographic succession.

The Marich I campsite (166) was discovered in 1983 on the right bank of the Marich River 10 km up its course from Aimekil'veem Creek, which enters on the left. It is on a broken-up small-rubble sandy slope of a glaciofluvial knoll about 24 m above river level. This knoll rises over the 12 m ledge of a terrace at the mouth of the small creek. The opposite bank of the Marich River is precipitous (to 8 m high) where another creek falls into the Marich River (Fig. 134). In a blowout were found 42 flakes of light-gray, siliceous slate, one of red, one chalcedony, and only one knife-like lamella. The most careful examination, evoked by the geomorphological Pleistocene perspective of the campsite, however, did not produce any other finds. Nevertheless, with a large degree of probability it may be late Paleolithic.

The Marich II site (167a) is situated 3 km down the Marich River, on the same right bank, that is, lower at this point. An isolated knoll rises over a 2-meter edge of the terrace (Fig. 135). On the small-rubble surface at an elevation about 6 m above the river level were flakes of light-gray, siliceous slate (35 specimens) and black andesite-basalt (10 specimens), two irregularly faceted knife-like lamellae of siliceous slate (Plate 105:2-3) and 13 other artifacts of this same material: a transverse spall from a core,

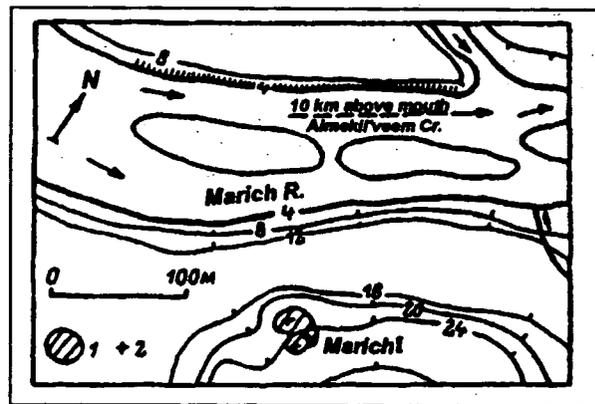


Figure 134. Disposition of Marich I (166) (possibly late Paleolithic). 1 - Blowout; 2 - artifacts.

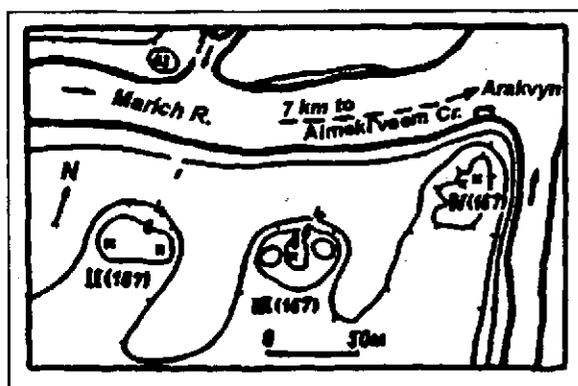


Figure 135. Sites of Stone Age Marich II (167a), III (167b), and IV (167v).

possibly wedge-shaped (Plate 106:1), half of a leaf-shaped knife-biface (Plate 106:4), two other fragments of cores (Plate 106:7-8), a sharp-cornered piece of a core with retouch along one edge (Plate 105:10), a small oblong knife broken on one end, retouched on both sides along the edge with bifacial retouch (Plate 106:4), two graters from small pointed flakes (Plate 106:5-6), skreblo-like instruments (Plate 105:11-14), and a narrow-bladed stemmed knife-biface broken on one end (Plate 106:9).

The Marich III site (167b) is on a neighboring hill, higher (about 8 m), of glaciofluvial origin, and at a distance of about 100 m from the previous site (Fig. 135). The small-rubble surface of this hill forms three knolls. On the surface of the middle one 53 flakes of the same light-gray, siliceous slate were found, several of them with retouch (Plate 106:16, 18)

and one with a burin spall (Plate 106:16), as well as three pieces of biface knives or their blanks (Plate 106:17, 19, 22) and one broken bifacially retouched projectile point of bluish-gray, siliceous slate (Plate 106:21).

The Marich IV site (167v) is on the point-like hill on the left of the mouth of the stream, at a distance of about 100 m from the Marich III site (Fig. 135). On the small-rubble glaciofluvial surface at an elevation about 6 m from the level of the river were eight flakes of little significance and pieces of light-gray, silicified slab-like slate.

Ritual stoneworks (168) were discovered in 1984 on the right side of the Marich River, 2 km from it, and opposite the mountain pass to Penkignei Bay. It is on one of the glaciofluvial knolls with traces of old Chukchi *yarangi* preserved in the form of stone rings. Here three stonework features are preserved that are of special archaeological interest as possibly distinctive varieties of Chukchi graves (*paliakvyny*), usually having, as indicated above, the form of stone ovals in which the deceased was placed or cremated. In this same case the stone figures depict the plan of a Chukchi *yaranga*, within the circle of which, covered by stone, are makeshift representations of a bed-cover and hearth. There were three such represented layouts on the gentle slope of the knoll here (Fig. 136:3). Their entrances are oriented to the north. The largest figure is 1.7 m x 1.2 m, the remaining scarcely less, and all three placed in a single row (from west to east) close to one another.

The Marich V campsite (169) (a cemetery containing early Chukchi *paliakvyny*) is on a hill more than 50 m high. This hill is on the right of the mouth of a creek that flows on the right into the Marich River 15 km from Yanrakynnota and 2 km above Etliapetlia Creek (Fig. 137). The cemetery is large, of several dozen *paliakvyny*, that is, stone ovals, oriented from north to south. Within them, on the surface, the deceased were placed (for predatory animals to eat). From one such oval *paliakvyn* (2.5 m x 1.5 m) covered with heaps of stones (Fig. 138:13) we took a fragment of a coarsely modeled smooth-walled and a thick-walled clay vessel (from under the stone wall) and a sample of wood charcoal (from under the sod within the *paliakvyn*), which gave a date of  $3,100 \pm 100$  (MAG-918).

The site on the Etliapetli' River (170) is Stone Age. It was found in 1982 on the right bank of the Marich River, opposite the mouth of the Etliapetli' River (Fig. 139). Here, 150 m to the left of the mouth of an unnamed creek on the small-rubble surface of a knoll (20 m high) with a bedrock base (with a cliff on the side toward the river) and close to a monadnock that rises on its northeast edge, were found 12 obsidian knife-like lamellae and 10 flakes of light-gray, silicified slate.

#### Sites on the Extreme Southeastern Chukchi Peninsula (1)

The majority of the known intra-continental archaeological sites of this region turned out to be Paleolithic or Mesolithic - Ul'khum (1), Puturak (4), Itkhat I (3), Itkhat II (2), Itkhat III (2), and Tkachen (5) - and their descriptions were, therefore, given above, in the corresponding chapters. Here only information on the lower site of Ul'khum (1), where in 1985 and 1986 Neolithic and later cultural levels were revealed, remains to be cited.

The lower site of Ul'khum (1). As is known, we found this site in 1981. It is represented by a solitary

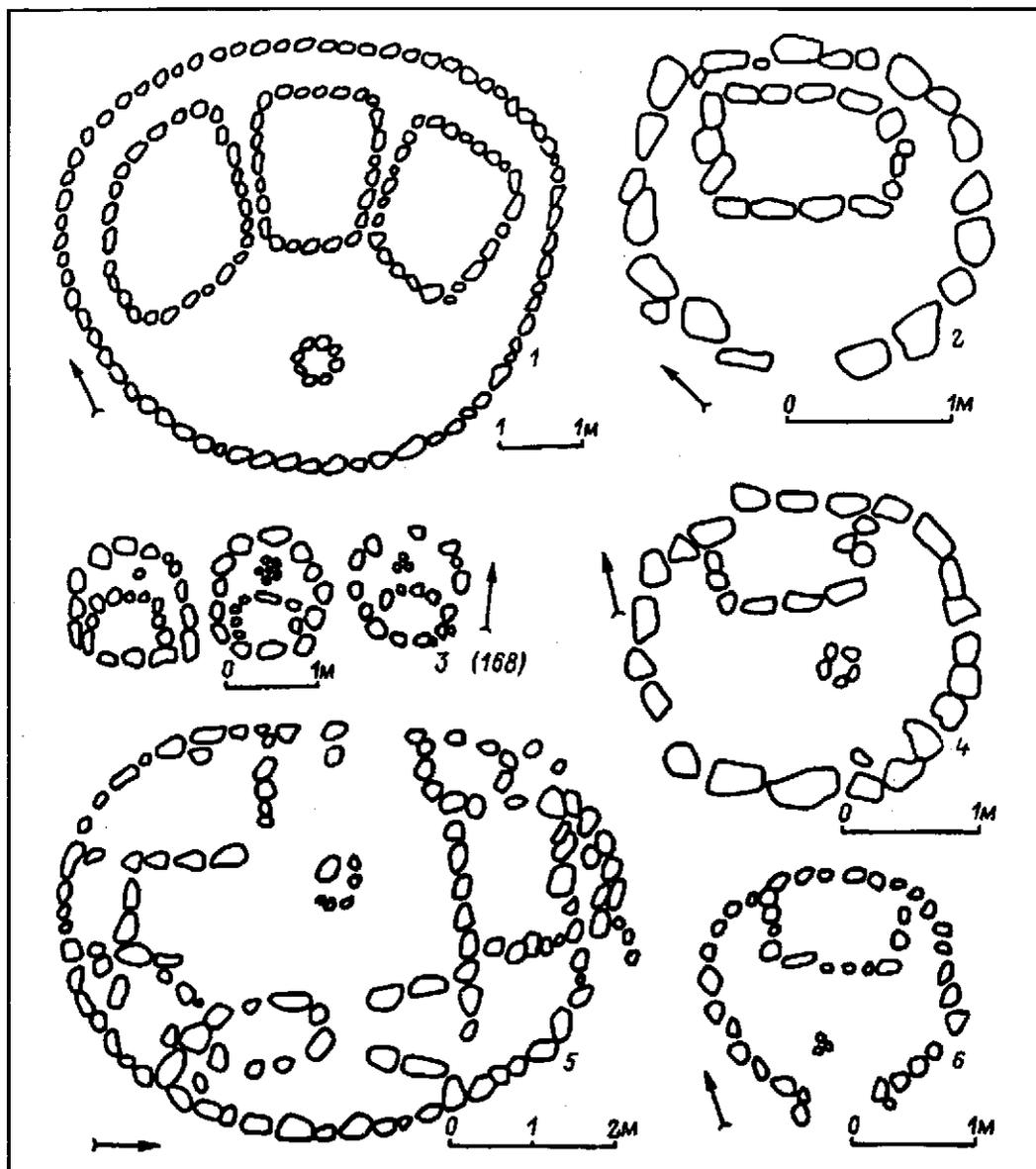


Figure 136. Ritual (burial) stone structures which represent dwellings ("homes").

- 1 - Val'karvaam River (9), 1981; 2 - Mel'nik Creek in the Chaatam'e River basin (23), 1981;
- 3 - first tributary of the Marich River, opposite the pass to Penkignei Bay (168), 1983; 4 - Kurupka River (19), 1980); 5 - Lake Achchen (11), 1981; 6 - Lake Achchen, on a cape near cache pits.

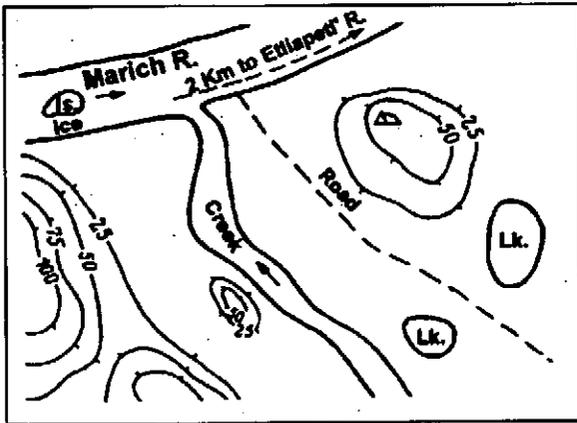


Figure 137. Disposition of burial ground at Marich V (169).

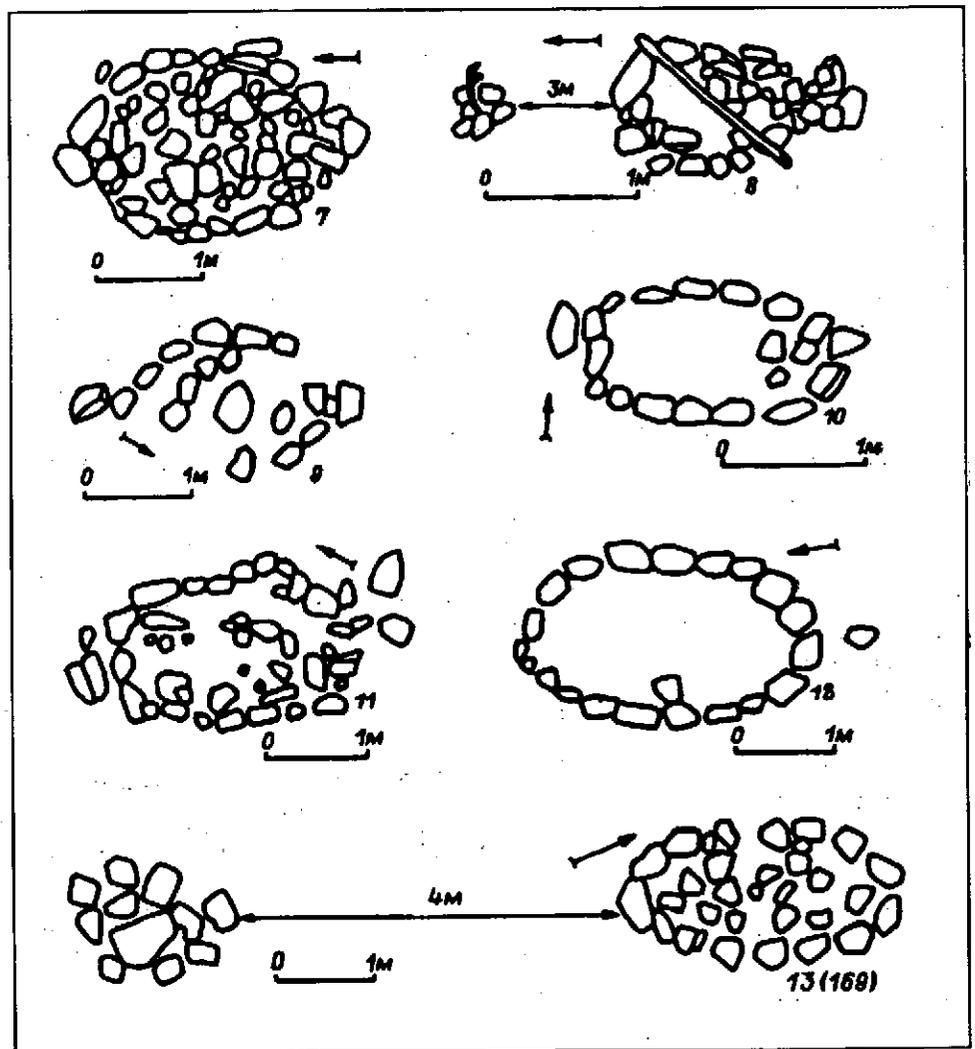


Figure 138. Ritual (burial) stone structures - *paliakvyny* (7, 9, & 11) near Lavrentiia village (156), 1980; 8 - Michigmenskaia Bay (157), 1979; 10 - near the Kurupka I site (16), 1980; 12 - Lake Koolen' (151), 1980; 13 - Marich V (169).

glaciofluvial knoll with a flat two-layered top (maximal elevation - 20 m, minimal - to 15 m). It is situated at the mouth of a creek on the left side of the Ul'khum River, 2 km from the latter's entrance into Lake Naivan (Fig. 4). In 1981-1982 we investigated the uppermost area of this large (about 250 m long) knoll. We collected a wealth of surface material of late Paleolithic age (wedge-shaped and archaic end cores) and opened a small excavation (4 m x 4 m) that established the presence of only a surface Paleolithic layer. After three years, in 1985, we carried out exploratory tests on the lower gentle slope of the hill at an elevation of about 15 m where, in our opinion, it would have been suitable for use by early hunters as a site in later times, and perhaps, even in the Paleolithic. For this reason we opened up two small test pits beyond the boundaries of the Paleolithic site tested in 1981-1982.

**Test Pit 1** was placed on the slope of the lower terrace on the northwest side of the hill in a place where there was a scarcely perceptible, lightly sod-covered depression with a roundish outline up to 2 m long and 1.5 m wide. The test pit (2 m x 1.5 m) was oriented corresponding to this depression (its depth was not more than 10 cm) and was done by stratum. After the removal of the sod to the very bottom, to a depth of 0.5 m, there was a light-brown, sandy loam with rubble. Deeper there was a frozen, dense-rubble basal layer. Under the sod to a depth of 30 cm to 40 cm was a design of stones the size of small-cobbles, among which were found four small obsidian flakes and pieces of knife-like obsidian lamellae, as well as a piece of deer antler. Side by side, in the south corner of the test pit, at this same depth, a pit of irregular roundish outline, 20 cm deep, and up to 35 cm wide was discovered. Ten cm deeper, after the removal of the stones and all the artifacts, a slightly carbonaceous stain of irregular outline could be traced, which passed to the south beyond the boundary of the test pit and, judging by everything, was not connected with the stone design. Examination of the test pit therefore shows the presence of two cultural horizons: a late one, connected with the stonework and deer antler, and probably an earlier one which corresponds to the carbonaceous stain and knife-like lamellae.

**Test Pit 2** was a trench 8 m x 1 m, placed in a sod-covered micro-depression (20 cm to 30 cm deep) of oblong form (20 m x 3.5 m), at an elevation of 16 m above river level on the lower terrace-like area of the hill. Here, in micro-relief, we could see two more sod-covered depressions (30 cm to 40 cm deep) of irregular outlines, which therefore cannot be the depressions of dwellings (Fig. 4). The trench revealed stratigraphy which, on the opposite sides, clearly showed the presence of the two depressions partially penetrated by it which contained a cultural layer. The depressions could be traced immediately under the sod (from a depth of 20 cm to 30 cm) and were cut into a layer of yellow, sandy loam with rubble and filled with brown humic (partially peat-covered), sandy loam at a depth of 0.9 m - at permafrost. Each of these depressions is probably associated with two dwellings,

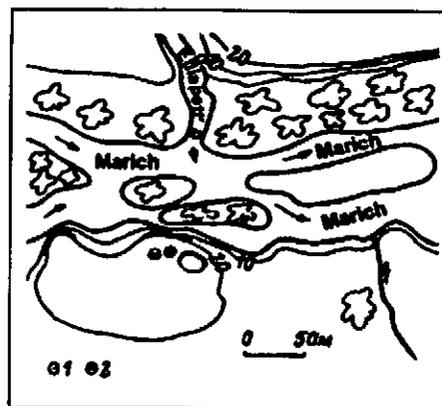


Figure 139. Neolithic campsite opposite mouth of Etliapetl' River (170).

1 - Knife-like lamellae; 2 - flakes.

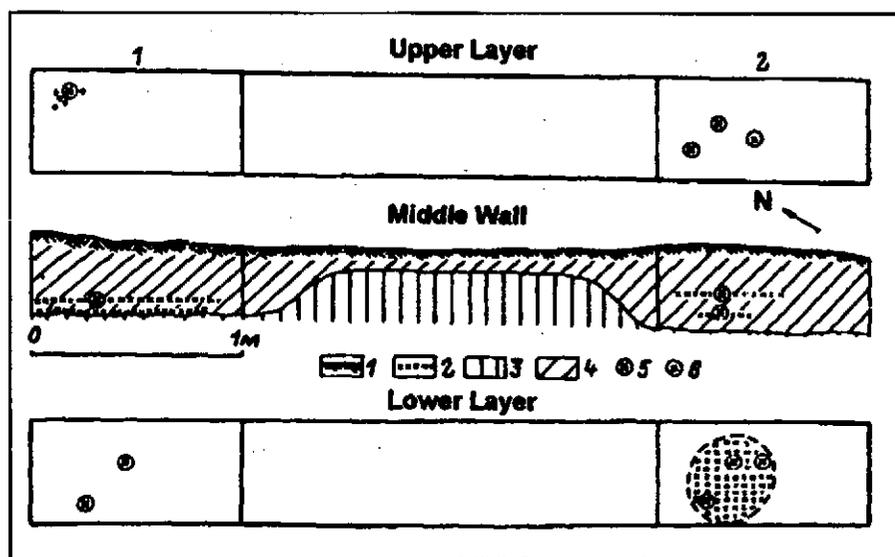


Figure 140. Profile and plan of upper and lower layers of trench in the lower Ul'khum site (1). 1 - Sod; 2 - carbonaceous lens; 3 - light-yellow sandy loam with dense rubble (basal); 4 - brown and more rarely with rubble; 5 - core; 6 - flake.

touched by the trench at a distance of 2.5 m in from each end (Fig. 140).

On the northwest side of the trench, within the boundaries of the humic fill of the depression, at depths of 15 cm, 20 cm, and 50 cm we found artifacts of silicified tuff: a prismatic unifacial single-platform core (Plate 107:5); a tool on a subprismatic single-platform unifacial core with a coarsely formed blade on the lower working end (Plate 108:5) - striking platform; a blank of a subprismatic core (Plate 108:7); and 41 flakes, among which is one with an edge sharpened as on a graver (Plate 108:9), another - lamellar (Plate 108:6). At a depth of 40 cm to 50 cm, above a carbonaceous lens (traced to a depth of 60 cm to 70 cm) were 20 more flakes (Plate 108:4, 10) and a blank of a chopping tool (Plate 107:6), as well as two more blanks of subprismatic cores, a large one (Plate 107:4) and a small one (Plate 107:8). Near the bottom of the test pit could be traced one more carbon stain and under it were found two more prismatic cores, both of the double-platform type and of the same siliceous material (Plate 107:3, 7), and one flake.

In the dwelling depression on the opposite, southeast side of the trench three horizons were also noted. In the upper, at a depth of 15 cm to 20 cm, were two flakes of silicified tuff, eight small slab-like pieces of slate, and a large transverse spall from a unifacial subprismatic core (Plate 108:11). At a depth of 40 cm to 50 cm, in the carbonaceous hearth stain (90 cm in diameter), were a unifacial, double-platform prismatic core (Plate 107:2) and six flakes. Still lower, at a depth of 70 cm to 80 cm, in another hearth stain, there were flakes (of hornfels-like gray slate - nine pieces, of basalt - one, of quartzite - 1 piece) and one more unifacial double-platform core of silicified tuff (Plate 107:1).

Thus, this trench confirmation also held on the lower level of Ul'khum hill cultural horizons later than the Paleolithic site on its upper level. Judging by the appearance of the cores, this test pit most likely revealed the presence there of an Early Neolithic culture. The excavations on this level of Ul'khum Hill must be continued in

broader dimensions, certainly going deeper into the permafrost. It is necessary to conduct them in the sod-covered depressions of micro-relief noted above. Quite probably there is also present here at least one, and perhaps several Paleolithic levels, corresponding to two chronological components of a mixed Paleolithic complex, which is represented in the surface material and in the surface excavation on the upper area of Ul'khum Hill.

Simultaneously, as was mentioned above, on the lower area of Ul'khum Hill, approximately 40 m south of the trench an excavation (6 m x 3 m) was made. In its lower cultural layer were found the late Paleolithic artifacts already described in this book (Fig. 6), above which the stonework of the burial turned out to be of significantly later date, judging by everything. It can now be appropriately discussed in greater detail. It is located on the east side of the excavation immediately under the sod, has an irregular oval outline (slightly reminiscent of the contours of a whale) in plan (more than 3.5 m long by 1.7 m wide). It is formed by flat and unevenly placed stones of various sizes - from a half m to 15 cm to 20 cm. Across beneath the stonework could be traced a streak of carbonaceous earth, probably the

remains of cremation (Fig. 141). From around the stonework and among the stones were taken 85 amorphous flakes of silicified tuff (Plate 98:11), five ground slate knives (Plate 106:4-5, 7, 9), five fragments of a coarsely modeled thick-walled badly fired clay vessel with inclusions of grass, including two fragments of rim (Plate 107:2, 10) and a piece of thin-walled ceramics with furrowed surface (Plate 109:3), as well as a fragment of a bone implement of unknown assignment (Plate 109:6) and a bent mattock-like rod of walrus tusk (Plate 98:1). In addition, on the lower

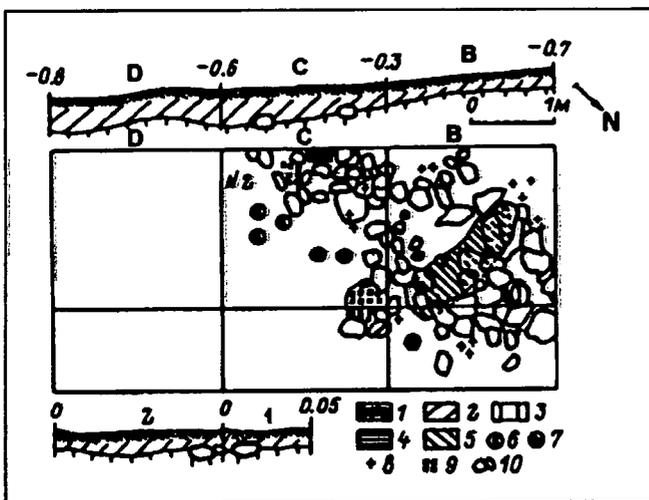


Figure 141. Plan of upper layer of excavation at the lower Ul'khum site (1).

1 - Sod; 2 - brown humic partially sod-covered sandy loam; 3 - basal rubble; 4 - carbonaceous stain; 5 - carbonaceous-ashy stain; 6 - fragments of animal bones; 7 - fragments of ceramics; 8 - flakes; 9 - hearth place; 10 - stones.

area between this excavation and the trench, one more test pit (1 m x 1 m) was dug to permafrost (to 80 cm) and in it, at a depth of 40 cm to 50 cm in light-brown, sandy loam with rubble, we found two small unifacial single-platform prismatic cores (Plate 108:1-2). A similar core (Plate 108:3) was also taken from the surface of the upper area of Ul'khum Hill, on the far eastern edge, together with two fragments of coarse thick-walled ceramics. In the entire remaining area of the top of the hill only Paleolithic artifacts were found.

With this, fieldwork in the eastern part of the Chukchi Peninsula came to an end as well. It is notable that the last thing was the Ul'khum site - the most significant and substantial site of all those surveyed by the author in this territory, from where investigation was essentially begun. The circle of sites is closed as it were. And now we proceed to a generalization of them.

### III. CONTOURS OF THE DISTANT PAST

#### 1. Archaeological Time at the Entrance into America: Periods of the Stone Age on the Eastern Chukchi Peninsula

Our investigation of the past in the key Beringian region of the planet probably requires a more objective and positive definition of the time of those processes and conditions of culture, traces of which are provided here as archaeological sites. As a consequence of the specific limitations of these sources, the time being grasped with their help is quite specific and relative and appears in the form of so-called archaeological time (Simakov 1990). We are not able to present it as an unbroken calendrical sequence, but only in the form of these or other archaeological periods and stages, more or less sequential, the extent of which and the connections between which cannot always be judged so definitely as would be liked. But all the same we will try to give the material published in the preceding parts of this book some chronological order, try to assign it to cultural-historical periods and stages.

The chief and most difficult riddle to solve is, as Teilhard de Chardin wisely noted in his well-known philosophic tract on the phenomenon of humans, the secrecy of the origins and beginnings of the very first moments and sources of any new appearance or process. In full measure this relates to the earliest presence of humans in the Beringian region which we investigated, as well as in general in Northeast Asia or in America.

Here quite early, perhaps the earliest, flint artifacts for this entire territory are known. But are they artifacts, that is, things made by humans, or only purely natural geofacts? And what is their genuine antiquity?

We note that there is disappointment in many discoveries. So, in regard to the bone artifacts from Old Crow in the extreme northwest of Canada it has now become clear that their age is by no means the earliest (as it were, seemingly exceeding 40 thousand years) in North America. The illusion was also lost in regard to the so-called culture of British Mountain in the same region. There remains the possibility of the fact that the California Calico site with handaxe-like, flint tools is at present the earliest American site, which is considered about 200,000 years old, but discussions about this continue. And, though the chances on scientific grounds of such a great antiquity for this site are extremely small, the archaeological "society of friends of Calico" are not going to yield their position. As indirect reinforcement of the position of these enthusiasts one or two of the artifacts found not long ago on the Chukchi Peninsula might possibly now serve as well. I have in mind the handaxe-like and skreblo-like, flint objects - some of which, judging by the use-wear analysis (carried out by N. A. Kononenko), are indisputable artifacts - at the sites of Kym'ynanonvyvaam IX (109), XII (112), XIII (113), as well possibly as the quite archaic tools at the sites of Kus'iuveem IV (90) and VI (92) (Plates 22-25, 89, 90). Only a "little" is lacking - sufficient stratigraphic or any other grounds for their age. Meanwhile their great antiquity is apparent only in the typological antiquity of the artifacts themselves and the relatively great elevation of the terraces on the surface of which they were found. Now known on the Chukchi Peninsula, it is true, is one more very enigmatic site, that of Kymyneikei in the Vankaremsk basin, which distinguishes itself by the very deep deposition of the artifacts (to 30 m under a moraine); but typologically the latter look rather early Upper Paleolithic than earlier (Laukhin and Drozdov 1989).

If we leave aside all these things, alluring with respect to their possible, though quite problematic, Middle and even Late Pleistocene antiquity (and the perspective of investigations in this direction are eloquently attested to by Diring Yuriakh in Yakutia), then it will have to be in accordance with the fact that the earliest, well-founded age of archaeological sites in America, including South America, does not exceed 25,000 years (the sites of Monte Verde, Tlapakoya, Wilson Battle [Butte? - *Trans.*] Cave, and others). Everywhere there sites with biface projectile points are not earlier than 14,000 to 15,000 years ago. And in Chukotka the age of reliable Paleolithic sites, meanwhile, can scarcely be considered earlier. Such objects that are rather convincingly dated will be discussed below when we attempt to find their place in the archaeological chronology of the region. And, of course, in order to solve such a difficult riddle, we must employ for support the already well-dated sites of the nearby territories of Kamchatka, Yakutia, and Alaska.

The most important of such supporting archaeological sites is, of course, the multi-component, clearly stratigraphic and interdisciplinarily (by different methods) reliably dated site of Ushki I in Kamchatka (Dikov 1977, 1979, 1989, 1990). Its two lower cultural layers, which are clearly isolated from each other, contain the

remains of two large settlements, each with numerous houses and with large quantities of stone artifacts. These characterize two quite different Paleolithic cultures - Early Ushki and Late Ushki. In the lowest, the essentially Proto-Paleoindian Layer VII with large multi-hearth dwellings, dated to 14,000 to 15,000 years ago, there was a complete lack of wedge-shaped cores. However, along with bifacial stone knives, distinctive biface, stemmed arrow points were encountered, which until this time had been unknown in the Paleolithic of eastern Siberia and the Far East. And in the uppermost, possibly Proto-Eskimo-Aleut Layer VI, which is considered 10,000 to 11,000 years old, there were small, deep single-hearth dwellings with an entrance corridor, as well as a wealth of wedge-shaped cores and biface knives along with arrow points of a quite different kind - also bifacially retouched, but narrow leaf-shaped forms without stems.

As strange as it may seem, such graphic, convincingly clear, stratigraphic deposition of two quite unmixed cultural layers at once attracted the unbridled perversity of quite unjustified and arrogant skepticism from one side that questioned the very fact of the association of the stemmed points to Layer VII (while more than 50 of them were found there, and they were almost all the same). Apparently, this qualitatively new archaeological fact does not find room in the abstract schema of the so-called Diuktai culture (Mochanov 1977), in which such points are completely lacking. Nevertheless, the majority of Soviet (including Yakut) archaeologists and many Americans referred to the new information objectively, calmly, and positively (Ackerman 1980, 1988; Powers 1973; Clark 1978; Chard 1974; Dolitsky 1985; Yi and Clark 1985; Kashin 1982, 1983, 1991). Only a few American archaeologists at first were subject to this misinformation (Carlson 1983; Bryan 1978, 1984; Anderson 1980), but not for long, so that the Paleolithic status of the Ushki points are recognized now by all without exception. All the more since similar Late Paleolithic points are known at present in the northwestern USA (Bryan 1980), Japan (Golubev and Lavrov 1988), and are found even in extreme Northeast Asia at El'gakhchan on the Omolon River on the southwestern border of Chukotka (Kir'iak 1991). So Layer VII (with 14,000 to 15,000 years of antiquity) is today a good standard of Upper Paleolithic culture, and a phase which is earlier than the distinctive culture of Layer VI, which in general is almost of the Diuktai type, that existed here on the Kamchatka Peninsula 11,000 to 10,000 years ago. And characteristic for it are wedge-shaped cores, which now are confidently accepted as very reliable indicators of the Upper Paleolithic in the Sartan glacial period everywhere in Northeast Asia and in some places even the beginning of the Holocene. And the earliest wedge-shaped cores here, for example, in Yakutia as is now acknowledged, are not assigned to a time earlier than 18 to 24,000 years ago, in spite of Yu. A. Mochanov's opinion in clearly overstated, chronological parameters of the so-called Diuktai culture, which determined the age of the earliest wedge-shaped cores in Yakutia at 35,000 to 40,000 years (Mochanov 1977). Taking into account this chronological correction, the Diuktai culture, as the Late Ushki, will also be considered as a chronological key for the placement of the archaeological sites of the Chukchi Peninsula into periods.

The third key reference point for this is the Nenana cultural stage recently discovered in Alaska at the sites of Dry Creek, Walker Road, and others, which is entirely without wedge-shaped cores but with biface leaf-shaped points, and immediately preceding the Denali cultural stage, which replaced it (the Nenana) in Alaska 10,500 years ago (Powers and Hoffecker 1989; Powers, Goebel, and Bigelow 1990). And this chronological landmark - 10,500 years - is no less important now for the Beringian region than the transition from the Early Ushki culture to the Late. It clearly confines the chronological limit before which cultures with the wedge-shaped cores did not penetrate, and were unable to penetrate, into Alaska through Chukotka.

With the help of the enumerated key sites and chronological reference points, we will now appraise the age of the most reliable Upper Paleolithic sites of the Chukchi Peninsula that are available to us. There are no less than 10, and among them the most informative and interesting are the sites of Ul'khum (1) and Kurupka (16). The Paleolithic component of the Ul'khum site, preserved in the cultural layer and mixed in the surface material, contains within it two cultural-chronological components: 1) with boat-shaped cores (Plate 1:2), archaic sub-prismatic cores, primitive stemmed proto-points (Plate 4:1-2), sub-triangular leaf-shaped points (Plate 9:2-3), and, possibly, with stemmed biface points (Plate 5:1); 2) with wedge-shaped and end cores (Plate 6:1-3, 5) and leaf-shaped bifaces (Plate 5:4-5; Figure 142a:6-18 and 19-29). The beginning investigation of the stratigraphic part of the site promises still more clear association of these components and their relationship with defined cultural layers of the lower Ul'khum site. But the Paleolithic elements of the first-named above, earliest component, already quite visible here, are probably chronologically earlier than the Diuktai culture in Yakutia and the Late Ushki culture in

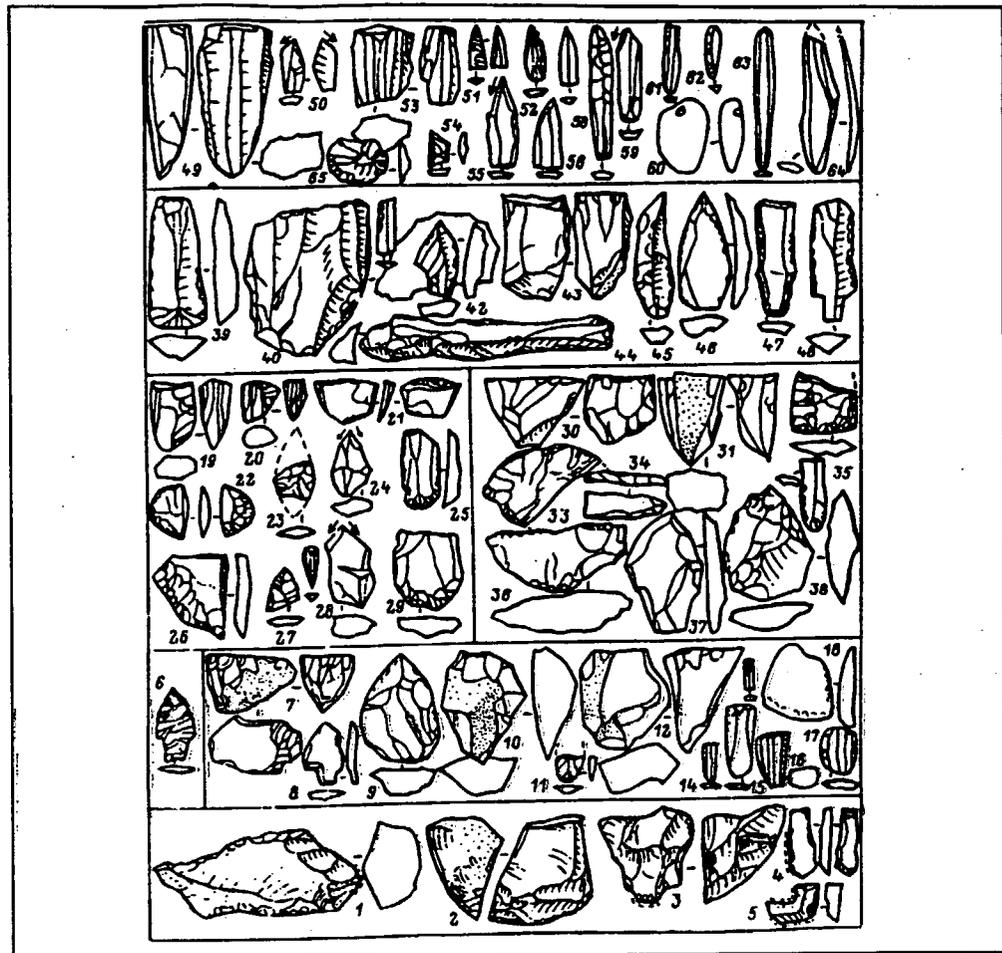


Fig. 142a. Basic chronological complexes of artifacts of Paleolithic and Mesolithic periods on the eastern Chukchi Peninsula.

1-5 - Possibly the earliest Paleolithic artifacts from the Kym'nyanonvyvaam X and XIII sites and the channel of the stream close to them;

6 - stemmed point from the surface at the Ul'khum site (1);

7-18 - early Ul'khum component. From lower layer of lower Ul'khum site (1) - 7, 8, 10-18; surface material on upper Ul'khum site (1) - 9.

19-29 - Beringian late Paleolithic complex, compared with the Late Ushki Paleolithic culture (11,000-12,000 B.P.). From the Ul'khum site (1), late component - 19, 21, 25; from the Kurupka ! site (16) - 20, 22, 24, 26-29.

30-38 - Pre-Puturak late Paleolithic complex. From the Tkachen I site (5) - 30, 31, 36, 38; from the Itkhat I site (3) - 32-35, 37.

39-48 - Puturak early Mesolithic complex. From the Itkhat II site - 39; from the Puturak workshop-site (4) - 40-48.

49-65 - Chel'kun late Mesolithic complex. From the Achchen site (12) - 49-52; from the Chel'kun IV site (38), dating to  $8150 \pm 450$  B.P. - 53-64; from the Ananaiveem I site (48), dating to  $8410 \pm 80$  B.P. - 65.

Kamchatka. In general, those elements are probably related to the Early Ushki culture, dating in Kamchatka, as noted above, no later than 14,000 to 15,000 years ago, and possibly (with the aid of the paleomagnetic method of dating) to even 1,000 years earlier (Dikov 1979, 1988, 1990).

The as yet incompletely understood primitive stone artifacts of the sites of Marich I (166), Marich II (167a), Marich III (167b), and perhaps even Chel'kun II (39), can meanwhile be related to the earliest Ul'khum Paleolithic component, if the Paleolithic age of the North American site at Sedna Creek is confirmed, with the primitive tools of which, on atypical flakes, the stone artifacts of Chel'kun II (39) - pointed tools and primitive stemmed points - are strikingly similar (Schlesier 1967). Finally, from the archaic component it is possible (tentatively, of course) to direct the retrospective to the mysterious, but completely real skreblo-like/handaxe-like tools of the Kus'iuveem IV (90) and VI (92) sites, from the surface layer of the upper, 25-m to 30-m terrace.

Still more reliable is the identification of information signals from the depths of the archaeological past, in accordance with the second component of the Ul'khum Paleolithic, embodied particularly in wedge-shaped (and end) cores and leaf-shaped bifaces. Typologically and, it must be assumed, chronologically they are comparable to similar artifacts of the earliest sites of the Diuktai culture in Yakutia - Ezhantsy, Ikhine I, and Verkhne-Troitskaia (Mochanov 1977) and the Late Ushki Paleolithic culture (Layer VI of the Ushki sites) in Kamchatka. The presence in the lower layer of the Ul'khum site of a boat-shaped core points to a great similarity, as it were, precisely with the Ushki culture, where a boat-shaped core also (in the Ushki V site) was found, and not with the Diuktai culture, where there are none similar. In connection with this it is rather interesting that the elongated, almost "boat-shaped," in some degree sub-prismatic end core and blades found quite recently, in 1988, in the western Chukchi Peninsula at Kymyneikei Mountain with geological drilling at a depth of 32 m to 33 m in glacial deposits of the beginning of the last (Sartan) glaciation are more than 30,000 years old, if the geologists did not make a mistake in the determination of the origin of the deposits that contained this most interesting archaeological find (Laukhin and Drozdov 1989).

To the period represented in the Ul'khum Diuktai-Late Ushki Paleolithic component, the very rich and significant complex of the Kurupka I site (16) can definitely be assigned as well. It is comprised of wedge-shaped, end, and conical cores, fragments of leaf-shaped bifaces, burins, skreblos and scrapers, fragments of leaf-shaped biface points of projectile tools (Plate 14-20), and all this in pure form, without any admixture of the first Ul'khum component. The position of the Kurupka complex is marked in time by the Late Ushki types of wedge-shaped cores and probably by the more archaic end cores.

Now, a whole series of Late Paleolithic sites of this type and date is known in other places on the Chukchi Peninsula. These are Chaatam'e I (22) with two-ended cores and a fragment of a biface (Plate 21), and Kym`nyanonvyvaam VII (107), VIII (108), and XIV (114), and Kus'iuveem X (100) - all with wedge-shaped cores (Plate 22). It is possible that to this time as well can be assigned the sites of Getlianen I (162), Ioni (X) (83), Ioniveem VII (28), Kym`nyanonvyvaam XIX (119), and Igel'khveem V (141), VI (140), and XXII (123). They have clear signs of the technology of wedge-shaped cores, to which attention has already been turned in the descriptive section of this book (Plates 73, 87, 93, 95, 98, 103). However, these sites have still been insufficiently studied for definitive judgment about their Paleolithic association.

Those being viewed, together with similar sites with wedge-shaped cores in Chukotka and Kamchatka, form the broad cultural area of the Late Ushki Paleolithic culture.

Thus, for the time of the Sartan glaciation two cultural traditions gradually begin to come to light, and, accordingly, two basic stages in the Paleolithic of the Chukchi Peninsula. The first (Fig. 142a:6-18) corresponds to the early Ul'khum component, connected with the early Ushki Paleolithic culture in Kamchatka, and assigned to the middle of the Sartan glaciation (approximately 18,000 to 15,000 years ago). The second stage (Fig. 142a:19-29) corresponds to the late Ul'khum component, chronologically correlating with the Diuktai culture of Yakutia and the Late Ushki Paleolithic culture, and assigned to the end of the Sartan glaciation (12,000 to 11,000 years ago). With this the Ul'khum site (1) together with the Kurupka I site (16) can become the key sites in Chukotka itself. Their role in this regard, based on further stratigraphic study, will be all the more increased.

A notable landmark of archaeological time immediately after the Sartan glaciation into the period of the early Holocene, in other words, in Late Paleolithic time, transitional from the Paleolithic to the Neolithic, was the quite recently discovered early workshop site of Puturak (5) with a culture that was not known in Chukotka earlier.

It is noted for unifacial, coarse-bladed technology with the prismatic, sub-prismatic, and large conical cores, gravers on pointed lamellae, lamellar points, end scrapers on lamellae, and other artifacts on lamellae, including, as well, projectile points on lamellae, retouched along the edges (and only on one side), as well as spokeshaves and large "flatiron" tools (Plate 26-46).

To the Puturak archaeological culture, or tradition, are assigned, as well, the nearby site of Itkhat IB (3) with prismatic and large conical cores and artifacts on lamellae (Plate 52-56).

The new sites of Tkachen (5), Itkhat IA, IC, and IE (3) near Puturak Pass can be regarded as having early manifestations of the Puturak tradition. Typical for them are more conical and sub-prismatic cores, stemmed biface knives (Plate 57:7; 58:4), pointed tools and some other artifacts of the coarse-bladed industry (Plate 47-51, 57-58).

The sources of the pre-Puturak, and then the Puturak, tradition can be traced in the early Ul'khum component. And if we look further, at what they (for example, pointed lamellae and tools) can be traced back to as early as the Upper Paleolithic of Northern China, in particular, to the Shuidungou B points (Aigner 1980); in the Mongolian Altai at the Baian-Nur Somon XIII site, lamellae much like the Puturak type (Paleolithic and Neolithic of the Mongolian Altai 1990, Table LXXIII); in Gornyi Altai such pointed lamellae are found in Denisov Cave (Markin 1987:Fig. 3); and at the Late Paleolithic site of Ustinovka in Primor'e, lamellae of Puturak appearance are in association with so-called "Gobi" wedge-shaped cores (Vasil'evskii and Gladyshev 1981; Vasil'evskii and Kashin 1983).

It is quite probable that the archaic pre-Puturak tradition coexisted on the Chukchi Peninsula with the Late Ushki and Late Diuktai Paleolithic traditions with such sites as Kurupka I, Chaatam'e I, and others (Fig. 142a:19-29 and 30-38).

The pre-Puturak tradition has its subsequent development in the Puturak proper (including the Itkhat IB site), a more specialized complex that is typologically closest to the coarse-bladed, unifacial complex of stone artifacts at the Gallagher Flint site in northern Alaska, which has an age of  $10,540 \pm 150$  years (Dixon 1975), and with which this developed Puturak complex proper, judging by everything, is probably synchronic. At the same time a direct analogy to its blades and cores, which is assigned to the beginning of the Holocene, we see on the Olekma River in Yakutia - at the Teriut I site (Aleksiev 1987, Fig. 39). And this analogy also excellently corroborates just such an age for the Puturak, that is, at the boundary between the Sartan glaciation and the Holocene, between the Paleolithic and the Mesolithic.

Coarse and quite primitive workmanship of lamellar uniaxially worked tools is superseded in the following Mesolithic stage by more precise workmanship, characterized by the sites of Chel'kun IV (38), Achchen (12), Chel'kun VIIIa (35a) (Fig. 142a:49-64). The chronology of this stage rests on a radiocarbon date on charcoal from the firepit at Chel'kun IV -  $8,150 \pm 450$  (MAG-719). The Ananaiveem I site (48) by its radiocarbon date -  $8,410 \pm 80$  (Le-2791) - also points to this time, but unfortunately has very scanty finds (only one semi-disk-like scraper of siliceous slate - Plate 79). It cannot at present substantially supplement the cultural-historical characteristics of this stage of the Mesolithic.

In the Neolithic period the sites of the territory being examined are distributed in the following way.

To the Early Neolithic the site of Koolen' III (155) is undoubtedly associated, as well probably as Getlianen I (162) and Naulyngytgyn I (146) - all three without any ceramics. Getlianen I has a small fragmented core very similar to wedge-shaped (Plate 135:1), and the third (Naulyngytgyn I) has a blank of such a core (Plate 99:7). However, prismatic cores are characteristic for these three sites of lake fishermen and those who lived along the rivers, knife-like lamellae, burins on lamellae, scrapers, and fragments of knives (Fig. 142b:1-17). A radiocarbon date from the Koolen'III site is  $6,800 \pm 300$  years ago.

The stage of the Middle Neolithic (Fig. 142b:19-45) is represented by at least eight sites with thin-walled ceramics and regular, knife-like lamellae from prismatic and conical cores: Naulyngytgyn II (147) and III (148), Igel'khveem VIII (138), XV (130), XXVII (129), and XIV (132), and Tymkyrylen I (51) and II (52). It is possible, even probable, that sites with knife-like lamellae can be assigned to this stage as well, even without ceramics (they would completely disintegrate, changing into dust on the open surface of the site). These are sites such as those of lake fishers and hunters: Terkemkyn (26), Karytkin I (21), Chuvaigytkhyn I (64), II (65), and V (68), Naurech'e II (54), Ioni Ib (74), and VII (80); and river dwellers: Kus'iuveem XIV (93) and Kym'ynanonvyvaam V (105), IX (109), XI (111), XVI (116), and XVII (117).

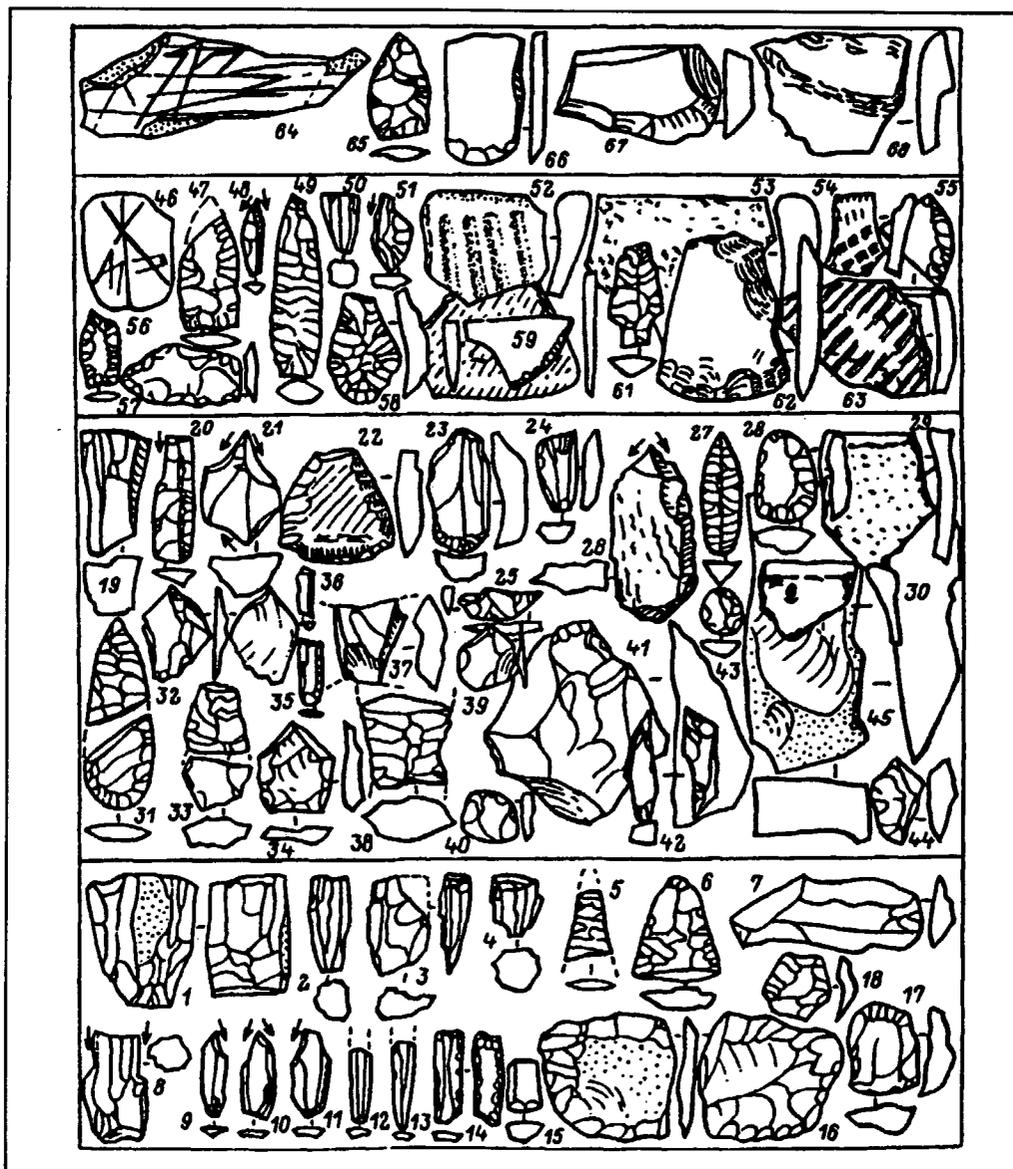


Fig. 142b. Basic chronological complexes of artifacts of the Neolithic and later times.

1-18 - Early Neolithic (5th-4th millennium B.C.). Koolen' III (155) - 1, 2, 6, 7, 9-13; Getlianen I (164) - 3-5, 8, 14-17, 18.

19-45 - Middle Neolithic (3rd-2nd millennium B.C.). Kurupka I (16) - 19, 27, 29, 30; Terkemkyn (26) - 20, 31-36, 38-44; Igel'khveem XXII (123) - 21, 37; Igel'khveem XXVII (149) - 22; Kym'nyanonvyvaam XVI (116) - 23; Ioni VII (80) - 24, 25, 45; Kym'nyanonvyvaam IX (109) - 26.

46-63 - Late Neolithic (1st millennium B.C.). Igel'khveem VII (134) - 46; Kurupka II (15) - 47, 53; Ioni II (75) - 48, 62; Naurech'e V (57) - 49, 51, 54, 58; Chuvaigtykhyn IX (63) - 50; Chuvaigtykhyn X (72) - 52; Chuvaigtykhyn V (68) - 55, 59, 62; Chuvaigtykhyn II (65) - 56, 57; Koolen' I (152) - 63; Koolen' II (154) - 60.

64-68 - Remnant Neolithic (1st-middle of 2nd millennium A.D.). Utaatap I (158) - 64; Chel'kun V (41) - 65-67; Ioni X (83) - 68.

The key date of the Middle Neolithic of the Chukchi Peninsula is from the site of Terkemkyn (26), the radiocarbon determination of which is  $4,850 \pm 40$  years and which is characterized by long and narrow stemmed and leaf-shaped and, in large part, massive arrow points, lateral burins, scrapers (Plate 67), and a fragment of a distinctive biface knife or point with "constricted waist" in the middle (Plate 67:12). These are also found at the Karytkin site (Plate 63:21), as well as large archaic points, already recognizable to the reader (Plate 68:9, 13, 18), which belong to the Ul'khum-Puturak tradition, and small symmetrically pointed flakes (Plate 68:2, 6, 8, 16, 17, 19).

To the Late Neolithic (Fig. 142b:46-63) are assigned the sites of Naurech'e V (57), Ioni Ia (73), Ioni II (75), Kurupka II or Izumrudnaia (15), Koolen' I (152) and II (154), Naurech'e VI (58), Chuvaigytikhyn IX (63), Igel'khveem VII (139), and Utaatap II (159). Their distinctive form of stone industry is based still on the technique of flaking knife-like lamellae from prismatic and conical cores, as well as a "platey" technology, and variety of scrapers and burins, with the predominant type becoming burins with a hafting part worked by retouch. Also remarkably distinctive in the methods by which they are formed are clay vessels: smooth-walled or covered by stamp impressions, lined or furrowed with very distinctive vertical "kaneliur'," which gird the vessel around the outer part of its out-turned rim (Kurupka II [15], Chuvaigytikhyn IX [63], and Naurech'e VI [58]). The most typical for the Late Neolithic of Yakutia, so-called "waffle" stamp (as the American archaeologist J. Griffin called it) ceramics, are extremely rare here, found only in one case - in the Naurech'e V site (57). We are reminded that in the territory of Yakutia, in the mentioned Ymyiakhtakh culture, it is generally assigned to the second millennium B.C. (Fedoseeva 1980). Of course, several sites entirely without ceramics must also be assigned to the Late Neolithic. As was noted above, these are not always preserved very long on the surface of sites under the severe conditions of the Chukotka climate.

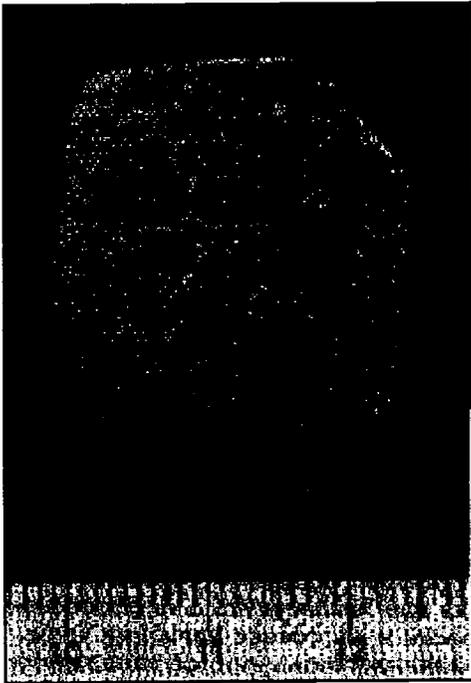


Figure 143. Image of a dwelling on a sandstone slab. Igel'khveem VII (139).

The distinctiveness of the chronological position of the Late Neolithic of the Chukchi Peninsula is relative and quite notably lagging behind the Late Neolithic of more western regions of Chukotka, perhaps by a thousand years, and especially Yakutia (where, as is well known, the typically Late Paleolithic Ymyiakhtakh culture prospers over the course of the second millennium B.C.). This is indicated by the radiocarbon dates of the typically Late Neolithic site of Kurupka II (15), which is  $2,310 \pm 40$  (Le-2660), and the radiocarbon age of the Utaatap II site -  $2,840 \pm 400$  (Le-2659). Judging by everything, the Late Neolithic on the Chukchi Peninsula, as well as in America, basically corresponds chronologically to almost all the first millennium B.C., and that corresponds well with the same late (only during the first millennium B.C.) penetration of the so-called waffle ceramics, which are characteristic of the Late Neolithic of Northeast Asia, into Alaska. Hunters and fishers of this period probably did not yet live in *yarangi* like those of the Chukchi, but in *shalashi* of the Yukagir type, which are reminiscent of Indian wigwams, to which the representation on the sandstone slab from the Utaatap I site attests (Fig. 143, Plate 94:1).

Yet later, falling within the boundaries of the Neolithic, may be the sites with coarsely modeled ceramics with an admixture of gruss, or without ceramics and without any signs of the industry of knife-like lamellae: Igel'khveem XI (135), Chel'kun III (40), Naurech'e III (55), VI (58), Chuvaigytikhyn III (66), and probably Utaatap I (158), as well as the Neo-Eskimo sites on the sea coast. In other districts of northern Asia (for example, in Yakutia and in the southern Far East) at that time the period of Paleo-Metal began, and thereby the Neolithic of Chukotka is to some degree remnant. A decline in the technology of the use of prismatic cores can be seen. Then it, as well as the mastery of manufacturing geometrically regular knife-like lamellae through lamellar technology, is lost - exactly the traits for which this stage of the Stone Age of the Chukchi Peninsula was noted (Fig. 142b:64-68).

Centuries pass, and in the wake of the fishers and hunters in the Chukotka tundra come reindeer herders. A

characteristic feature of the landscape becomes the so-called burial *paliakvyn*. The earliest of these is about 1,000 years old (Marich, Burial No. 3 -  $800 \pm 50$  years [MAG-917] and Getlianen, burial -  $390 \pm 40$  years [Le-3030]). Having examined them closely, we see that these often are not simply ovals of stone (very often with traces of cremation under the sod). Rather they are complex representative stone works with a definite ritual meaning: representations of a "little house" in the form of the stone outline of a *yaranga* with a bed-curtain and a hearth (Fig. 136, 138). And sometimes there are zoomorphic forms, most often whales (in those cases when the sea is near) (Fig. 144). But all these are the traces of the descendants of the early population whose archaeological past is the chief object of our investigations.

Thus, we objectively examine the known remains (in varying degree by their date), represented by material objects, of past archaeological time on the edge of Asia, near America. This time is made up of a foggy indistinct initial Middle, and perhaps, even Early Paleolithic period, followed by the contradictoriness of a possible, or possibly not, early Upper Paleolithic period, of the early Ul'khum and late Ul'khum Upper Paleolithic periods, of the pre-Puturak and Puturak, and then the pre-Neolithic-Mesolithic, the Early, Middle, and Late Neolithic, and finally, a Remnant Neolithic period.

Ascending by this unsteady step the millennia of the Stone Age, we can grasp something more or less concrete in the predominantly material (and in lesser degree spiritual) culture of the departed generations of people: the aboriginal hunters at first only used tundra-steppe animals - mammoths, bison, musk oxen, horses, and reindeer, and then in post-glacial Holocene times - predominantly wild reindeer, and then fishing, sea mammal hunting, and the first reindeer breeding. In the eyes of the archaeologist, as a result of the study of all these remains, the distant archaeological past finds dynamics and meaning, even some general vectorial direction on the side of differentiation, in other words, progress. And in fact, even if there is not such influence as in other parts of the world, progressive development in the individual periods here is nevertheless quite notable, especially at first, during the time of the Ul'khum-Kurupka Paleolithic when this Beringian crossroads was anything but a backward cultural-historical blind alley of the world. It was quite the opposite - an open lively route from one continent to another. And even before the beginning historic times, it can be said, an improbable leap was made: the transition of hunters to a production economy - reindeer breeding.

Such is the profile now seen of archaeological time. There are still many gaps in it. But in it, as well, are inexhaustible potential possibilities of more and more concretely filling it, though this being done endlessly, the approximation to the time of former actuality, the living and unbroken daily sequence, would never be reached.

But there is also another time. Almost really and subjectively mythological time is present in the consciousness of the aboriginal and early people. Going from the darkest depths of the past, from millennium to millennium, it brings and preserves in itself the spiritual world of man, who already realizes it himself and therefore now truly being human, as soon perhaps as from the first moment he begins to realize himself such.

In this mythological time, confirmed in the prehistoric consciousness, everything is penetrated with deep meaning, and it embraces the eternal enigma of the origin of the universe - the cosmic and the terrestrial - and the very difficult life of the northern hunter and reindeer herder. All is spiritualized around man and indivisibly joined with him in nature. There are the prophetic bird Raven, creator of the world, or simply loons, large whales, and tusked walruses, seals and killer whales transforming into wolves, and the wolves turning into killer whales, Arctic foxes, small wise ground squirrels and other animals, dogs, becoming man's helper, and herds of reindeer on which the very life of the Arctic human depends. Such time is the Great Teacher and Preserver of Wisdom. Its successor is historical time, vain, shattered, and changeable. The northern Chukhotsk-Eskimo region enters into it in the middle of the seventeenth century with the arrival there of Russian explorers, and from that time, in the perception of the native population, both times are all the more intertwined, blended, and coexist. This finally leads to a pernicious duality of attitude or even to complete loss of a natural spiritual ground.

But let us return to our archaeological time; let us look at it from the point of view of a search for new information about the distant past here at the threshold of America.

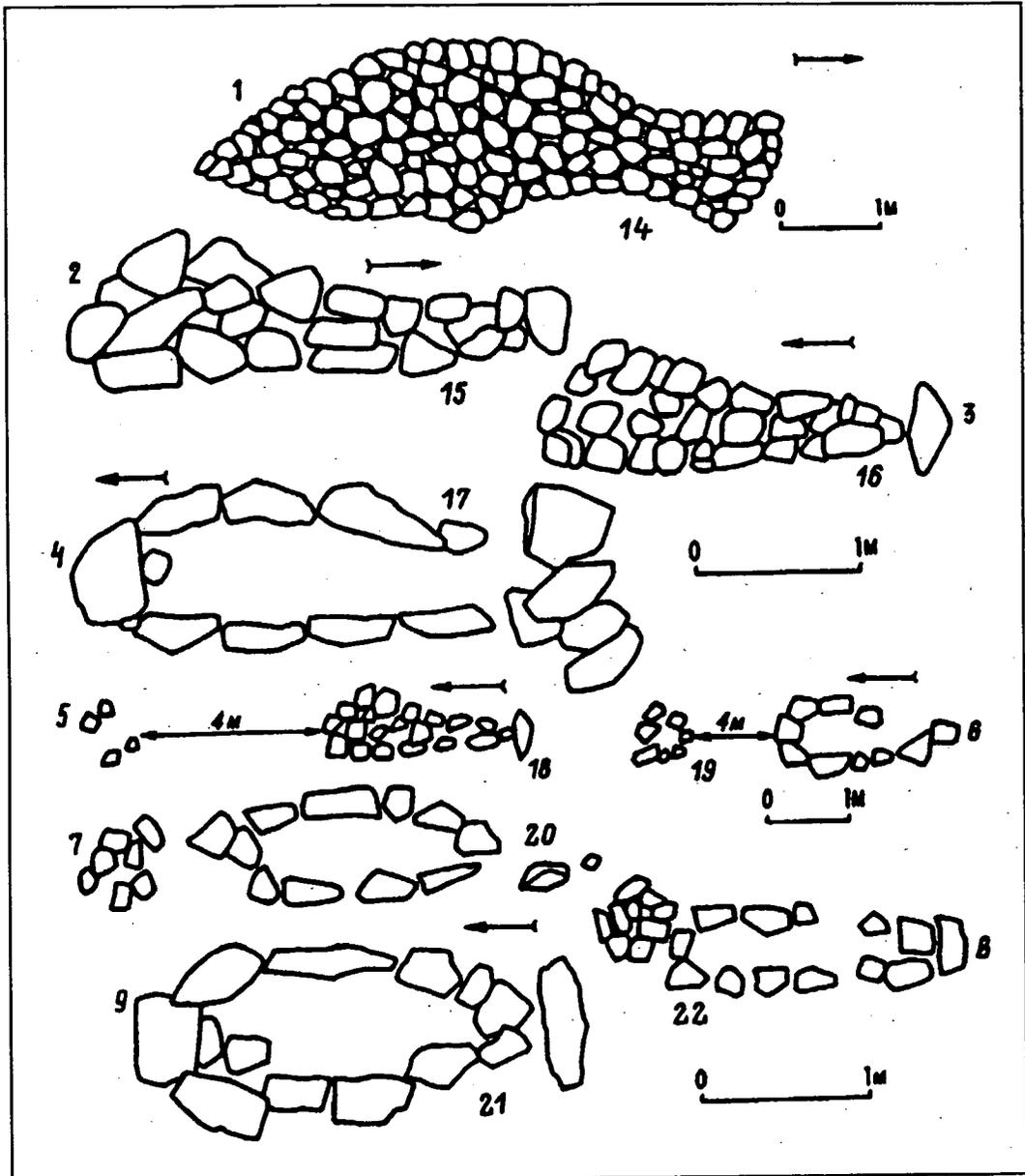


Figure 144. Ritual stone structures (including *paliakvyny*).

14-16 - Lake Achchen (11), 1981; 17 & 21 - Lake Koolen' (151), 1980; 18-20, 22 - Lake Achchen, on the northeast side (burial ground, discovered by G. I. Kozinskaia), 1981.

## 2. Connections of Cultures at the Juncture of Continents

First, a few words about terms: culture in general, archaeological culture and archaeological traditions.

American archaeologists most often use the term "archaeological tradition" and often reproach the Soviet archaeologists for using in its place the immensely broader idea of "culture." And, actually, according to the archaeological remains such a complex occurrence as culture, in general cannot be reproduced. But here we simply run into the mutual misunderstanding of specialists who speak different languages, with imprecise translation of the terms. In fact Soviet archaeologists speaking about culture usually mean, properly speaking, only "archaeological culture," which can be represented as the system of the same American "archaeological traditions" (Anikovitch 1989) and as the unity and commonness of them in time and space.

But, of course, even with such an understanding, archaeological culture with respect to its contents is nevertheless immensely poorer than the usual living culture, and is a very relative definition. However, it cannot be otherwise. Indeed, culture in the general and broad meaning of the word is a very complex occurrence, has many mutually additional hypostases, more than 200 definitions, and, in the end, reflects in its very general meaning not so much something material and physical as primarily the method of formation of man as a social, intelligent, and cultural being (Dikov 1988). Therefore the author explains and gives notice that the terms "culture" and "cultural tradition" are used where necessary, in their restrictive meanings, with regard to their archaeological specifics.

And now we will turn to our archaeological sources and above all to the site of Ul'khum (1), which preserved up to the present traces of several archaeological cultures. It should be remembered that it is located on a flat hill at the mouth of a river by the same name near Cape Chaplino, and from there, directly from the place of excavation, a magnificent view extends out over open stretches of the Bering Sea and on the horizon the American island of St. Lawrence. Imagining the depths of the millennia we see from here, instead of the open sea, the limitless grassy tundra-steppe of the land of Beringia (flooded today by the sea) with herds of mammoths and bison, herds of reindeer and wild horses, and, pursuing them, primitive hunters - ancestors of the American Indians. Every year our cross-country trip through the mountainous, eastern extremity of the Chukchi Peninsula brought us new evidence of the fact that it was right here that the lively course of the spread of people from Asia into America passed and this region, though separated later from the sources of the earliest civilizations, was at that time not the backward outskirts of the world, rather, on the contrary, one of its most important thoroughfares, which with Beringia joined the Old and New Worlds - two huge parts of the inhabited world - by a wide bridge. For if it were not for this bridge, it cannot be guessed how long the American continent would have remained without people.

The archaeological data available and at our disposal, including that which we procured on the Chukchi Peninsula, and by the American archaeologists in Alaska, attest to definite analogies in the early cultures on both sides of the Bering Strait. This permits tracing several stages in the settlement of America through Beringia and in the development of ethno-cultural connections at the juncture of the continents.

The first stage (at present still in many ways only presumable, but logically necessary) chronologically is the most indeterminate, inasmuch as it is presently still insufficiently archaeologically confirmed. It is connected with the very first penetration of man into extreme Northeast Asia and probably corresponds either to the penultimate so-called Zyriansk glaciation (70,000 to 50,000 years ago), or the beginning of the last Sartan glaciation (28,000 to 20,000 years ago), when a corridor into the depths of America still existed between the Canadian and Laurentian glacial sheets. It is precisely to this stage in the history of Beringia that the earliest sites with tools from coarsely flaked cobbles (so-called cobble technology) might have been attributable in America. In the Far East are such probable prototypes of these sites as Filimoshki and Kumary I (Derevianko 1983), and in particular on the Chukchi Peninsula sites XII (112) and XIII (113) at Kym`yanonvyvaam River with coarsely flaked tools, as well as others, which above we included among the earliest, including the artifacts obtained from the geological drilling on Kymyneikei (Laukhin and Drozdov 1989).

The second, also in large part hypothetical, stage in the history of the settlement of Chukotka and in general Beringia (20,000 to 14,000 years ago) corresponds with the greatest spread of the glaciers of the Sartan glaciation and the greatest area of Beringia itself. Then, under pressure of the advancing and receding gigantic glacial sheets - the Canadian and the Laurentian - the populations would have had to move from the interior

proglacial areas of Alaska to the Bering Land Bridge, especially toward its southern, gradually draining edge.

The population of megafauna (large mammals) of the tundra-steppe of Northeast Asia and Alaska, and the Beringian Land Bridge between them, represent a unified natural region during this stage. It was separated from the surrounding habitable regions on the west and east by glaciers, on the north by the ice shield of the Arctic Ocean, and on the south by the relatively warmer Pacific Ocean. In this closed expanse the differentiation into two cultural zones did not immediately occur: the intra-continental hunters of large land mammals of the tundra-steppe, and the northern Pacific maritime hunters (yet only scarcely discernible) who were sporadically occupying themselves with the exploitation of maritime bio-resources. In the technological plan this was still basically a single, cultural zone with a yet relatively uniform cultural technology, possibly transitional from the more primitive, so-called cobble technology to the so-called bifacial, that is, to the preparation of the first, still very primitive bifacially worked siliceous points of projectile tools - darts and spears, destined for hunting large game. We will not forget that extending south of the Canadian glacier the boundless expanses of the remainder of America at that time were isolated from Beringia and all the Old World; but nevertheless the original development of the Paleoindian tribes occurred there, which ultimately in significant measure independently invented Clovis, and then Folsom (with flutes on the sides) stone dart and spear points (Dikov 1988b).

The third, now rather distinctly revealed, stage of the settlement of Beringia is noted by the appearance of a Paleolithic campsite on Ul'khum Hill (1). It is connected with the earliest component of this notable site with its amorphous and sub-prismatic cores and of course with the stemmed points carefully worked on both sides. These are the same as in the seventh Paleolithic layer of the well-known Ushki site in Kamchatka, the antiquity of which exceeds 14,000, and judging by paleomagnetic studies, possibly even 15,000 years. Thus, it is in the context of the cultural and chronological connection of the earliest component of the Ul'khum Paleolithic complex with the early Ushki Paleolithic culture that it is possible to speak quite objectively and rather definitely about cultural connections between Asia and America through Beringia, and possibly even about the movement of the population through it. This is attested to by the remarkable similarity of the Ushki stemmed, bifacial stone points of projectile tools with similar points from sites in the state of Washington in the northwestern USA (Bryan 1980). This technological tradition might have spread there through Beringia and farther along the corridor, which had already emerged 13,000 years ago and was free of glaciers, between the Laurentian and Canadian ice sheets (Fig. 145). That was the last period when this connection, and possibly the movement of the population, could still move completely by a dry-land route. Indeed, Beringia up to the beginning of the thirteenth millennium was still not divided by the Bering Strait. As a route into trans-glacial America from Beringia, the northwest shore of North America could then serve as well, since the glaciers had already somewhat diminished and were no longer a hindrance for the resettlement of people along the coast of the Pacific Ocean (Fladmark 1983). This is especially true for people with a complex hunting-fishing and gathering economy such as was already distinguished by the early Ushki culture.

It was a genuine surprise when, in the course of excavation of the Ushki site, we found there in Layer VII at a depth of more than 2 m, in addition to "Americanoid" stemmed points, the remains of three huge (each more than 100 m<sup>2</sup>), two-chambered wigwam-shaped dwellings (with several hearths unenclosed by stone) and seven smaller ones, and between them the first known Paleolithic burial in Northeast Asia, and the Far East in general, which was probably the tomb of a chief or tribal leader of a community. The grave pit, hollowed out in the stony ground, and a large area around it were sprinkled with ocher as bright as fire and as scarlet as blood - indispensable, for Paleolithic burials, the magic "restorer" of the life force. And in the bottom of the grave was a large number of beads and a variety of pendants, with truly fine craftsmanship of the manufactured stone, burin-like points of a smooth, colored stone - pyrophyllite. These tools were found there in the same place. All the clothing of the deceased had been decorated by such typically Indian "wampum." And the similarity with Indian culture, of course, is not accidental. There before us appeared the Asiatic source of the aboriginal Indian custom of wearing a wampum necklace, belt, and various other decorations of large and small beads. And this is already a feature of broad similarity with the earliest American culture of the Indians.

The fourth, still more distinct, stage of settlement of Beringia, including Chukotka and Alaska, is related to the very end of the Sartan glaciation (12,000 to 10,000 years ago). It is connected with further erosion and ecological restructuring of Beringia (the widening of the strait between Chukotka and Alaska, gradual swamping of

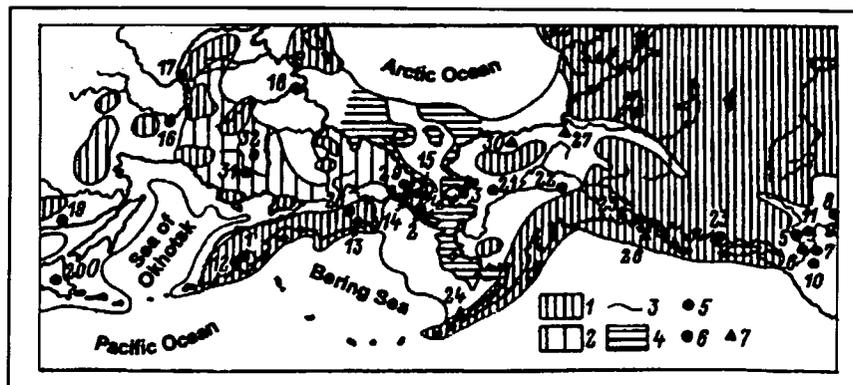


Figure 145. (Map). New Paleolithic sites of the Chukchi Peninsula among the other sites of early Beringia.

- I. 1 - Glaciers of the Sartan period during their maximal development; 2 - region of presumed incomplete glaciation; 3 - Beringia 23,000-15,000 B.P.; 4 - Beringia 14,000-13,000 B.P.; 5 - late Paleolithic sites with stemmed points; 6 - late Paleolithic sites with wedge-shaped cores; 7 - other sites.

II. A. Late Paleolithic and early post-Paleolithic sites with stemmed arrow points:

- 1 - Ushki I and V, Level VII; 2 - Ul'khum; 3 - Trail Creek; 5 - Lind Coulee; 6 - Five Mile Rapids; 7 - Wildcat Canyon; 8 - Shaur[?]; 9 - Beech Creek Caves; 10 - Fort Rock (Cougar Mountain Caves); 11 - Marms Windust Caves.

B. Late Paleolithic sites with wedge-shaped cores:

- 2 - Ul'khum; 12 Ushki I-V, Layers V and VI; 13 Inas'kvaam II; 14 - Kurupka I; 15 - Chaatam'e; 16 - Diuktai; 17 - Ikhine; 18 - Berelekh; 19 - Ustinovka-Tadushi; 20 - Sirataki; 21 - Akmak; 22 - Healy Lake; 23 - Namu; 28 Taliain I; 29 - Kym'nyanonvyvaam VII, VIII, X, XIV; 31 Siberdik; 32 - Maiorych.

C. Early post-Paleolithic sites:

- 4 - Puturak; 24 - Anangula; 25 - Groundhog Bay; 26 - Hidden Falls; 27 - Old Crow; 30 -Gallagher Flint.

the tundra-steppe, and reduction in species composition and number of megafauna). The basic migration flow into Beringia did not go by the northern route from Yakutia (though this can never be completely excluded as a possibility). Rather it moved along the southern, Pacific Ocean route from the northern Far East, where the complex Late Ushki culture of fishers and hunters of bison was formed and which, consequently, easily adapted to new ecological conditions. Its spread along the Chukchi Peninsula is well attested to by the sites we found there of Kurupka (16), Chaatam'e (22), Kym'nyanonvyvaam VII (117), VIII (118), XIV (114), as well as possibly several others, which were discussed above and, of course, the second, later, Paleolithic component of the Ul'khum Paleolithic complex (1). However, the most complete representation of this culture is presented by the primary source of its development in Kamchatka where it was investigated in 1961 in Layer VI of the Ushki sites and dated to more than 11,000 years before the present. It is characterized there by large sites, in the largest of which (in the Ushki I site) more than 40 different dwellings were excavated in an area of 5,236 m<sup>2</sup>. They were constructed with a framework of poles, probably covered by hides, an entrance corridor; and, by the construction and smaller dimensions, they were distinctly different from the large double *shalashi* of the Early Ushki culture of lower lying

Layer VII. Differences were noted as well in the stone artifacts: together with bifacial (that is, worked on both sides) leaf-shaped, stemless points of projectile tools, of which there were none in Layer VII, there were stone labrets, decorations very characteristic of the Aleuts, Eskimos, and some Indian tribes of northwestern America. Also found there was the burial of an Eskimo-type domestic dog, one of the earliest in the Paleolithic. The most characteristic artifacts are wedge-shaped cores, another trait which corroborates that this Paleolithic culture has definite genetic connections with the Denali culture (with the same wedge-shaped cores) in Alaska. Being spread there through Beringia, this culture played a definite role in the formation of the population of northwestern America. On the southern edge of Beringia this culture all the more intensively began to develop maritime exploitation. Then (c. 12,000 to 11,000 years ago) the dimensions of Beringia were already substantially reduced and were beginning to be penetrated by Bering Strait, so that in order for this culture to pass to the eastern side of Beringia it was, of necessity, forced to use boats.

Now, after the discovery on the Chukchi Peninsula of the Late Paleolithic sites mentioned above, these conclusions find the necessary corroboration. They are now quite concrete, and the role of the Paleolithic population in this late stage of the glacial period is not viewed speculatively as an intermediate link in the route into America. We also have available sites linking the route between Kamchatka and the Chukchi Peninsula itself. These are Late Paleolithic sites with wedge-shaped cores, found by the geologist Yu. A. Koliashnikov in recent years in southern Chukotka. They are in the northeastern part of the Koryak upland, on the middle course of the Inas'kvaam River (Inas'kvaam II), and somewhat more to the north near the Rarytkin Range (Taliain I). In the surface layer of a glaciofluvial hill 15 m high at the Inas'kvaam II site were found a wedge-shaped core of obsidian and a fragment of a narrow biface projectile point, both typical for Layer VI of Ushki (Dikov 1979:Fig. 10). And on a hill 30 to 40 m high at the Taliain I site on the left bank of the upper reaches of the tributary (of the same name) of the Velikaia River was the same kind of obsidian wedge-shaped core, as well as a double-ended one.

On the whole all the enumerated sites of the so-called Beringian (in the terminology of the American archaeologists) Late Paleolithic tradition, from Ushki Lake in Kamchatka to the Chukchi Peninsula and farther in Alaska (the Denali culture), fix the advance of the bearers of this tradition to the American side 13,000 to 10,000 years ago, that is, at the time when the Bering Land Bridge began to diminish.

In light of new discoveries in northern China, we must recognize the great antiquity of the sources of this transference to Alaska of the technological tradition of wedge-shaped cores and the coexisting biface technology, going back to as early as pre-Sartan times. There, in northern China, at the Dziachuan' site (which is assigned to the first stage of the microlithic Upper Paleolithic culture), the age of the cores and biface technology attains 24,000 to 14,000 years. And this is perhaps the earliest wedge-shaped cores, the Diuktai in Yakutia being significantly younger, inasmuch as typologically the latter go back only to the second stage of the named microlithic culture of northern China (13,500 to 11,000 years ago).

Similarly, on the Chukchi Peninsula, and perhaps even in Kamchatka, this technological tradition emerges earlier (in any case not later) than in Yakutia, even in its first stage, since in both the Ul'khum and Ushki sites boat-shaped cores are found. They are not in the Diuktai culture of Yakutia, in the opinion of Chinese and American archaeologists<sup>11</sup>, just as the bent knives, which accompany them in China only in the first stage, are not there (Chen Chun and Wang Xiang-Qian 1989; Yi Clark 1985). Thus, the tradition itself does not appear to be earlier than 18,000 years ago, and probably 14,000 to 13,000 years.

A still earlier migration from Chukotka to Alaska is connected with a quite different culture, the Puturak, which can probably be assigned to the very end of the Pleistocene and beginning of the Holocene. This culture, as we have already noted above, is represented, judging by everything, by two stages: 1) Proto-Puturak - the sites of Tkachen (4), Itkhat IB (2), IC (3), and IE (3) with large sub-prismatic and conical cores and characteristic points very reminiscent of the Levalloisian of Central Asia and the Altai, which go directly back to the Ul'khum, as well as similar points from the Final Paleolithic site of Namu in British Columbia (Carlson 1983); 2) the Puturak proper - Itkhat IA (3) and Puturak (4) - with the same coarse-bladed technology based on (and possibly in combination with) sub-prismatic cores and tentatively dated by the site most similar to it, Gallagher Flint Station

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<sup>11</sup>Although a core from the Ust'-Mil' II site (Mochanov 1977:Table 9:3), judging by its illustration, appears possibly to be boat-shaped.

in northern Alaska, the age of which by radiocarbon is  $10,540 \pm 150$  years - the time of the transition from the late Pleistocene to the early Holocene.

The very distinctive Puturak archaeological material, substantially different from the synchronic, unifacial Sumnagin in the territory of Yakutia and of significantly coarser manufacture of lamellae and complete lack of burins, nevertheless finds in this regard analogies in the sites of Teriut I on the Olekma River in Yakutia (Alekseev 1987), Tytyl' I in western Chukotka (Kir'iak 1980, 1989), and Sokol in Primor'e (Golubev and Lavrov 1988). This attests possibly to a broader area of this culture or the region of its origins than usually considered. Its spread in Alaska is represented by analogies uncovered there by the American archaeologist E. Dixon. According to his entirely substantiated opinion, the complex of tools from this site, which has no bifaces or burins and all tools were made from coarse lamellae and bladelets of limestone argillite, is typologically most similar to finds from Layer VIII of Onion Portage (8,500 to 8,000 years ago) and the upper layer of Trail Creek Cave (10,000 to 8,000 years ago) in Alaska (Larsen 1968) and genetically connected to the later Anangula. These analogies permit interpreting Puturak as a probable initial link in the spread from the Chukotka side into America of the most important cultural component of the formation of the earliest maritime culture of Beringia, including finally the widely known proto-Aleut site of Anangula (in the Aleutian Islands), investigated by W. Laughlin. The investigation of this most interesting site should be expanded. It still promises many new and surprising things.

What can be said about the ethnic association of the last three Late Paleolithic migrations or, more precisely, the slow movement, similar to chemical diffusion, of the population from Asia to America?

The author himself has repeatedly expressed the supposition that the first migration was Paleoindian, the second was proto-Eskimo-Aleut, and a third was out of the question since the Puturak culture was unknown. Now, after its (Puturak) discovery as the second migration, it perhaps must be connected, following Dumond (1968) and Dzeniskevich (1987), with the ancestors of the Athapaskans (Na-Dene), and the third considered proto-Eskimo-Aleut, since the similarity of the Puturak complex with the lamellar tool kit of the proto-Aleut site at Anangula is more remarkable than its similarity with the Late Ushki culture and its continuation in Alaska - the Denali culture.

Such an assumption corresponds well with the substantiated paleo-odontological material (based on the study of the teeth of the early peoples) in the interpretation of American anthropologist C. G. Turner of a three-stage settlement of America. In accordance with his quite convincing theory on the division of the early Mongoloids into sinodonts and sundadonts, America was settled by sinodonts with teeth characteristic of the early inhabitants of northern China (and not sundadonts of Southeast Asia). The Mongoloids first migration to America initially left Paleoindians, the second was connected with the appearance there of the ancestors of the Athapaskans (Na-Dene), and the third led to the penetration there of the common ancestors of the Eskimos and Aleuts, which takes care of most principal language groups known to us in all of America (Turner 1979, 1983 [in Russian], 1983, 1987).

The problem nevertheless remains unresolved regarding the chronological determination of the beginning of the very first Paleoindian migratory wave into America. It could have begun significantly earlier than its last stratum in the form of a migration of hunters with biface points, in particular the stemmed Early Ushki type. In principle there could have been such migrations as early as those of the hypothetical Middle Pleistocene noted above, which did not leave traces in the anthropological record as did the Paleo-Indian and contemporary Indian population of America (Dikov 1985a, 1986). In this regard the polyphyletic model of two origins of anthropogenesis and sapientization, one of which - the eastern - may turn out to be significantly earlier than the western (Aigner 1980), makes this slightly possible.

In the later Mesolithic or pre-Neolithic time in the Arctic and Subarctic Northeast, in particular on the Chukchi Peninsula and Alaska, cultures with more delicate knife-like lamellae than the Puturak, split from prismatic cores, were spread. The Chel'kun IV site (38), dated by radiocarbon to  $8,150 \pm 450$  years ago, is the most characteristic and supportive in this regard on the Chukchi Peninsula. Also continuing it there are the sites of Achchen (12) and Chel'kun VIIIA (35a). Taken on the whole, they represent Mesolithic culture similar to the Sumnagin in Yakutia, sites of which, in spite of intensive investigations, have not yet been revealed in western Chukotka (Kir'iak 1979, 1989). At the same time, although in small degree, they are particularly best represented by the later Meso-Indian complexes of Alaska at Denby (Laricheva 1986). It is noteworthy that great similarity with this fine-bladed industry of the Chukchi Peninsula is not found in Alaska and, even more, farther to the south

in America. The cause of the weakening of the connections was evidently the barrier to migration played by the Bering Strait, which reached its greatest width in post-glacial time.

Restricted cultural connections evidently remained for a long time, at least throughout the course of the Early and, in part, the Middle Neolithic (Fig. 142b). This is attested to by the distinctiveness of the Early Neolithic non-ceramic complexes of the Getlianen I (162) and Koolen' III (155) sites (5,700 ± 300 years ago) and the even greater rarity, in comparison with American sites, of stone artifacts of the Middle Neolithic sites of Terkemkyn (26), Karytkin (21), and others. Very characteristic, especially for the first of them, dated to 4,850 ± 40 years ago, are points and graters from sharpened flakes (Plate 68), which are traced back to Paleolithic Ul'khum prototypes, as well as bifacial, narrow-bladed knives with constricted waist. All these are things which are uncharacteristic of the Neolithic of Alaska, where at that time the so-called Small Tool tradition flourished, as did the magnificent complex of flint tools from Denby (4,200 years ago) with its fine and elegant narrow leaf-shaped inset blades, worked on both sides by the finest retouch. It is significant that neither on the Chukchi Peninsula nor in Alaska at that time is there evidence of cord-marked ceramics, which are characteristic for the Middle Neolithic of Northeast Asia (including Yakutia and the rest of Chukotka), and which nevertheless spread during the Neolithic in the northeastern USA and southwestern Canada in the Woodland culture (Wright 1968, Griffin 1968). Concerning the ceramics' origin, whether from Asia or autochthonous, it is not yet sufficiently clear, but all the same the opinion prevails that it has American roots (Wright 1968).

And even more remarkable is the lack in Alaska of the very distinctive "fluted" ceramics, typical of the following, Late Neolithic stage of the Chukchi Peninsula, found at the sites of Koolen' I (152), Kurupka II (15), Chuvaigtykhyn IX (63), and Naurech'e VI (58). And in the stone inventory at this time analogies begin to become quite perceptible. This primarily concerns some types of burins, scrapers, and arrow points. And the waffle ceramics, rarely found at this time on the Chukchi Peninsula - at present only at the Naurech'e V site (57) - but rather widely spread in the first millennium B.C. in Alaska, attest to the renewal of cultural connections, more intensive than in previous stages of the Neolithic and late Mesolithic, between the continents in the Beringian region.

This strengthening of connections corresponds with the origin and spread on both sides of the Bering Strait of the so-called Paleo-Eskimo cultures (Old Whaling and Choris Norton in Alaska and Wrangel' in Chukotka), which of course is connected with the development among the coastal hunters of a maritime means of conveyance\*. The discovery by the author in 1975 on Wrangel' Island of the Paleo-Eskimo Chertov ovrage [Devil's Gorge] site remarkably illustrates and corroborates the similar change of the situation. It is precisely at that time that the flourishing of the mutual influence between the Ust'-Bel'skaia and the Norton intra-continental cultures of Chukotka and Alaska is assigned. In this process, naturally, is actively included the population of the eastern part of the Chukchi Peninsula that we examined. This population is eloquently represented by Late Neolithic sites found there: Naurech'e V, Kym`nanyonvyvaam XVI, and all the others belonging to this group, the analogy of which is the Alaska Norton culture. Found at the crossroads of the intercontinental routes of the north, the Ust'-Bel'skaia culture - representatives of which on the Chukchi Peninsula are the Late Neolithic sites mentioned - developed from the very beginning under conditions of broad contacts. The initiation of these was eased by similar methods of life of the hunters and fishers of the Old and New World in the pre-metallurgy epoch. Such broad cultural, and possibly ethnic, connections with neighboring regions of Siberia also explains the presence here of the characteristic ceramics with dentate paddle impressions on the outer surface and many kinds of arrow points, burins, and in the Ust'-Bel'skaia burial small shell beads, as well as axes and adzes rectangular in cross section, all of which are widely spread in the Neolithic of eastern Siberia along the whole Pacific Ocean zone of Asia. Bronze evidently penetrated here from the south and from Yakutia. In any case, it could not have reached Chukotka (the Ust'-Bel'skaia burial) from North America, where this alloy was not known until the arrival there of Europeans.

These wide cultural and ethnic connections are attested to by the anthropological data: Study of the well preserved skull from the Ust'-Bel'skaia cemetery indicated that together with features characteristic of the Arctic race - the Chukchi and Eskimo - there are also features in it of the Baikal type of the northern Asiatic race (Dikov 1979). Such a combination is characteristic to a certain extent of contemporary Chukchi reindeer herders, as well, and is usually explained by anthropologists either as traces of Yukagir admixture or the undifferentiatedness of a

similar proto-Yukagir and at the same time proto-Arctic type. In recent times the tendency is revealed to consider the Ust'-Bel'skaia skull proto-Eskimo, that is, endowed with neutral anthropological traits characteristic of the very early ancestors of the Eskimos (Alekshev 1985).

Actually, a similar point of view is allegedly corroborated in those Eskimo features of the Ust'-Bel'skaia culture, which were spoken about above. However, other features that are not peculiar to Eskimo culture are also noted in it: a hat decorated with mother-of-pearl beads in the burial in Kurgan No. 8, a dog skull in Kurgan No. 9, bear canines in all the kurgans, decoration by "ravens" feet on bone articles from Kurgan No. 15, and the rite of partial and probably total cremation. The first three traits are typical for taiga peoples of Siberia (Evenki, Yukagiry), the last two more for the Chukchi. Hence, it follows that the culture of the early Ust'-Bel'skaia people combined some features of the proto-Yukagir - to which R. A. Kir'iak (1989) contributed not a little evidence - and proto-Eskimo culture. However, a Chukchi ethno-cultural component is also noted.

Later, at the end of the first millennium B.C., the Ust'-Bel'skaia culture spread to the northern and eastern shores of Chukotka as far as the Chukchi Peninsula. Attesting to this, in addition to the Late Neolithic sites of eastern Chukotka, is the similar burial custom at the Ust'-Bel'skaia Ekiatap burial in the valley of the Amguema River, as well as Pegtymel' hunting sites near petroglyphs and the Pegtymel' petroglyphs themselves. It is than that connections between the Chukchi Peninsula and Alaska were broadly developed.

Thus, progressive development of Paleolithic and Neolithic production, oriented toward land hunting and fishing, attained its culmination in Chukotka between hunting wild deer in boats and the transition to maritime hunting among the Paleo-Eskimos<sup>12</sup>. The transition from land hunting and fishing to hunting on the sea was the first substantial shift in the development of the production power of the early population of the Chukotka sea coast. The second, still more significant and progressive shift occurred in the tundra. Hunters of wild deer began to tame animals. As a result, in the tundras of Chukotka, nomadic herding emerged - a type of economy more profitable than only hunting. A migratory and, even with all its advantages, unbelievably difficult deer-herding way of life, which until recent years - until the introduction of deer-herding mechanization - was the only method of exploiting the large moss pastures of the Northeast.

The problem of the origin of deer-herding in Chukotka, as, by the way, in other deer-herding regions of Siberia, is not completely resolved. Only a multitude of contradictory hypotheses exist. The archaeological material on this question is extremely small. It is possible only to confirm that deer-herding emerged here later than the sea mammal hunting, possibly as much as several hundred years ago, but in any case not earlier than the formation of the Penuk culture. Its broader distribution in the tundras of Chukotka is probably related, I assume (Dikov 1971), to the so-called first little glacial epoch, which advanced after the early medieval climatic optimum and lasted in its culmination phase from 1500 to 1850 (Borisov 1970). From P. M. Borisov's point of view, the little glacial epoch is estimated to have had a coldness of magnitude 6 (in the little climatic optimum it was equal to magnitude 2, and its present magnitude is 4). The maximum thickness of the ice of the ocean was then two times greater than during the medieval warming (7.0 m instead of 3.5 m), and the dryness of the air was correspondingly higher. The Eskimos of northern Greenland (in the Thule region) made a transition during that time from the Thule maritime culture to a culture reminiscent of the early Eskimos with a predominance of musk ox hunting. It may be assumed that the necessity to adapt to new severe conditions connected with reduction in the possibility of sea hunting also prompted the population in Chukotka to look in the tundra, where the cold dry climate created more favorable conditions for ungulates, for a solution to economic problems. Thus, by correlating the development of the economy with the development of natural conditions, it is possible to resolve the most complex problem of the origin of Chukchi deer-herding: finding a concrete reason for its emergence, specifying the date (and for this we systematically study stone enclosures - *paliakvyny* - [Figs. 136, 138, 144], which sometimes contain charcoal for radiocarbon dating), and explaining its comparatively late emergence.

It can be noted with satisfaction that the most recent investigations by specialists, who have occupied

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<sup>12</sup>We would remind the reader that later on the sea coast emerged a whole series of Neo-Eskimo cultures: Okvik-Old Bering Sea (second half of the first millennium B.C. to first half of the first millennium B.C.), Birmirk (fifth to ninth centuries A.D.), Penuk (ninth to fifteenth centuries A.D.), and others. On the sea coast were preserved the remains of numerous sedentary sites of these highly specialized maritime hunters (Fig. 2).

themselves with the immediate problems of reindeer-herding, also corroborate the concept of its autochthonous origin in the north, and in particular in Chukotka (Krupnik 1989, Vol'fson 1989). An especially convincing argument is presented in the manuscript of his recent monograph by the Soviet biologist A. G. Vol'fson in defense of this solution to the problem. In his conclusive opinion, the autochthonous origin of Chukchi-Koryak deer-herding was "the spontaneous result of the long evolution of the specialized anthropobiocene of continental hunters of the tundra with herds of wild deer," the outcome of which was the formation of a separate species of the latter called *khargin*. Vol'fson refutes the theory that Chukchi deer-herding was introduced from the south by the Even and convincingly points out that there is indeed insufficient archaeological evidence of its being borrowed from the Even, among whom, moreover, there was no herding in the domestic use of deer. Supporting our argument is the lack of any sites of this type in the Chukchi-Koryak tundra during the period of formation there of the deer-herding economy. There were only *paliakvyny* - graves of deer-herding nomads. According to Vol'fson, the antiquity of the origin of Chukchi-Koryak deer-herding is somewhere in the range of the first millennium B.C. to the eighth to tenth centuries A.D. Approaching what is probably the truth in this difficult question is I. I. Krupnik, an ethnographer, who argues that the most favorable natural conditions for the appearance of deer-herding in the tundras of Eurasia were at the end of the sixteenth - beginning of the seventeenth centuries, and for a transition to herding in the eighteenth - beginning of the nineteenth centuries. This should possibly be understood in the sense that simultaneously there were favorable conditions for extensive development and spread of deer-herding, which had emerged significantly earlier.

However that may be, we see that the problem passed, in its development, almost through the accomplished triadic cycle of the dialectical denial of denial: from supposition about the autochthonous origin of Chukchi-Koryak deer-herding (Bogoraz 1934; Vdovin 1950; Dikov 1958, 1979) to denial of this and the hypothesis of its being borrowed from the south (Shnirel'man 1980) and again to the recognition of the original thesis, to its combined substantiation from the position of ecology and anthropobiogenesis (Krupnik 1989, Vol'fson 1989). It is in such a dialectic position that investigators of the problem always come a little closer to the truth.

Finishing our investigation, there is the sense of taking a somewhat broader view of these global historical processes, and especially at the ethno-cultural connections. The extreme northeastern end of Asia and the Beringian region in general were involved in this over the course of centuries and millennia. This permits us to see and understand why it happened that America, colonized thousands of years ago from Asia and the Beringian region located almost adjacent to it, ultimately turned out to be so isolated from the civilizations of the Old World, and became in such measure closed off from them and unknown that they were discovered from the east by Columbus, and from the west by Dezhnev.

Careful study of the cultural connections of each of the early cultures of the Northeast that we investigated permitted us to trace their dynamics from the Paleolithic to the Remnant Neolithic and to reveal the essential regularity of the dynamics that led ultimately to the isolation of extreme Northeast Asia, together with all the American continent, from the relatively more highly developed cultures of the Old World in the early Iron Age and Remnant Neolithic.

The dynamics of the cultural connections are quite definite. Approximately from the second millennium B.C., the sphere of these connections begins to become distinctly more narrow, shifting at the same time to the north, from the steppes into the taiga and tundra where the cultural connections begin to embrace almost all the circumpolar region, and to the northwest coast (along the islands) of the Pacific Ocean.

Theoretical generalization of the totality of the data available to us on cultural connections of the early population of the Northeast at various stages of its historical development, and theoretical comprehension, in particular of these quite characteristic dynamics of the development of connections, have for a long time brought us to the conclusion that there was a regular dependence of the latter on the relative economic-cultural level of the surrounding cultures (Dikov 1958). The cause of the narrowing and reorientation of cultural connections of the Northeast to the north, in our opinion, can be explained finally by the irregularity of development of the productive forces in the initial broad zones of cultural contact being examined, and the emergence of an economic barrier between the agriculturists and the steppe livestock breeders on the one hand, and hunters and fishers on the other.

In the northern subtropical zone of the Old World during the Holocene, events occurred that had great significance for further development of ethnic and cultural connections. The vast world of the hunters, fishers, and gatherers gradually ceased to be alone on the earthly sphere. In the Near East, Middle East, and the Far East, to China and Japan, the dawn of another life began. From the collection of the products of nature, people changed to producing them, and began to occupy themselves with agriculture and livestock breeding. This revolutionary process spread to the north in places, having embraced, for example, the tundra-steppe valley of the upper and middle Lena, extending here almost to the Arctic Circle - the limit, then, of possible spread of highly developed livestock breeding.

If earlier in the Upper Paleolithic and even Early Neolithic it did not really matter where hunters and fishers settled - assuming there were no insurmountable natural obstacles and there was game - and if there was not an insufferable change in the climate, which is almost imperceptible with the slow passing of the centuries, then the transition of the population now to livestock breeding and agriculture sharply curtailed the stimuli of its settlement toward the northeast, into the taiga and tundra and beyond the middle Lena steppes to America. Therefore, it was from the second to the first millennium B.C. that the southern intra-continental connections were gradually reduced and the long period of relative isolation of extreme Northeast Asia, and America, from the more developed livestock breeding-agricultural cultures of the Old World, which emerged in the south, began.

A quite significant feature of this occurrence can be seen in the fact that the Bronze Age, having already reached Chukotka (bronze burins of the Ust'-Bel'skaia burial of three millennia ago attest to this), did not pass through the Bering Strait into North America. (Also not passing across the strait were the three-sided projectile points and projectile points rhomboid in cross section). This already clearly attests to the weakening of connections directed from intra-continental Asia toward America. Further, in the early Iron Age these connections were even more curtailed. Gradually all of extreme Northeast Asia and America were excluded from permanent contact with all the more progressive livestock breeding-agricultural continental cultures of eastern Asia. Something like a well-defined "closing off" of America and the districts of extreme Northeast Asia adjoining it was begun, in which the hunting-fishing way of life was preserved. A significant turning point in the development of connections between the Old and New World occurred, the essence and significance of which must never be underestimated.

But even then the isolation of our Northeast and America was, of course, not absolute. The very fading out of connections probably went slowly, as did the settlement of the region. Therefore the reduction in stimuli of resettlement and connections from intra-continental Asia as a consequence of the emergence there of highly developed types of economy, productive livestock breeding, and agriculture by no means excluded peripheral paths of spreading culture and resettlement along the sea coasts.

It is along the Arctic Ocean (where in the Paleolithic the route of the spread of people from Asia to America probably passed), from Norway to Greenland, as many researchers note, that a rather uniform circumpolar culture of hunters of wild deer spread at that time (Simchenko 1976).

Along the Okhotsk and Pacific Ocean coast and the islands of eastern Asia, iron penetrated into the Northeast and farther into Arctic America to the ancestors of the Eskimos (though in paltry quantities), as well as some southern elements of culture like curvilinear decoration. Under conditions of isolation the development of technology sometimes reverted back to the Stone Age and then proceeded in its course as the Remnant Neolithic. Features of the Stone Age were peculiar to almost all of Chukotka (as it was for Kamchatka) up until the seventeenth century and even later, and the Chukchi Peninsula in this regard was not an exception.

### **3. Ethnic History of Humanity and the Place of Ethnogenesis in It on the Chukchi Peninsula**

And now we will correlate the ethnocultural development of the Stone Age on the Chukchi Peninsula, as it appears from our archaeological data, with the general tendencies of the ethnic history of humanity. For this we must turn for a moment to the complex problem of the usual regularity and periodization of this global process and define our conceptual approach to understanding them.

From the beginning it should be remembered that a large contribution in the elaboration of the general

theoretical ethnic problem was contributed by Soviet scholars: A. G. Agaev (1965), V. P. Alekseev (1986), S. A. Arutiunov (1972, 1986, 1989), Yu. V. Bromlei (1973, 1983), L. N. Gumilev (1970, 1971, 1990, 1991), M. V. Kozlov (1979, 1986), M. V. Kriukov (1976, 1986), G. E. Markov (1986), A. I. Pershits (1986), Yu. I. Semenov (1986), V. A. Tishkov (1989, 1990), S. A. Tokarev (1964), and others. With rare exceptions (Kriukov, Semenov, and Tishkov), they all proceeded from the trinomial scheme (tribe, state<sup>13</sup>, nation) and the formation of the ties found by each of its members.

Especially useful to us are the approaches to the typology of stages of the periodization of ethnic groups proposed by A. G. Agaev, then S. A. Arutiunov and N. N. Cheboksarov, as well as M. V. Kriukov, L. N. Gumilev, Yu. I. Semenov, and V. A. Tishkov. The first of them was sufficiently motivated - by means of the typology of ethnic groups - and suggested a makeup of predominating social connections within the ethnic group: for lineages and tribes - kinship connections, for states - territorial connections, and for nations - economic connections (Agaev 1965).

Arutiunov and Cheboksarov convincingly pointed out the decisive significance for the ethnic history of informational connections and revealed three basic evolutionary types of degree of density of informational connections. These correspond to the basic types of ethnic groups: groups of tribes, states, and nations - having taken as the two basic thresholds (abrupt leaps) between them 1) the creation of written language and 2) total basic education and means of mass communication - the press (Arutiunov and Cheboksarov). Kriukov turned his attention to the dialectic role in the ethnic development of ethno-stimulating and ethno-stagnating factors and, having used the correlation of them as criteria, emphasized four basic types of ethnos that succeeded each other: archaic ethnic communities of the primitive state, early ethnos (with the predominance of ethnic stimulating factors) of slave-holding social organization, the middle ages (with stagnant ethnicity), and contemporary - again with the activation of ethnicity (with capitalism and socialism).

Gumilev, summoning a complex reaction (if not to say more) from the ethnographers, sees the determining factors of ethnogenesis, and probably not without some basis, in the psychology and biophysics of man and in his surrounding natural environment, and, in Gumilev's terminology, energetic environment, demonstrating a great deal of significance for mutated "impulses" and so-called *passionarnosti* in the birth of ethnic groups. It must only be kept in mind that the object of Gumilev's investigation is the phases of ethnogenesis in the course of the life of one ethnos, more precisely the state, and not in the broad chronological range of all ethnic history from its very beginning (from the tribe) up to and including the nation. Nevertheless, the psychophysical influences and regularities revealed by Gumilev are, in my opinion, significant for a fuller understanding of the processes in the substrate features (chiefly psychobiological) of the ethnic group.

Finally, Tishkov, with an innovative approach quite convincingly revises the traditional Stalinist idea of the nation as simply the arithmetic sum of the five features. Understanding the nation primarily as a political community of people by their civic membership to one state, he proposes excluding even the nation from ethnological terminology (having retained the category state), deciding that this aids in separating the sphere of national relations from the government and depoliticizing it. In many ways Semenov anticipated such an appraisal of the nation, having defined it essentially as a community that emerged with a single social organism, a unitary state, based on market relations.

These concepts, each in its own way, are interesting and useful since they correctly embrace this or some other side, that or some other aspect of the development of the ethnos and ethnic formation. They are mutually supportive and therefore each individually does not provide a full and adequate reflection of either the idea of ethnos or of ethnic development in its completeness and unity. Giving preference to one kind of approach, each of the authors considers his the most important, and in a way he is probably right. Nevertheless, a more general theory is necessary, one uniting all aspects and forms, and especially the most basic nature of ethnological development, under one methodological principle, just as in contemporary physics a single united theory of the magnetic field is required.

This problem will probably attract the attention of many specialists, and other opinions will also be

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<sup>13</sup>Dikov uses the term *narodnost* as an intermediate stage between tribe and nation. This word has been translated here as "state" and refers to a cultural stage of development between the tribe and the nation. - *Trans.*

expressed. I personally think that in the role of such a generalized conceptual approach, which retains everything valuable from the enumerated ideas, might be the dialectical methodological strategy of relating the form and content of the ethnic process and separating in it the evolutionary and revolutionary periods. I have already tried this in other important aspects of the history of humanity, and precisely in conformity with the periodization of the history of human society, its culture and technological development (Dikov 1969, 1976, 1983, 1986, 1987, 1989, 1991)<sup>14</sup>.

If we take a single view of the course of the ethnic development of humanity, in a very generalized view it is perhaps represented as a regular alternation of evolutionary and revolutionary periods, that is, periods of conformity and disconformity with each other of the form and content of historically emerging ethnos (Table 1).

Of course, we will use for this a scientific and adequately real definition of ethnos, which is common for all periods of ethnic development, which reflects its most common essential features, and which always considers the form and content of the ethnic group in its dialectical dual unity.

We consider most acceptable the definition of the ethnic group as a historically emerging unity and connection of people through their origin, culture, and psychological constitution, which has their own self-perception (that is, which recognizes their cultural, genetic, or civic unity and distinctiveness), and uses one language. Standing out as the substance of the ethnos in its substrate level here are the psychobiological (in particular, anthropological and psychological) qualities, peculiarities, and processes which occur in it. In its essence are the character and level of intra-ethnic sociocultural connections. The inner form is some level and type of ethnic self-perception, and the outer is language.

It must be kept in mind that the ethnic community with its ethnic self-perception emerged dialectically for the first time as a resolution of a contradiction between purely biological development and the beginning of sociocultural development. During the course of many millennia of biosociogenesis, the instinctively regulated pre-social activity of earliest social man corresponded completely to his own social perception and complete lack of special ethnic self-perception. But with the development of culture and the origin of the very first kind of social perception in the form of morals, followed by other kinds of primitive social perception, humanity began to enter into a revolutionary (in the broad sense pre-ethnic, and in the narrow sense pre-tribal) period of disparity between the old biological form of pre-ethnic development and a new perception of human activity, now regulated by the first norms of social perception.

Pre-societal group connections and pre-ethnic groups of this revolutionary time should be viewed as transitional from pre-societal to a kind of community or tribe, that is, initially as pre-tribal, though now with a new beginning ethnic sociocultural nature, but still with the old form, the pre-societal perception. But as a result of surmounting this contradiction, as the first dim realization of new historically emerging connections, an entirely new phenomenon gradually emerges - ethnic mythological self-perception as comprehensible of new, now not pre-societal rather a broader "we - they," which is externally formulated by an ideologized (adequately to moral norms) language. Thus, from a revolutionary pre-tribal state, by means of changes from antiquated form to new, the pre-ethnic pre-societal group of paleo-humans (with the contrast between the yet biological and the emerging social beginnings peculiar to it) develops into its own ethnic group. Then from pre-tribes and pre-tribal groups are born tribes and groups of tribes. Through this, as our conceptual scheme shows, a long, evolutionary period of ethnic development starts, its course evidently lasting throughout the Upper Paleolithic and Mesolithic and characterized now by the relative conformity of a new form (tribal mythologizing self-perception) and content (lineal-tribal intra-ethnic connections) of the primary ethnic community - the tribe and the group of tribes. Such an evolutionary state of ethnic development completely answers to the period of archaic ethnic community and of low density of informational connections emphasized by Kriukov (according to Arutiunov).

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<sup>14</sup>Of course, when one uses this approach he should consider following the basic logical principle of equality of the basis of division and, consequently, single-aspectedness of the periodization, that is, its construction (in order to avoid the eclectic) by some one feature. I turned my attention to the necessity of this condition as early as 1976, that is, three years before the work of M. S. Kagan, whom M. V. Kriukov cites, using this methodological principle (Kriukov 1986).

Table 1. Dialectical Periodization of Ethnic Development of Humanity

Ethnic community	Periods of ethnic development	Type of ethnic group	Content of ethnic group		Form of ethnic group		Periods of development of humanity
			Substrate aspect	Substrate aspect	External	Internal	
			Biofactors	Predominant type of intra-ethnic connections	Language	Level of ethnic self-perception	
Primary	Evolution	Tribal group		Lineal-tribal connections	Verbal-speech language	Tribal-mythological self-perception	Patrimonial community (Upper Paleolithic, Mesolithic)
	Revolution	Pre-state	Possibility of mutation, <i>passionamy</i> impulses (accord. to Gumilev)	Territorial connections (with communal division of labor)	(Ditto)	(Ditto)	Initial neighborhood community (Neolithic)
Secondary	Evolution	State		(Ditto)	Verbal and written language	Political-religious self-perception	Slave-holding and feudal structure
	Revolution	Pre-nation	Possibility (?) of mutation, <i>passionamy</i> impulses (accord. to Gumilev)	Massive extra-territorial econ. connections (fishing & other) w/communal character of production	Verbal, written, literary language	(Ditto)	Capitalism and socialism
Tertiary	Evolution	Nation		(Ditto)	Verb., writ., lit., radio, film, TV, language	Politicized nationalistic self-perception (including extreme nationalism)	
	Revolution	Pre-supernation		Global economic and political connections	(Ditto)	(Ditto)	Post-industrial community
	Evolution	Supernation		(Ditto)	International computer language		

Then in connection with the first communal division of labor (by the division of stock breeding, farming, and crafts) and the transition from lineal to laterally-connected communities at the end of the Stone Age, and in other places even later (in the Bronze Age and even early Iron Age), the restructuring of lineal-tribal connections into territorial ones occurs. It is natural that this new quality of content of the ethnic group (tribe and group of tribes [co-tribes]) begins in contrast with its old form - tribal and co-tribal mythologizing ethnic self-perception. It initiates in it the need for fundamental changes that are adequate to new content that in turn will signify the introduction into the first revolutionary period of their own ethnic history. Military democracy, chiefdoms, and unions of tribes are a search for a new organization of society, and, if Gumilev is right, even *passionarnye* [impassioned?] stimuli and mutations in the biological substrate of the primary ethnic group and their recombination through new (territorial) principles and thus a kind of "resmelting" of the population in the stormily boiling kettle of ethnic revolution - everything taken together leads ultimately to the basic scheme of ethnic self-perception, which reveals a new quality, now not only of mythologizing, but also politico-religious (first polytheistic and then monotheistic), as well as toward the formation of new languages and language families. So qualitatively new ethnic formations are born - peoples, or, as is fitting in this relation to call them, states. They are distinguished qualitatively from other intra-ethnic sociocultural connections (than tribes and co-tribes), and, according to Arutiunov, through the art of writing the density of informational connections are even higher, a fact that is not contradictory, but supplementary.

As a result, the revolutionary period of disparity of form and content is again changed by a long, evolutionary period of adequacy of form and content with a predominance, according to Kriukov, initially of ethno-stimulating factors (in antiquity), and then ethno-stagnation. Owing to the balanced correlation of form and content established through long centuries, the states of slave-holding and feudal epochs more or less preserved their ethnic measure (ethnic type). Meanwhile, qualitatively different extra-territorial connections in their material essence that generally answer to the new, now not natural, but social character of production of a young bourgeois society that comes to replace medieval feudalism, did not emerge.

This new discrepancy between ethnic content and its form signifies that the ethnic history entered into its second revolutionary period of search for an adequate form, in a period of a yet little examined ethnic state, represented, we suggest, by the pre-nation. The necessity for an introduction into scientific use of such new ethnic categories results from the very logic of our conceptual scheme and from historic facts that are generalized by it.

For the content, peculiar to the pre-nation, a new quality is characterized - the prevalence of socioeconomic and political connections. By the beginning of the sixteenth century in Europe printing was devised and then (especially in the nineteenth century) quickly improved. The press emerged and continues to be developed. Extensive basic education is spread that accordingly influences the external form of the ethnic group and its language, which is all the more consolidated, and a written language, including literature, and becomes more widespread in the masses. The sense of fatherland and patriotism grows and becomes stronger. If Gumilev's ethnogenetic view is also taken into account, then the possible role of the so-called *passionarnye* impulses and mutations in the sphere of the biological substrate that forms the ethnic group should not be lost from view. However, the essence of the matter is not in them [impulses and mutations], rather in the fact that the new ethnic content of the pre-nation outgrows its old form and shakes it loose. With relative stability in its ethnocultural origin, it, as an ethnic self-perception, is characterized now by instability of correlation of the ethno-religious and ethno-political beginning, as well as a general tendency toward a predominance of the latter. It is precisely this dialectical interaction of the ethnic content dynamically changing with its old form, the ethnic self-perception, that is the basic motivating contradiction of this revolutionary period and the transitional type of ethnos connected with it - the pre-nation.

As a result, ethnic self-perception that is adequate to the content definitely changes the content. It is sharply politicized and acquires those qualities which, as everyone knows, are often nothing other than the nationalism of various meanings, the direction and intensity (even to extreme racism), that

accumulates the newest economic, religious, and cultural orientations of the young nations that strive to strengthen the sovereignty. Some of them are already in their second one hundred years when the dialectical dynamics of development leads them into a new, third revolutionary period of ethnic development. This is confirmed by the clear symptoms of the appearance of the pre-supernation with integrated processes and the strengthening and globalization of economic, cultural-political, or in general, as Arutiunov suggests calling them, international, informational connections, including wide use of radio, cinema, and television followed by massive computerization, after which the supernation itself follows.

Such is the course of ethnic development of humanity in its most general form (abstracted from particulars) - if it is considered from the application of our dialectical approach of the correlation of form and content, which permits representing it very vividly in the form of the regular alternation of qualitatively different evolutionary and revolutionary periods, to each of which corresponds a definite basic or transitional type of ethnic group (see table).

In comparison with this scheme, it can be easily seen that archaeological time and the genesis of the ethnoculture that filled it embrace only the first two periods. They are both related to the primary (tribal) ethnic community, the first of them - evolutionary - corresponding to the tribe and tribal group, and the second - revolutionary - to the pre-state.

If this conceptual scheme is followed, it is possible to suppose through deductive reasoning that from the Upper Paleolithic sites of the Early Ushki cultural tradition (with stemmed projectile points) came one or several tribal groups who ultimately spread through the Chukchi Peninsula and early Beringia into America. And along with this, even if not so probable, can be considered the possibility of a vast tribal group or a group of ethnoculturally similar tribal groups who appear in an even more vast Far Eastern cultural zone and in an ethnocultural substrate that is represented by the late Paleolithic sites we examined at Ul'khum (late component), Kurupka I, Chaatam'e, Kym`nyanonvyvaam VII, VIII, XIV, and others that have clear signs of the Beringian technology of wedge-shaped cores. The presence of broad open lands, especially in America itself, along the course of their distribution into America, is a feature in the distribution of these generally first Northeast Asian groups of tribes, which supersede each other. Into its spacious reservoir one ethnic wave after another came unhampered from the Chukotka side. The first of these were Paleoindians, including the most recent group (with wedge-shaped cores), the ancestors of the Athapaskans (Na-Dene), and a wave that followed them during the transition from the Paleolithic to the Mesolithic and is connected with the Puturak cultural tradition discovered on the Chukchi Peninsula - the proto-Eskimo-Aleut.

Both this Puturak cultural community and the Mesolithic and Neolithic sites, traditions, and cultures following it on the Chukchi Peninsula, should be viewed as associated with tribes and tribal groups all of this same evolutionary period of the primary ethnic community.

Another matter concerns sites of settled maritime hunters or nomadic reindeer hunters assigned to the Remnant Neolithic and Undeveloped Iron Age in which there is evidence of the first significant communal division of labor, the appearance together of communal and private property, the transition from lineal to communal connections and the reorganization of lineal-tribal connections into territorial ones. The archaeological sources now quite distinctly record the advance of the revolutionary period in the development of ethnic history on the Chukchi Peninsula, in which in content fundamental changes have already occurred in the ethnos, and the form (of its self-perception and language) remains as before. Such an ethnic position, as indicated above in the general chronology, corresponds to the pre-state and is a transition from the tribe and tribal group to the state.

The formation of territorial ethnic connections in Chukotka was promoted by the fact that the disintegration of lineal connections among the Chukchi (in distinction from the Asiatic Eskimos) occurred before the arrival among them of the Russians. This was evidently the result of wide dispersal in the settling of nomadic reindeer herders, to which authoritative ethnographers point (Shternberg 1933; Vdovin 1948, 1950, 1965; Anisimov 1967).

The spread of reindeer herding in Chukotka was marked by a period of wars, the aim of which

was the capture by the Chukchis of Yukagir and Koryak reindeer herds. In the fortifications on the rocky capes of the sea coast (at Cape Ryrkapii, on Senliun Cliff, and others) or on hills far from the sea (for example, at Lake Koolen') and in places of ancient battles human bones can still be found, as well as the remains of bone armor, points of war arrows, and various other weapons. All these are signs of new relationships between peoples, and are characteristic of epochs of the emergence of military democracy and unions of tribes. In charge of the military campaign of the Chukchis, having united many hundreds of warriors, was usually a leader and commander, the so-called "*kivaiushchii golovoi*" [the nodding head] (Bogoraz 1934). If we follow the terminology of Gumilev, he had undoubtedly commanded by a fair amount of *passionarnost'*, was able to infect others with it and rally around himself flushed heads hungry for booty.

The reader, of course, notes how willingly we use the new idea introduced by Gumilev that connected with social psychology. These ideas are valuable kernels of his remarkably interesting and original concept, though perhaps not everywhere indisputable. In general, I consider that the historical philosopher B. F. Porshnev was quite right in asserting the importance of social psychology, which has been considered seditious for the understanding of historical processes. Social psychology is a very necessary science for the investigation of ethnic history, inasmuch as its essential aspects (in the substrate content of the ethnos) are psychological processes and characteristics. Everything that corresponds to the truth, everything that reflects any aspect of it (regardless of how the concept was engendered), only enriches the picture being obtained with the help of our most general evolving dialectical evolutionary-revolutionary approach, which grasps the essence of the occurrence, in understanding the development of the ethnic phenomenon.

In this respect, from the point of view of social psychology, also deserving special attention is Porshnev's valuable observation concerning the central social-psychological idea "we-they." It is quite evident that intensification in the perception of the Chukchis of the "we-they" dichotomy in their circumstances of military opposition to the ethnic groups surrounding them and their expansion under those conditions played a decisive role in the accelerated formation among them of a new ethnic self-perception. "We," they then considered, are the "*Luorawetlan*,"<sup>15</sup> that is, "real people," while all the remainder (Koryak, Yukagir, and so on) are simply *tan'gi-tan*, that is, aliens [strangers] (Bogoraz 1934). The appearance in Chukotka of the Russians, who with variable success advanced upon them with "weapons in hand" but ultimately were not able to conquer them by force, strengthened still more the ethnic opposition and consolidation of the Chukchi and, as a result, also served in this revolutionary period as a catalyst for their ethnic conformity.

Thus, at the end of the Stone Age - beginning of the Iron Age in Chukotka, the Chukchi advanced, seizing the reindeer herds of the Yukagir and Koryak, forcing them from the favorable pastures. The Chukchi were the single ethnic group (having remained in the pre-state stage) in the Northeast not then submissive to the Russian Empire. The Russians viewed them as being settled in the territory of the Chukchi Peninsula, as well as along the lower Kolyma and Chaunsk Bay in all the present-day Chukchi districts (which is now the Republic of Chukotka). This rash expansion and consolidation of an arising state, as it were, presaged the birth of a new people, a new northern civilization. Its dawning had been initiated, but it did not result in a sunrise. The Chukchi and Eskimos of Chukotka became peoples later - after more than two centuries, now with Soviet rule and perhaps only formally. They arrived at such a state by a contorted, so-called non-capitalistic course, and their new politicized "social" self-perception became the official form of the state that had already been formed.

In spite of all the twists in the historic fate of the Chukchi and Eskimos of the Chukchi Peninsula, the base of their ethnic and cultural development was and remained their primitiveness, their prolonged relationship to the Stone Age. But then they did not simply personify primitiveness and primitive backwardness. They were rather a culture highly adapted to the severe conditions of the north,

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<sup>15</sup>Luorawetlan is a language family that includes Chukchi, Koryak, and Kamchadal, according to *Webster's Third New International Dictionary*. - *Trans.*

separate and unusual, and, in the broad cosmic understanding, even a civilization in the highest idea, as distinct from the newest class-related and city civilizations - not in conquest, intensive industrial-agricultural development, and therefore the destruction of nature by means of unrestrained technological progress, but primarily in the perception of the spirit of man, in his harmonic union with nature. The priests of such human utilization of the world were shamans, and shamanism, based in complete animism, became the most treasured knowledge about living nature, man, his spirit, and about their total cosmic participation.

Something of the archaeological evidence of this primitive spiritual life of early Chukotka has been found. For example, there are splendidly exotic Neolithic figures (petroglyphs), carved in the cliffs of the polar Pegtymel' River (Dikov 1971), and the remarkable mysterious symbolic graffiti of this same time on slate slabs from the Rauchuagytkhyn River (Kir'iak 1985, 1991), and on the Chukchi Peninsula itself. The latter are clear, though sketchily drawn, figures on a stone slab of the mysterious mythological subject of the pursuit and devouring of a waterfowl that is attempting to fly up by some monster of the underworld - a serpent or simply an aggressive beast of prey - a representation that is complex and controversial (Fig. 120). But the search is fascinating, and unexpected discoveries here at the juncture of Asia and America are still to be made and many questions still to be cleared up.



## CONCLUSION

Our new archaeological materials, acquired through preliminary survey, result, based on their designation, in diverse conclusions of historical character.

There still remains the insoluble problem and great riddle of clarification of the time of the earliest presence of man in extreme Northeast Asia, and the initial settling of the American continent from there. However, some evidence has already been obtained. Unfortunately, it is not always sufficiently substantive - I have in mind the sites of Kus'iuveem IV (90) and VI (92) and Kym`nyanonvyvaam IX (99), XII (112), and XIII (113) on the Chukchi Peninsula - which might possibly be assigned to pre-Upper Paleolithic times, which in some measure correspond to the earliest and most insufficiently confirmed sites in America. With this data, my position (Dikov 1981, 1985) and that of other archaeologists - in particular Bryan (1978, 1984) and Meltzer (1989) - who concede the possibility of the penetration of man into America through Beringia as early as the stage of Paleanthropos, that is, significantly more than 40,000 years ago, is somewhat strengthened. The discovery in Yakutia by the Magadan geophysicist P. S. Miniuk (SVKNNII DVO RAN) of the Diring-Yuriakh site, in which Yu. A. Mochanov then discovered and investigated possible Lower Paleolithic artifacts, also increases the chances of significantly earlier (than quite recently believed) settlement of extreme Northeast Asia, Beringia, and America.

The following Upper Paleolithic migrations of tribes and tribal groups through a Beringian land to the American continent now appear to be more definite. In light of recent investigations of Upper Paleolithic sites in northern China (Dziachuan', Dzuguan, and others) with wedge-shaped cores the significantly later age of the Diuktai culture in Yakutia (not 35,000 to 12,000 years, as Mochanov suggests, but maximally 18,000 to 12,000 years) was finally corroborated. And after careful investigation of wedge-shaped cores of the Denali culture in Alaska and discoveries there of the Nenana complex, which precedes the Denali and is entirely without wedge-shaped cores, it became clear that the Diuktai culture is not quite involved in the initial settlement of all America, or even of Alaska.

A stage older than Diuktai in the Northeast is the Early Ushki culture, without wedge-shaped cores and with stemmed biface points. The latter are also known in Northeast Asia at the late Paleolithic El'gakhchan site on the Omolon River discovered by R. A. Kir'iak (Kir'iak 1991). A similar stemmed point was found on the Chukchi Peninsula at the Ul'khum site, where it can perhaps be assigned to the early component, to which the possibly even earlier sites of Marich I (166), II (167a), and III (167b), Igel'khveem XVI (131), and Chel'kun II (39) can be retrospectively connected. In Alaska a fragment of a stemmed point was found by H. Larsen at Trail Creek Cave in a layer dated to approximately 13,000 years. In ice-covered late Pleistocene America in general the stemmed points similar to those from Ushki are assigned to a somewhat later time (approximately 11,000 to 10,000 years ago). This determines the direction of distribution of this technological tradition in the New World from Northeast Asia.

The subsequent late Paleolithic migration from Kamchatka and Chukotka was most convincingly confirmed as a result of research on the Chukchi Peninsula. The late Paleolithic sites closest to America with wedge-shaped and end cores turned out to be here: Kurupka I (16), Ul'khum (1), Chaatam'e I (22), and Kym`nyanonvyvaam VII (107), VIII (108), and XIV (114). They are defined by the Beringian tradition and rather reliably fix its advance from the south by a Pacific Ocean route (indicated by the presence in the Ushki sites and Ul'khum (1) of boat-shaped cores) first in Kamchatka and the Chukchi Peninsula, then, no earlier than 10,500 years ago, in Alaska. This is possibly how the distant ancestors of the Athapaskan Indians (Na-Dene) appeared in the northwest of North America, which corresponds well with the three-stage odontological scheme of the settlement of America by C. G. Turner (Turner 1983, 1987).

The late Paleolithic or early Mesolithic campsites of Puturak (4), Itkhat IA, IB, IC, IE (3), Itkhat II (2), and Tkachen (5), found near Cape Chaplino and which probably mark various early stages of a tradition that can be called Puturak, are assigned to a quite different and probably somewhat later ethnocultural tradition.

The Puturak archaeological material is very distinctive and is essentially different from, for example, the unifacial Sumnagin, in the Yakutiya territory. The lamellae are of significantly coarser workmanship, and there is a complete lack of burins. At the same time, as was noted above, the culture is technologically and compositionally very reminiscent of the complex of artifacts assigned to 10,000 to 8,000 years ago at Point I of the Gallagher Flint site (on the north slope of the Brooks Range in Alaska) where there are also no bifaces or burins and all the tools were made from blades and small lamellae of calcareous argillite. This complex is probably genetically connected with the later Mesolithic Anangula site (in the Aleutian Islands), which permits interpreting Puturak as the probable initial link in the distribution from Chukotka to America of the most important cultural component in the formation of the earliest maritime proto-Eskimo-Aleut culture of Beringia, ultimately including proto-Aleut Anangula.

Another initial component in the formation of this maritime Beringian culture in its proto-Eskimo variant is represented on the Chukchi Peninsula by the Mesolithic sites with a more delicate microlithic technology: Chel'kun IV (38), which dates to  $8150 \pm 450$  B.P.; Likvylenveem (12); and Chel'kun VIII (35). Many sites (about 150) of the late period of the Stone Age were discovered on the eastern Chukchi Peninsula. These include non-ceramic Early Neolithic: Koolen' III (155) -  $6800 \pm 300$  B.P. and Getlianen I (162); Middle Neolithic with thin-walled grooved ceramics - Terkemkyn (26) -  $4580 \pm 40$  B.P., Karytkin (21), and others; as well as a large number of Late Neolithic sites with smooth-walled, fluted, and more rarely waffle-marked ceramics, in particular, Kurupka II (15) -  $2310 \pm 40$  B.P., and Utaatap II (159) -  $2840 \pm 400$  B.P.; and Remnant Neolithic, in two of which - Utaatap I (158) and Igel'khveem VII (139) - were inscriptions depicting a water fowl (159) and a tent (139). This argues for a relatively dense settlement of intra-continental territories of the peninsula in the Neolithic, which for a long time has been considered unpopulated owing as it were to the lack of reindeer pastures there. The tribes and tribal groups of the ancestors of the Chukchi and Eskimos lived here, and in many of their sites signs of cultural connections with Alaska were revealed.

Characteristic for the later stages in the history of the peninsula is a sharp reduction in number of sites and the appearance of so-called *paliakvyny*, the remains of burials of Chukchi reindeer herders.

Thus, here at the entrance into America, some new and rather definite features of the distant past of the early population, which played at first the historical role in America's initial settlement, are then brought to light, followed by America's development of intensive cultural contacts.

However, between the sought-for truth and the exhaustive questions of the author, there still stand many unresolved problems. This sets us in the spirit for new archaeological investigations.

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APPENDIX 1. PLATES 1 - 109: ARTIFACTS

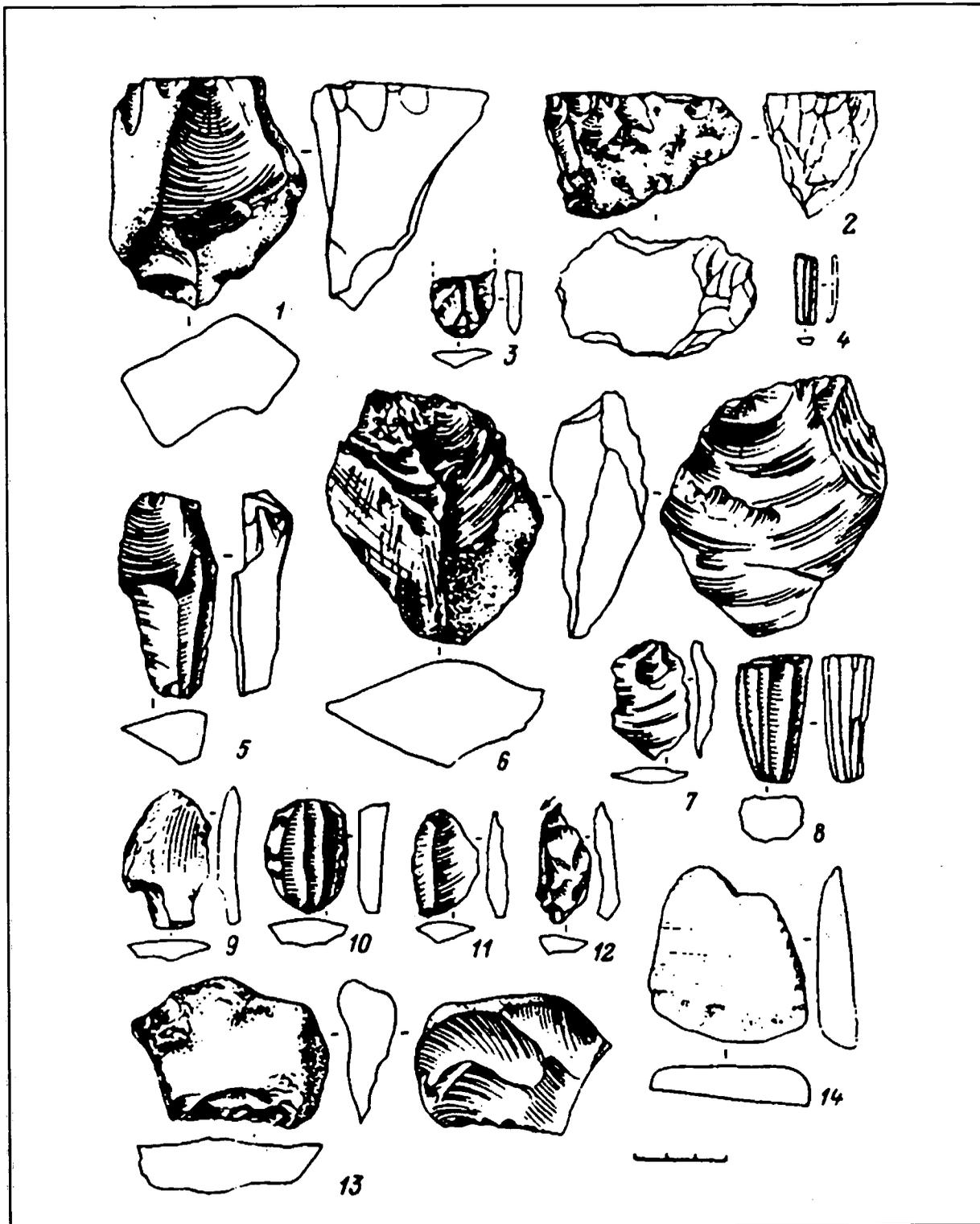


Plate 1. Stone artifacts (cores, flakes, burin and scrapers) from the lower layer in the excavation at the lower Ul'khum site (1). The number in parentheses in this caption and the number in the plate captions that follow correspond to site numbers on the map (Fig. 2) and on the index to the map (Appendix 2).

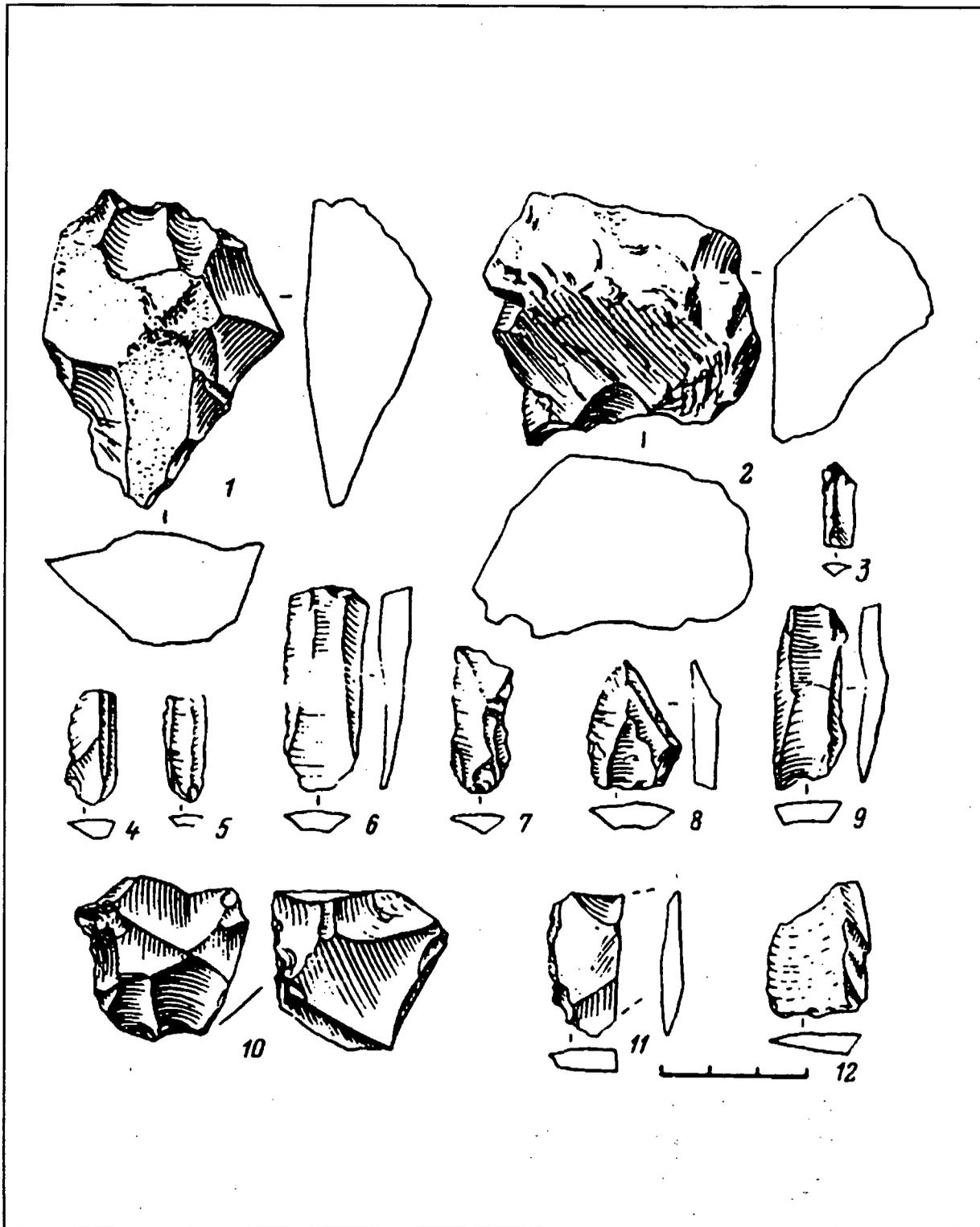


Plate 2. Stone artifacts from the lower layer in the excavation at the lower Ul'khum site (1), 1985.

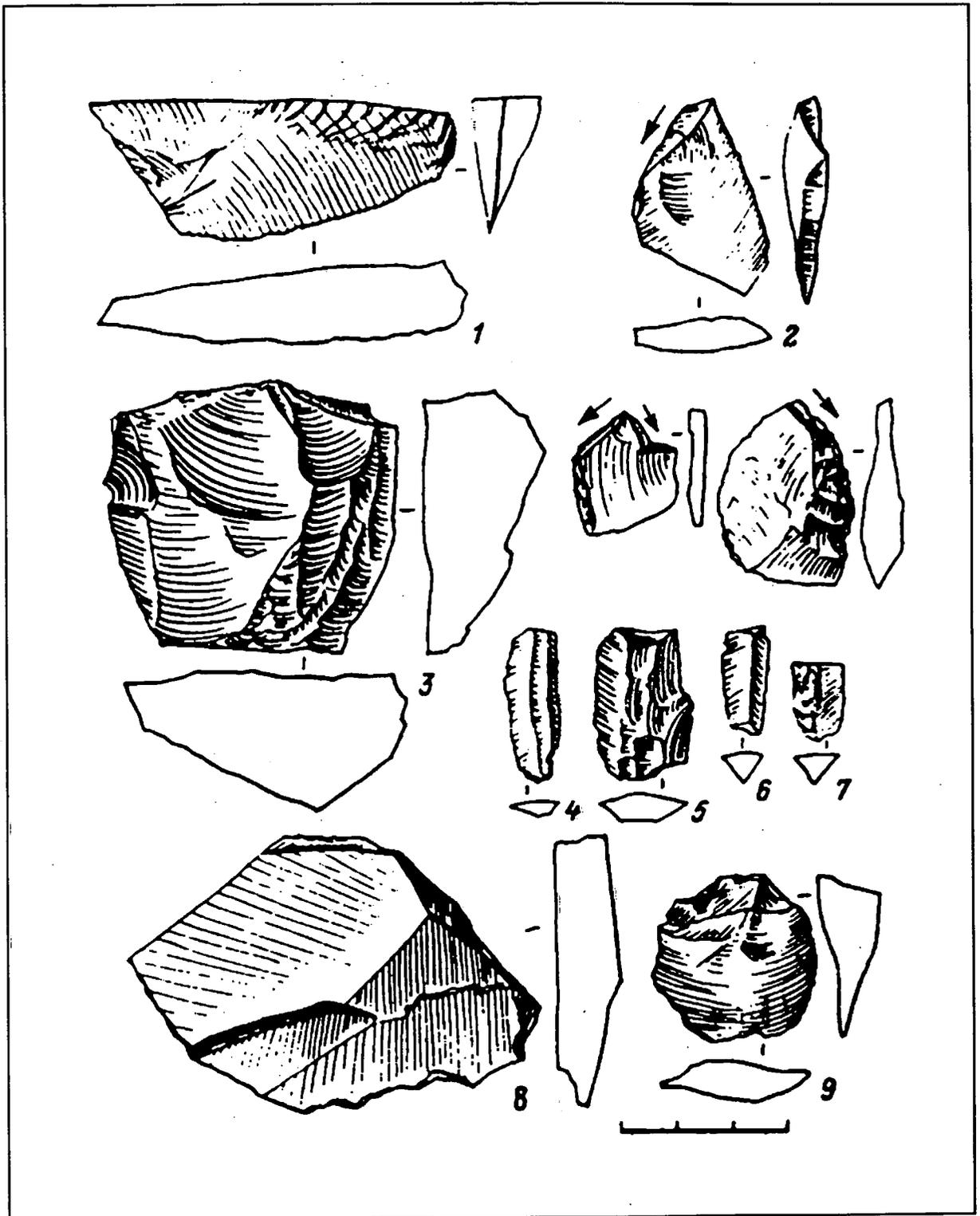


Plate 3. Stone artifacts from the excavation at the upper Ul'khum site (1), 1982.

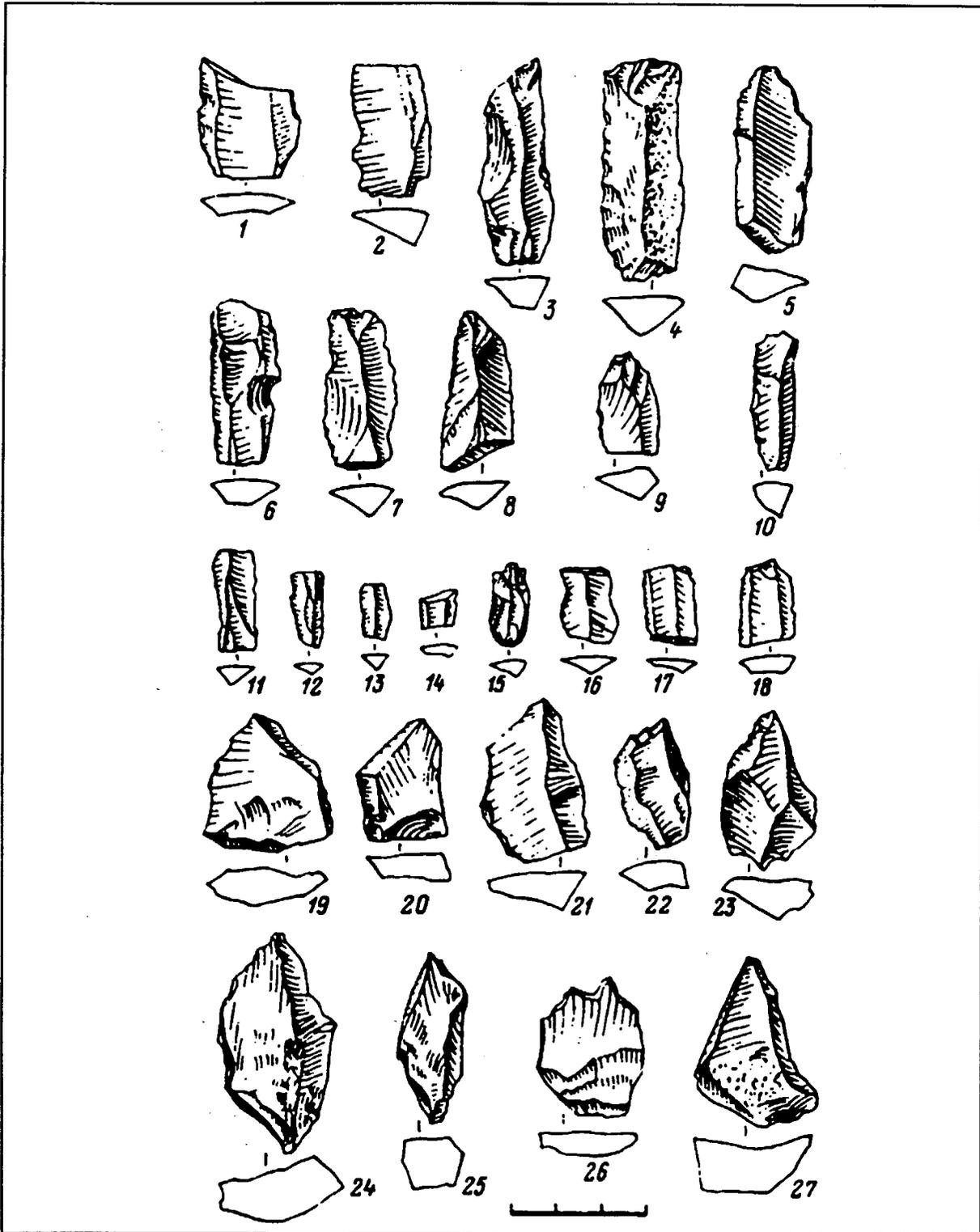


Plate 4. Knife-like blades and flakes from the Ul'khum site (1), 1981.

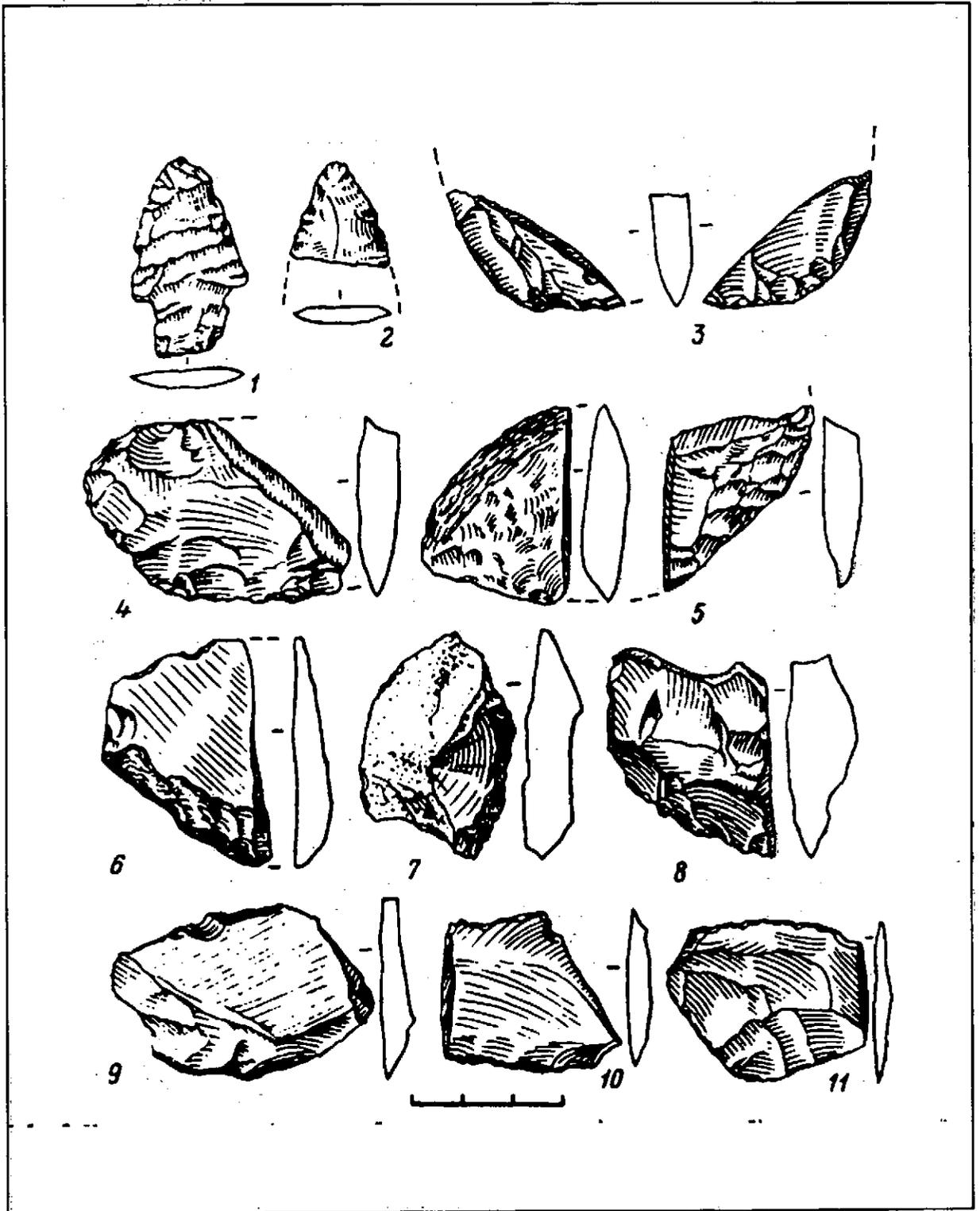


Plate 5. Stone artifacts (stemmed arrow point and fragments of knives) from the Paleolithic U'khum site (1), 1981.

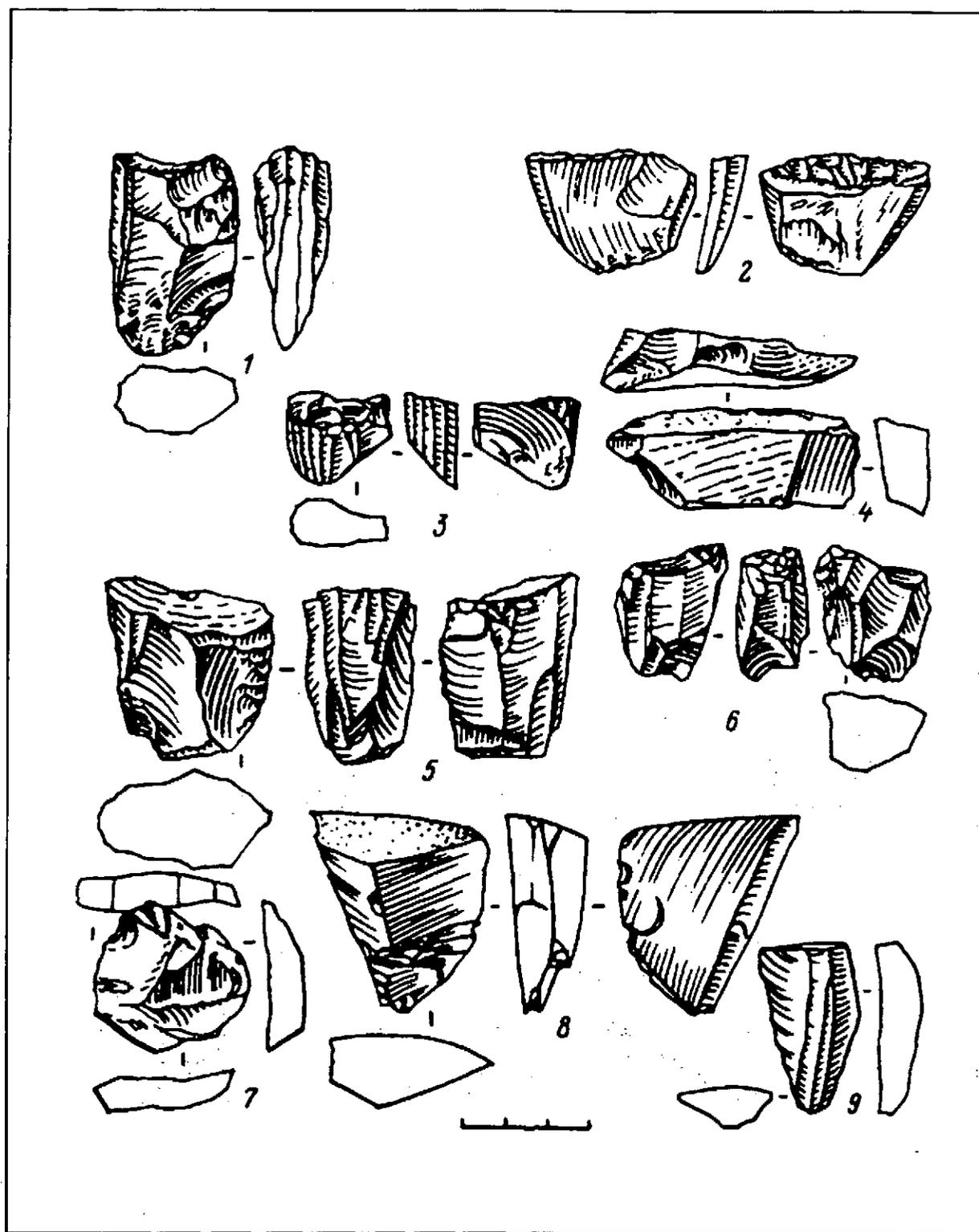


Plate 6. Cores (in the upper row - end and wedge-shaped) and spalls from them - Ul'khum (1), 1981.

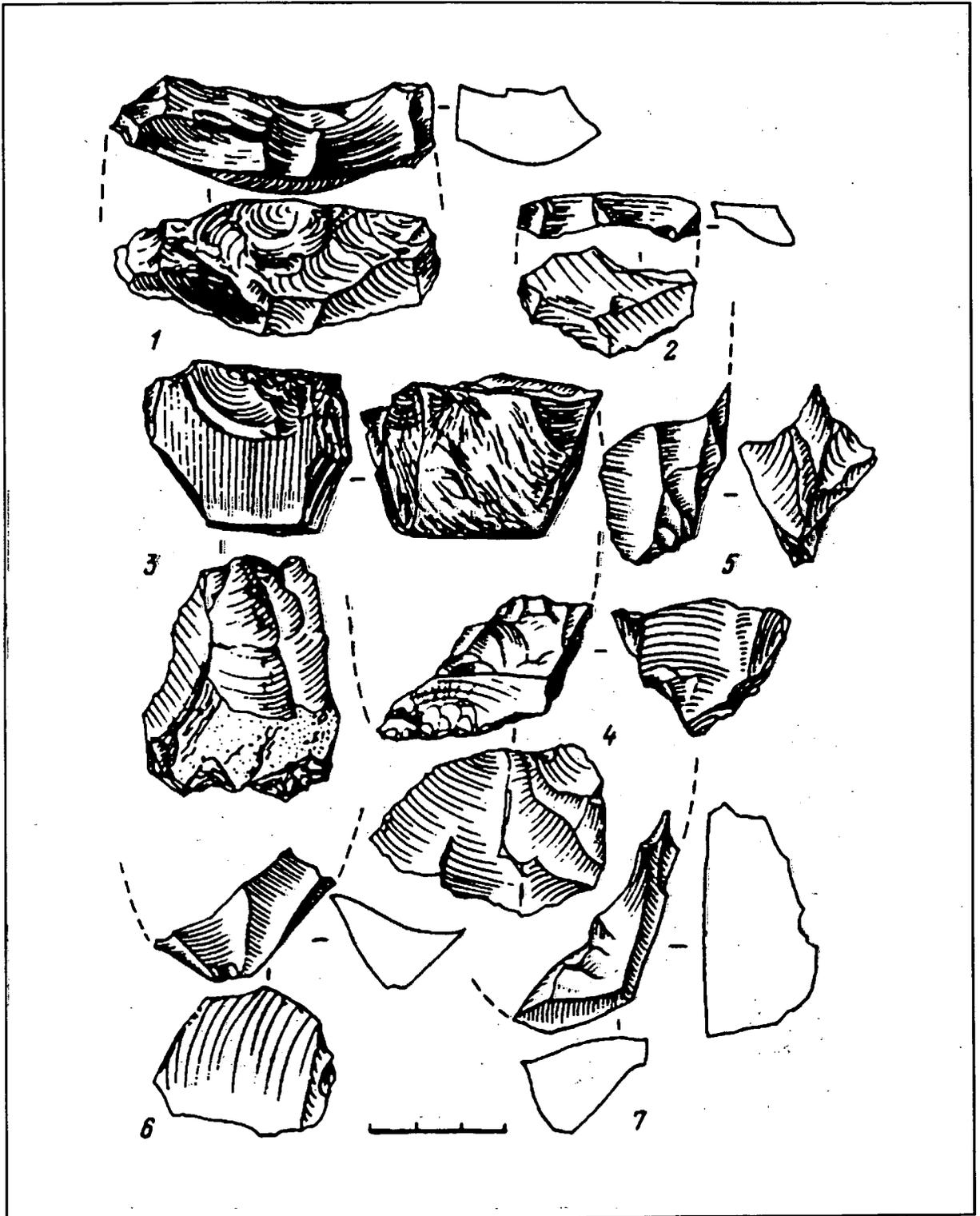


Plate 7. Spalls from cores - Ul'khum (1), 1981.

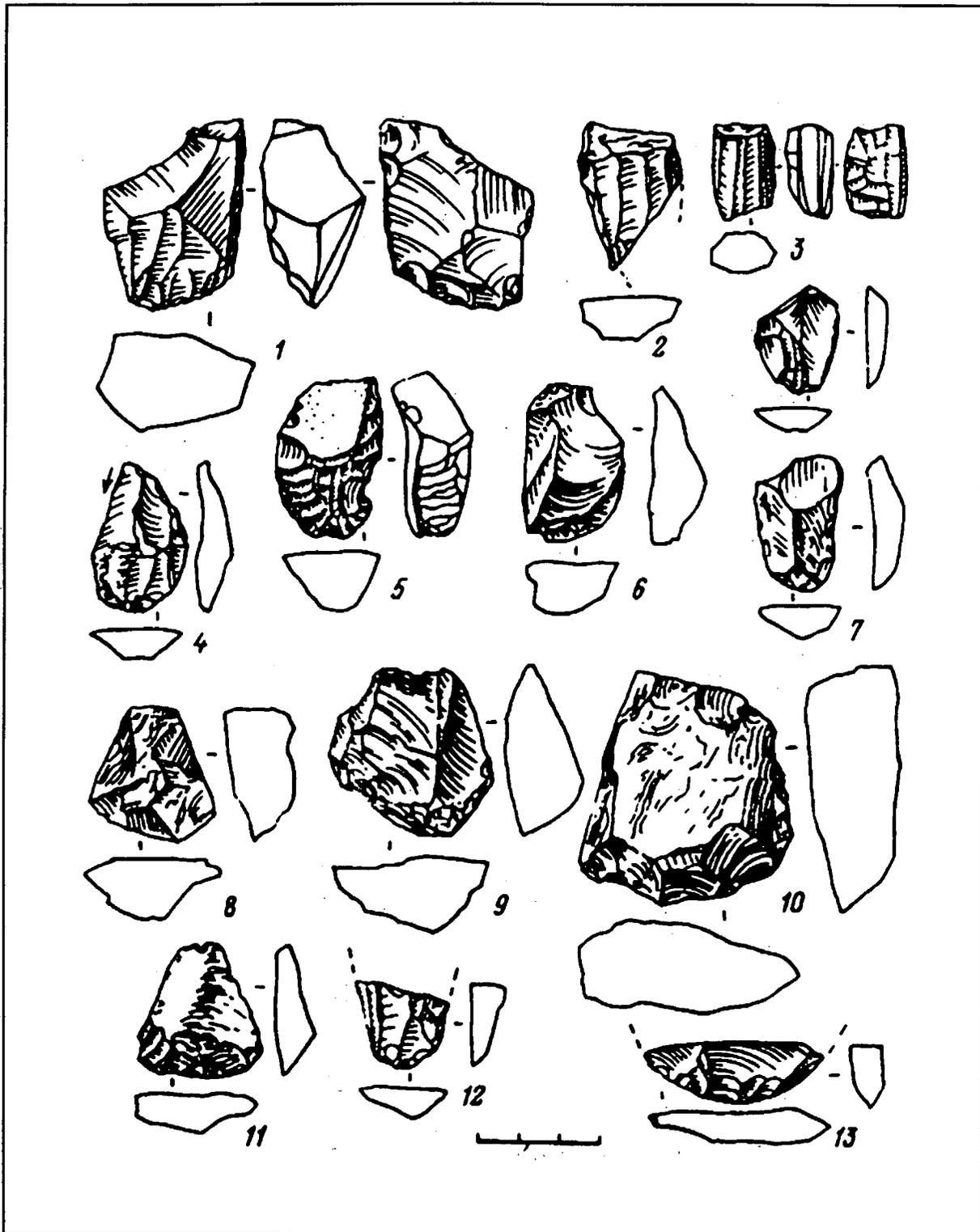


Plate 8. Cores and scrapers - Ul'khum (1), 1981.

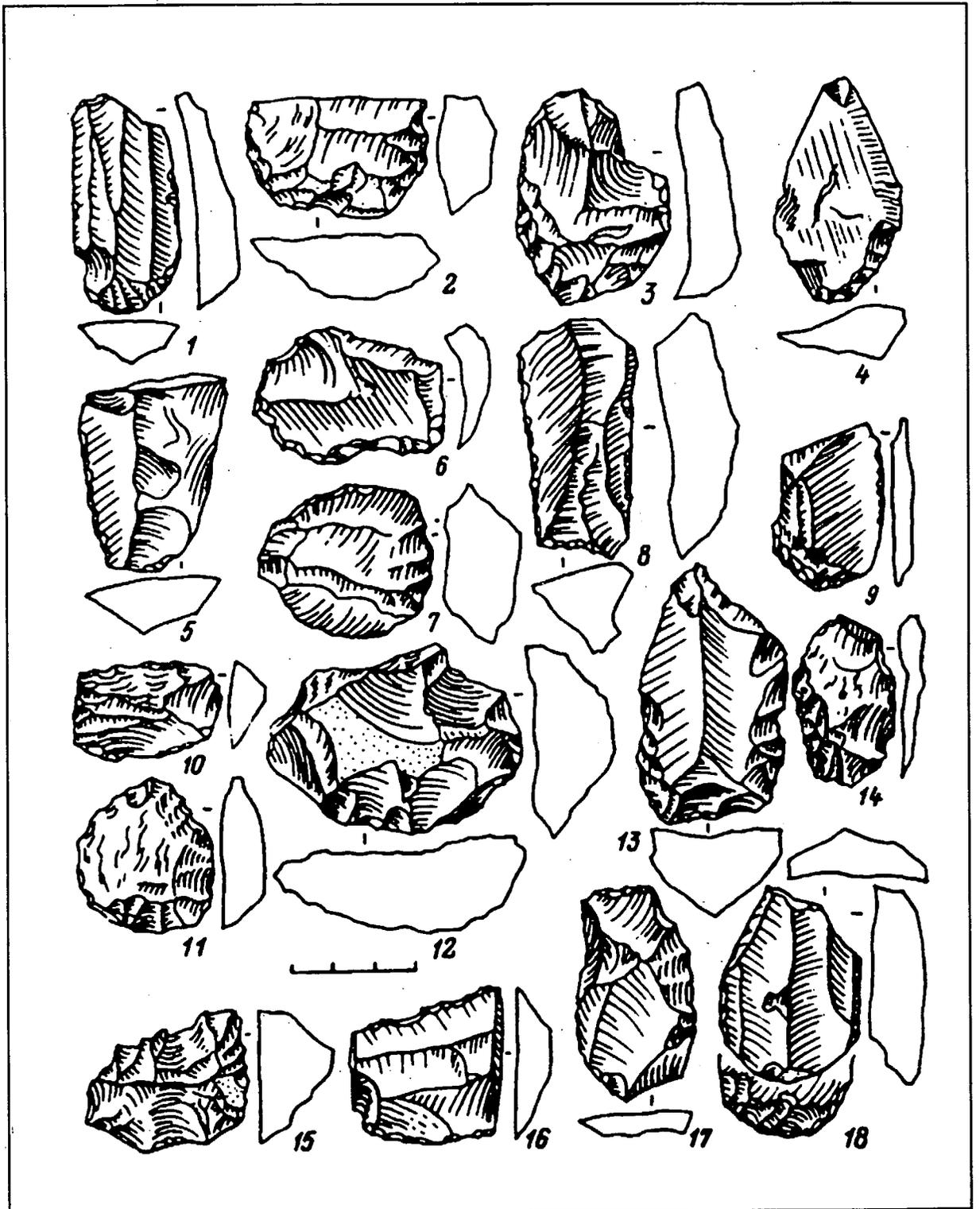


Plate 9. Scrapers and knives - Ul'khum (1), 1981.

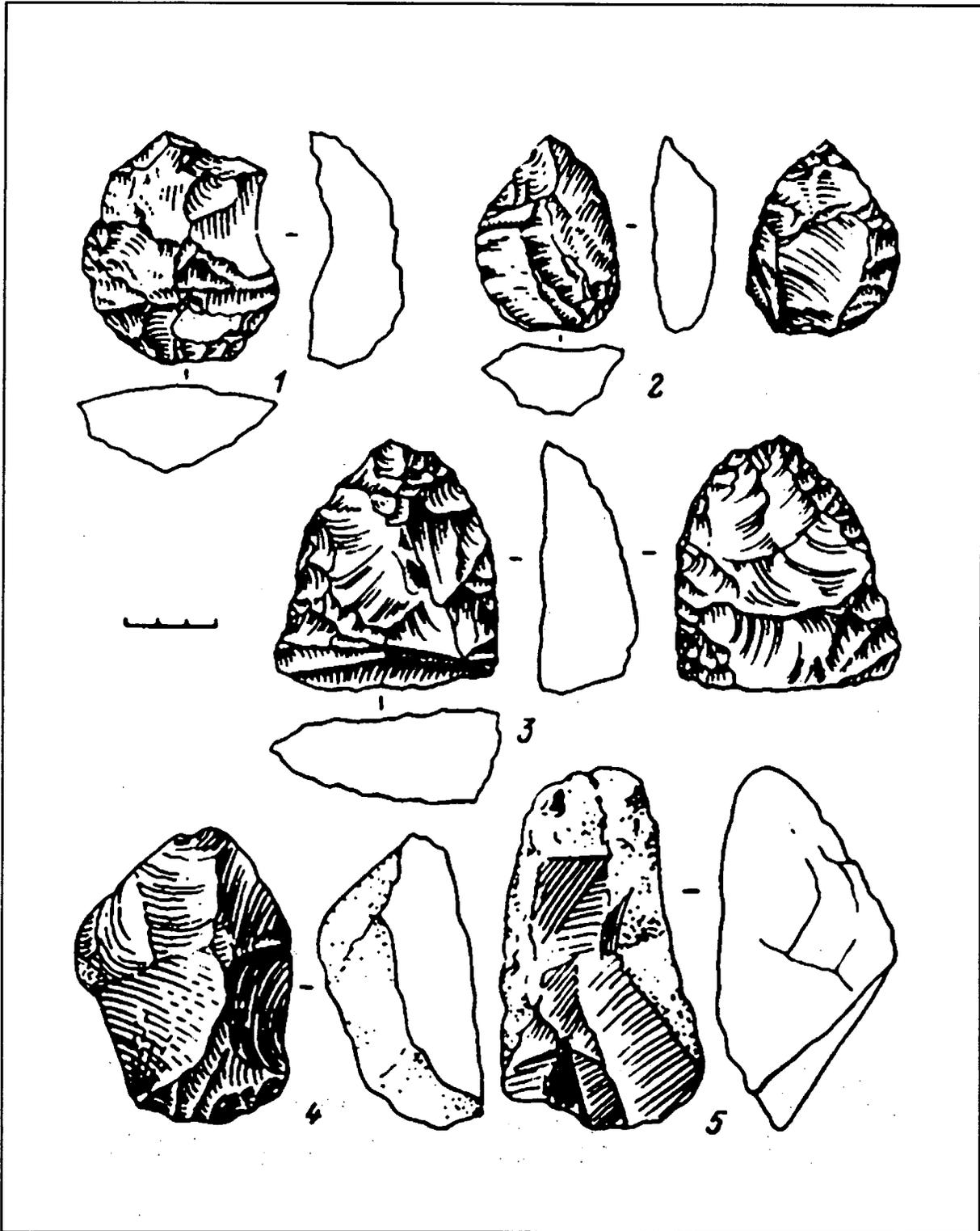


Plate 10. Stone artifacts - Ul'khum (1), 1981.

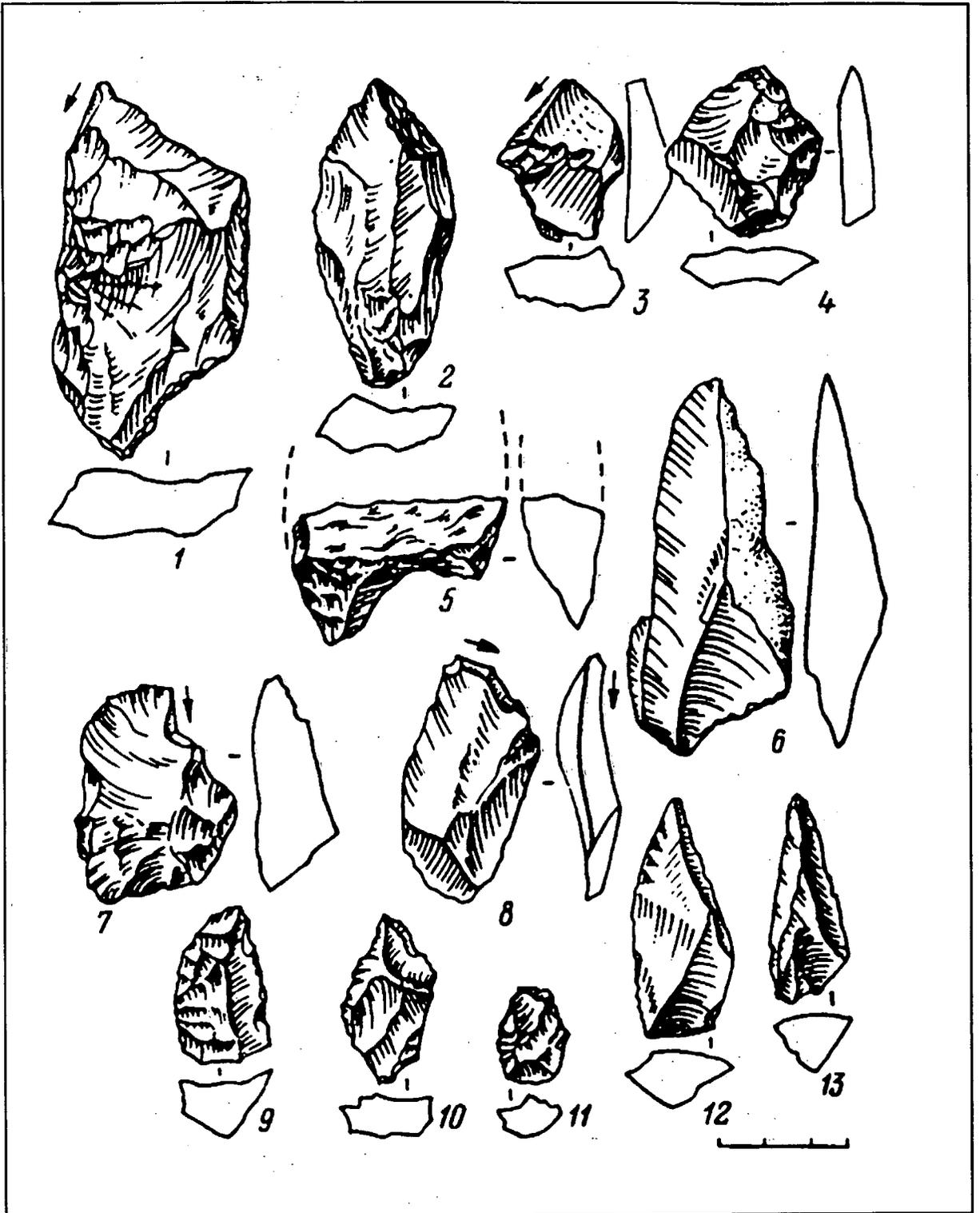


Plate 11. Gravers - Ul'khum (1), 1981.

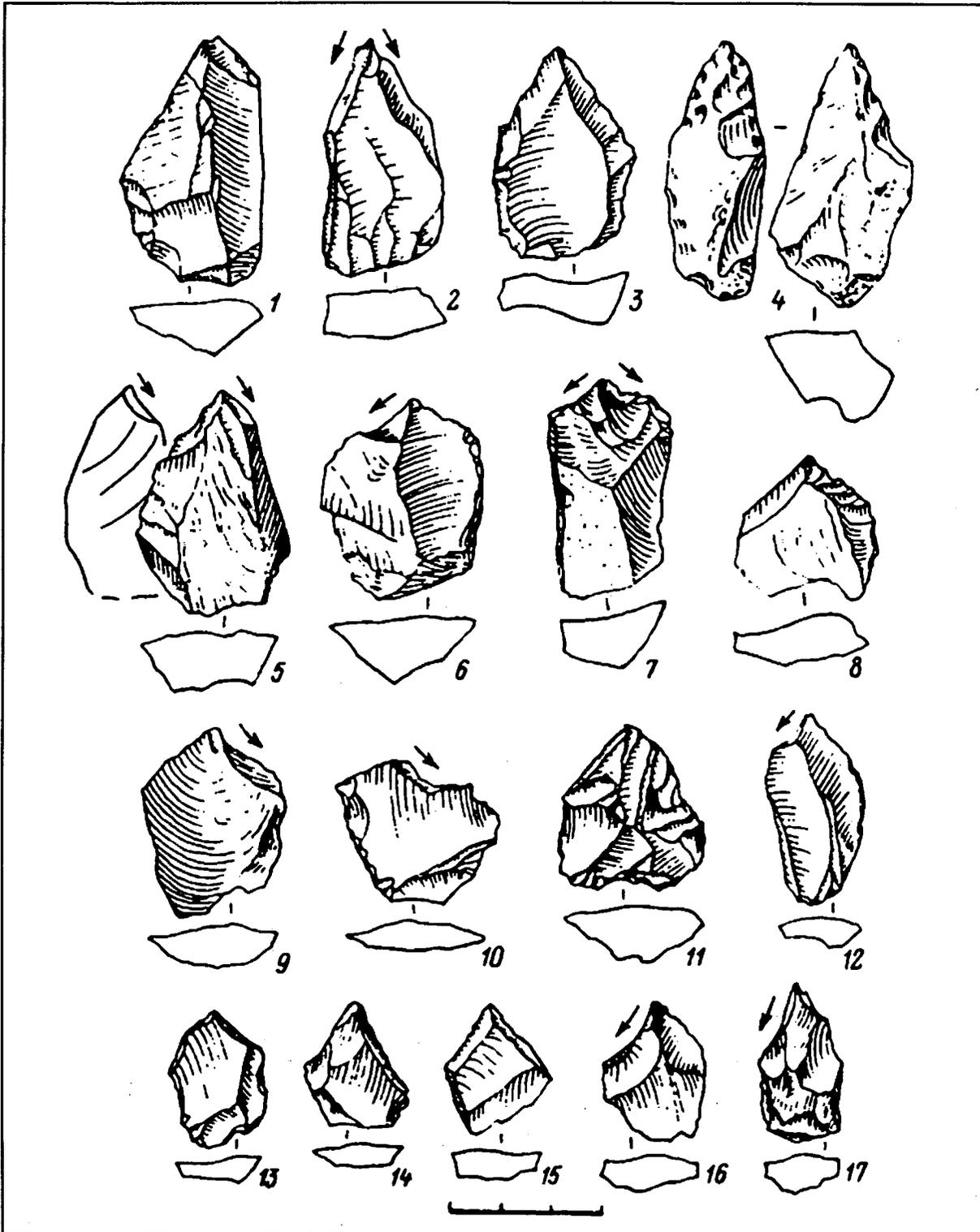


Plate 12. Burins and graters - Ul'khum (1), 1981.

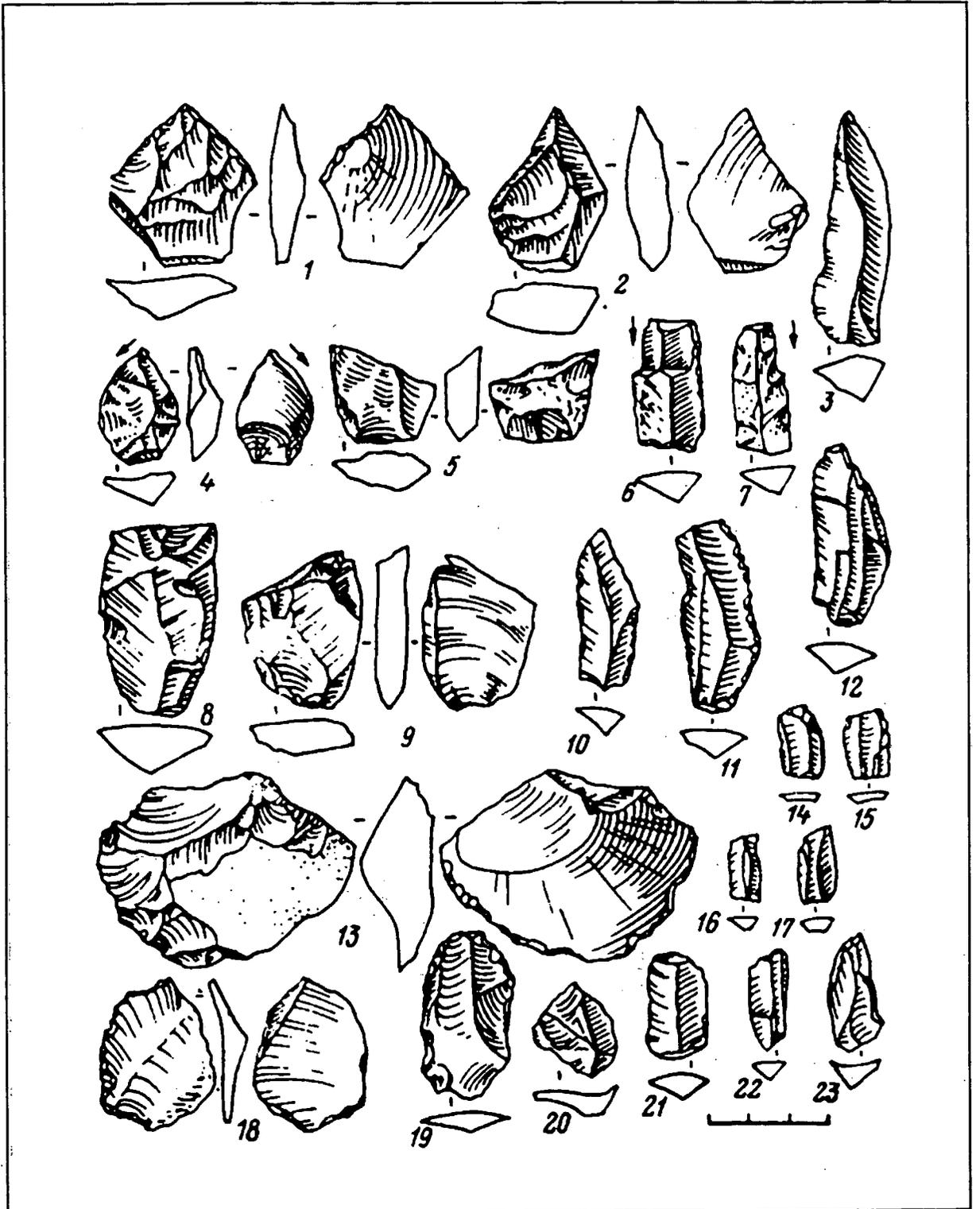


Plate 13. Stone artifacts - Ul'khum (1), 1981.

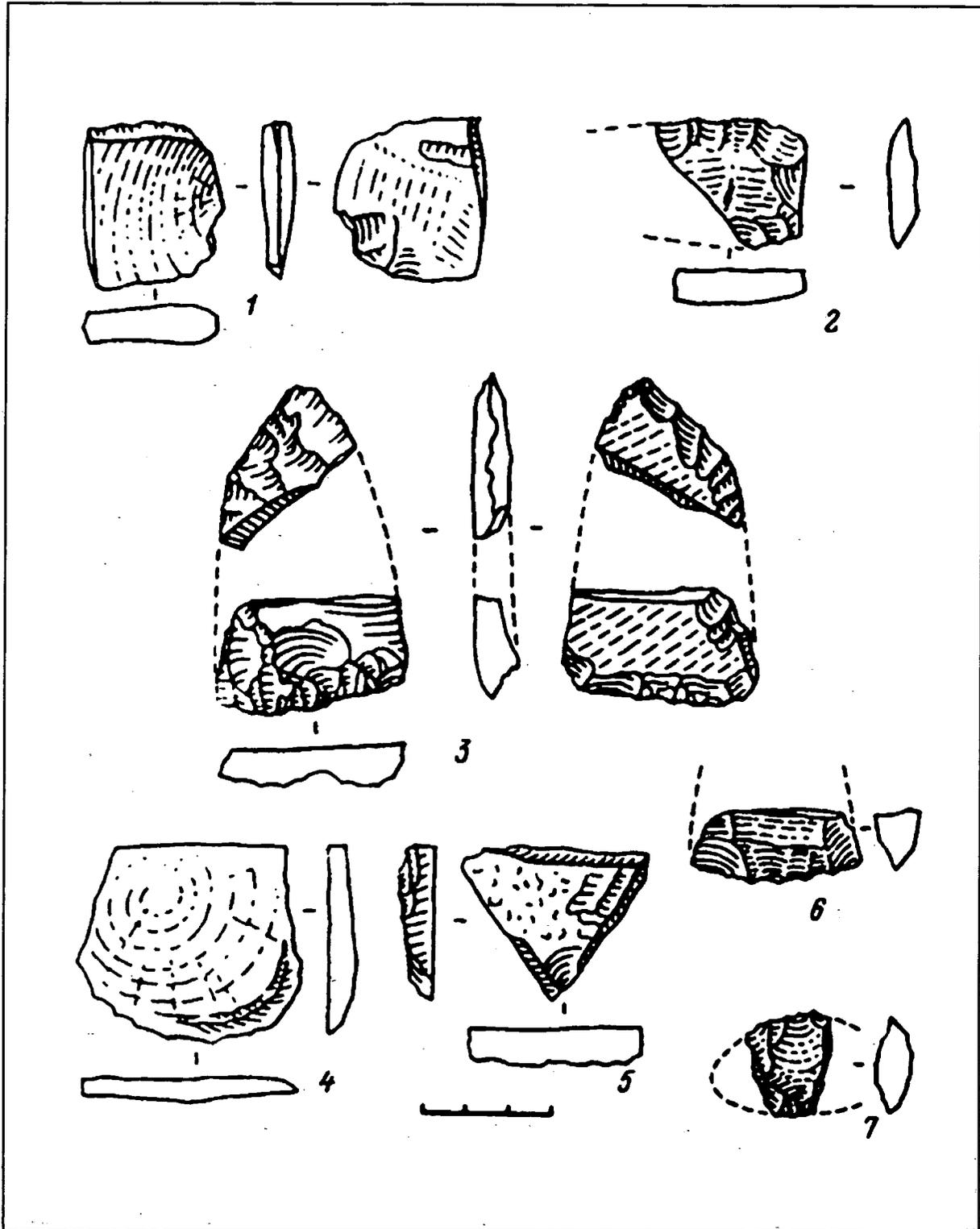


Plate 14. End core (1), fragments of knives (2, 7), and scrapers (3-6) from the excavation at the Paleolithic Kurupka I site (16), 1979.

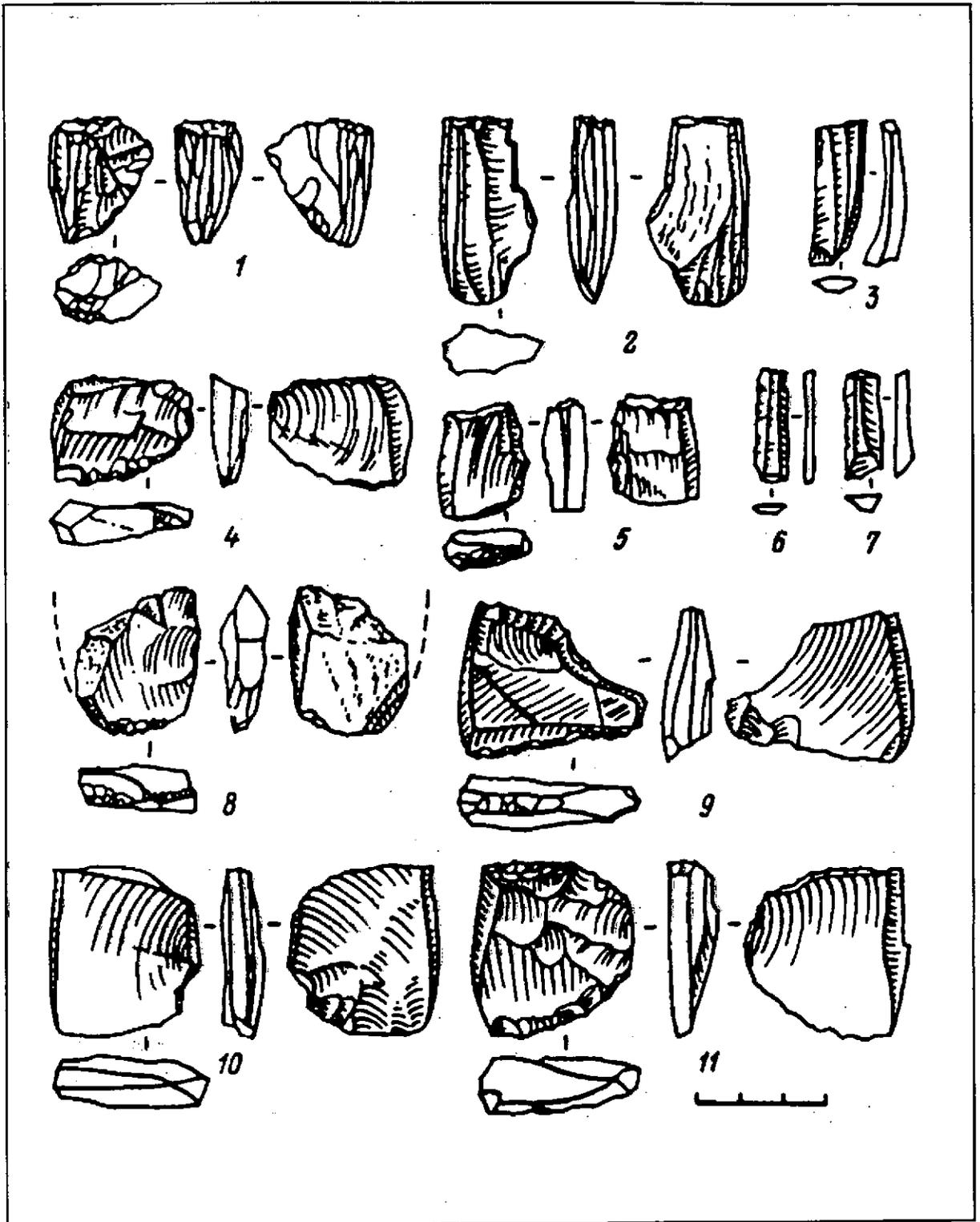


Plate 15. Wedge-shaped (and end) cores and blades struck from them from the Paleolithic Kurupka I site (16), 1979.

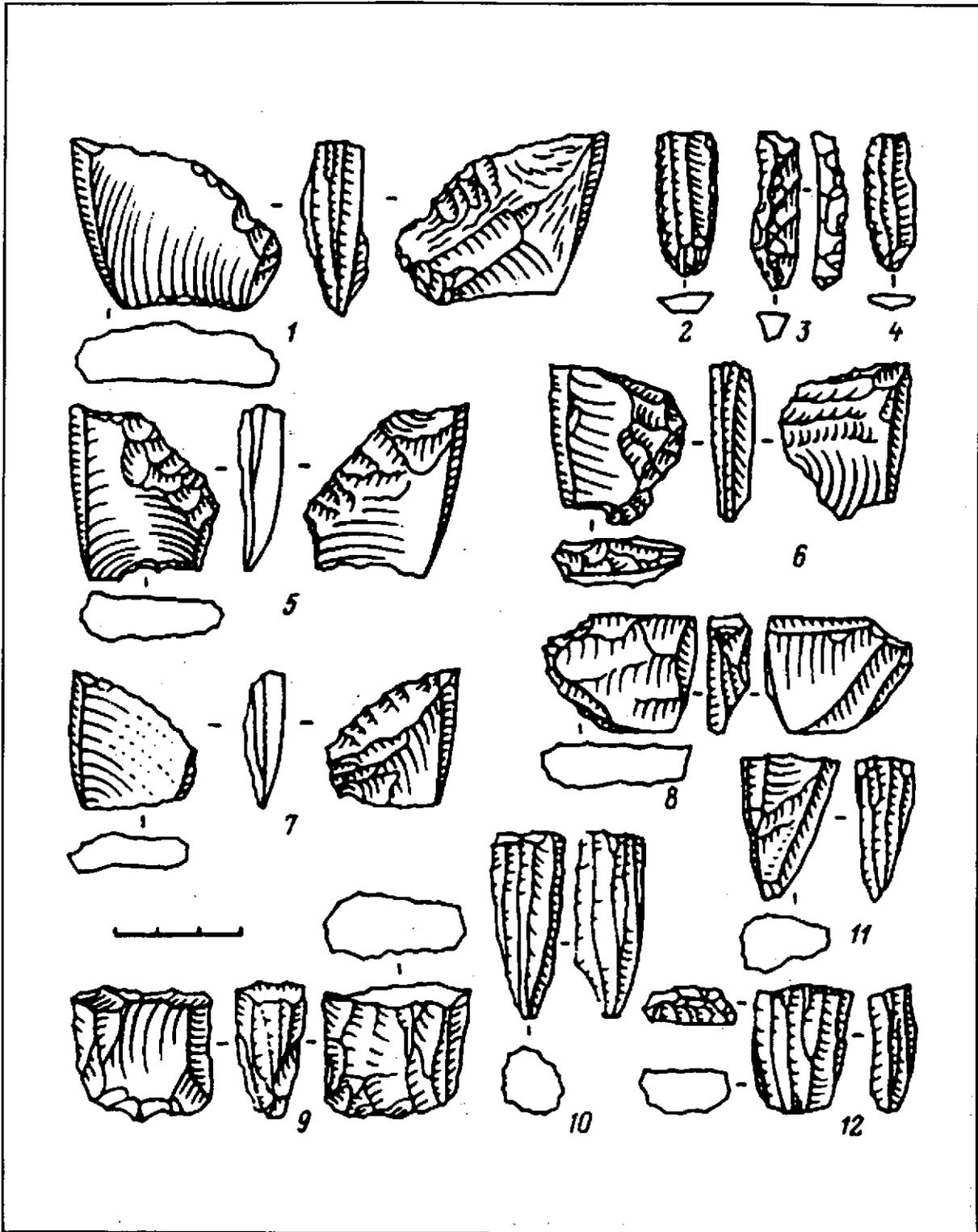


Plate 16. End prismatic and conical cores from the Kurupka I site (16), 1979.

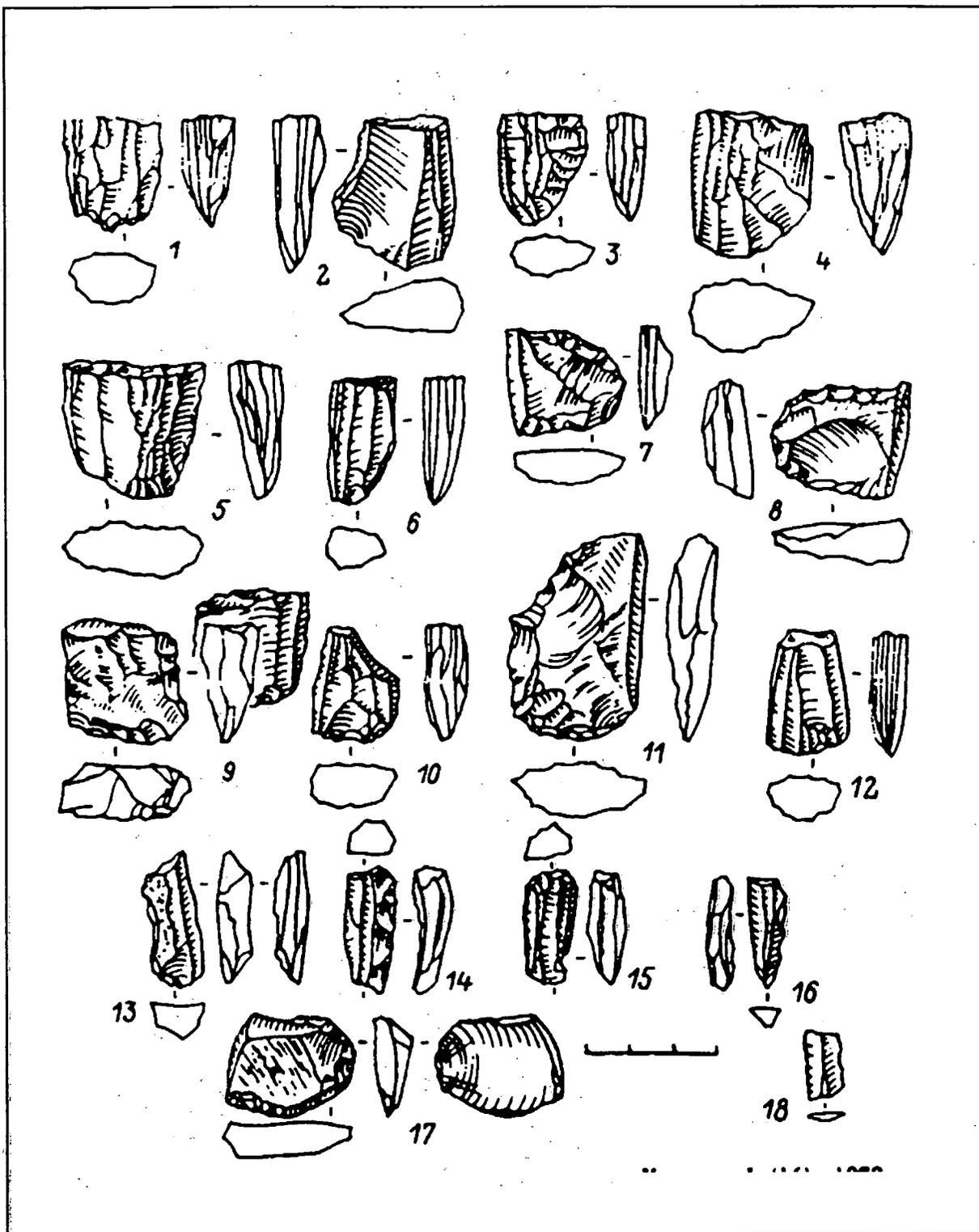


Plate 17. End and prismatic cores - Kurupka I (16), 1979.

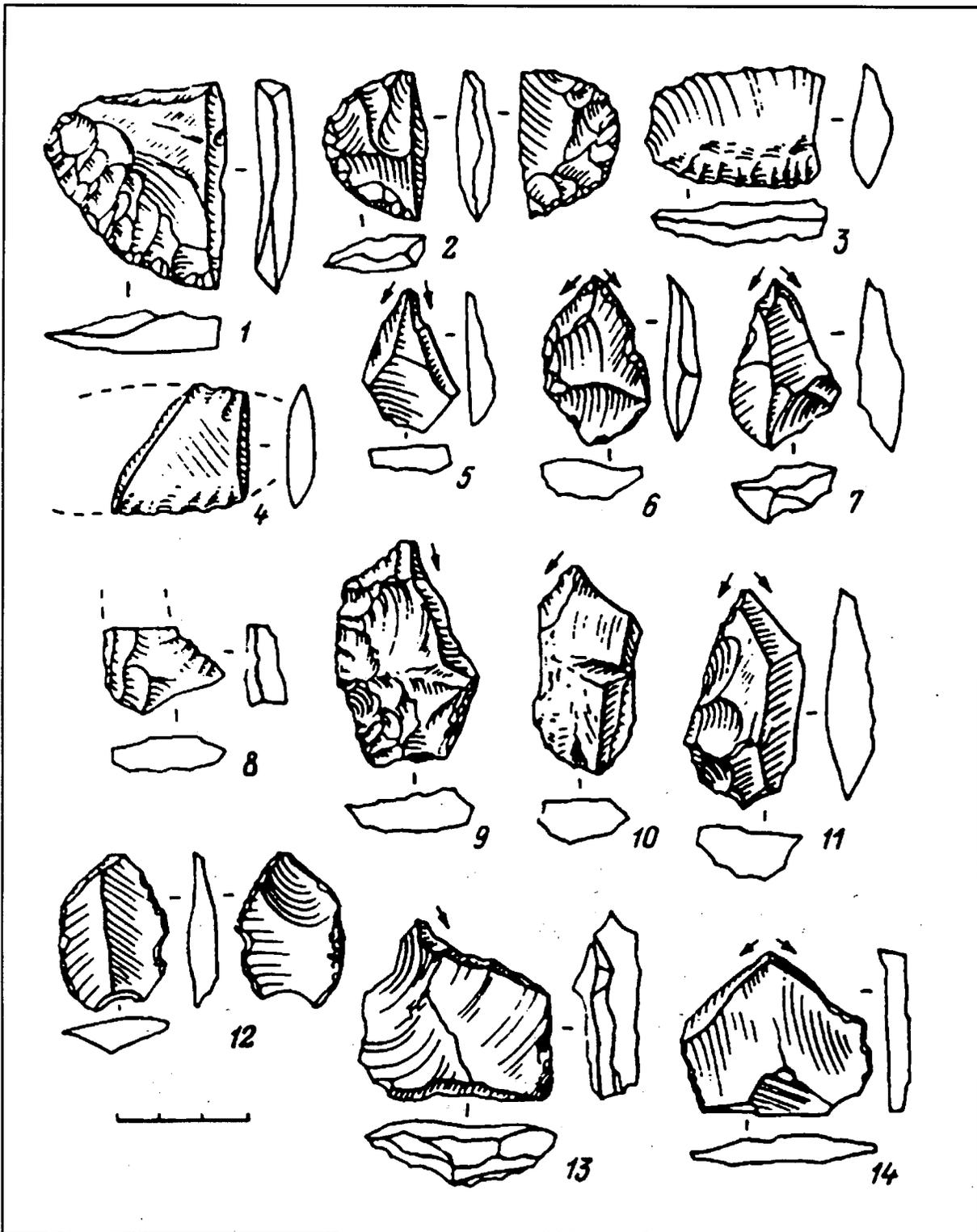


Plate 18. Burins and fragments of knives - Kurupka I (16), 1979.

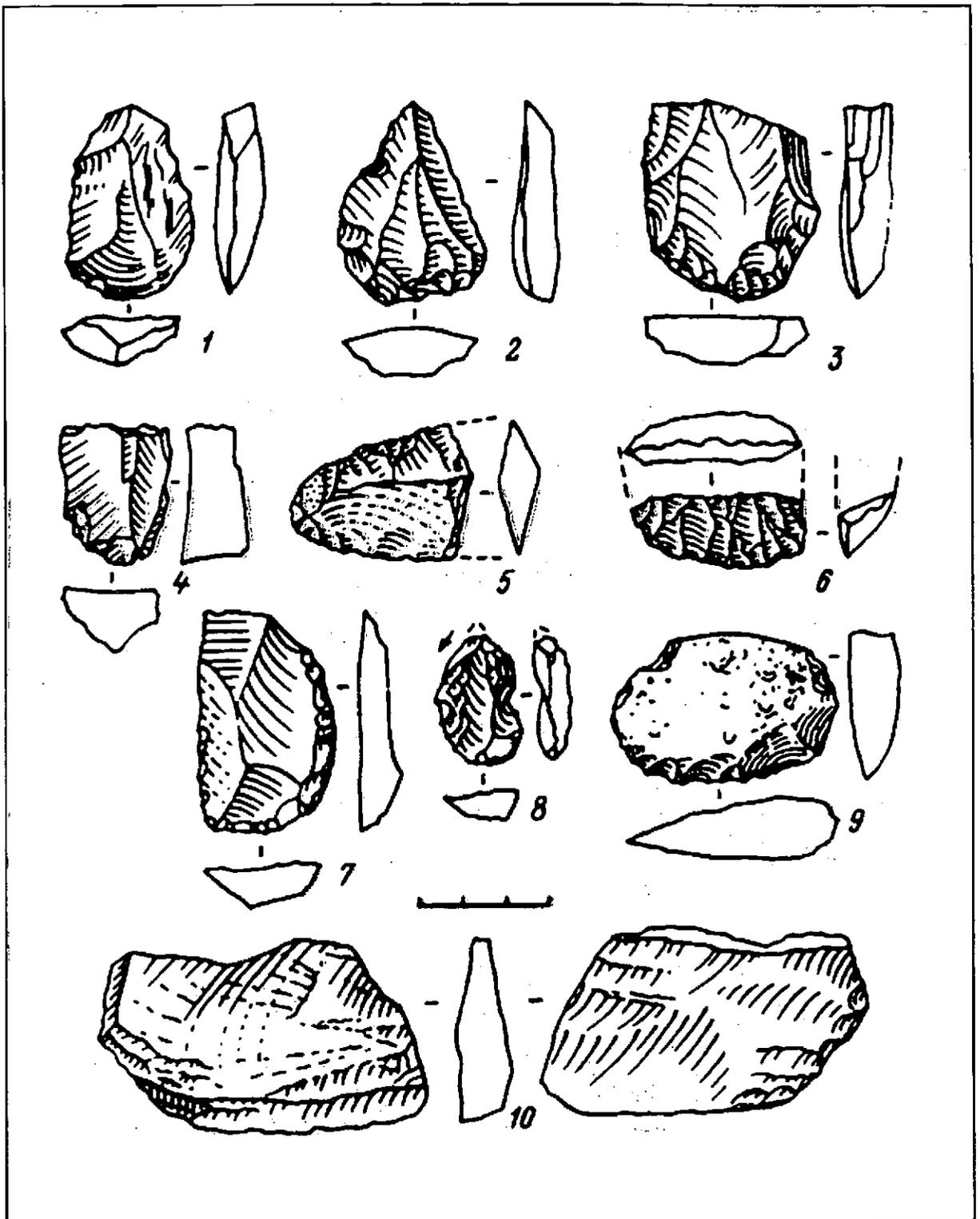


Plate 19. Stone scrapers - Kurupka I (16), 1980.

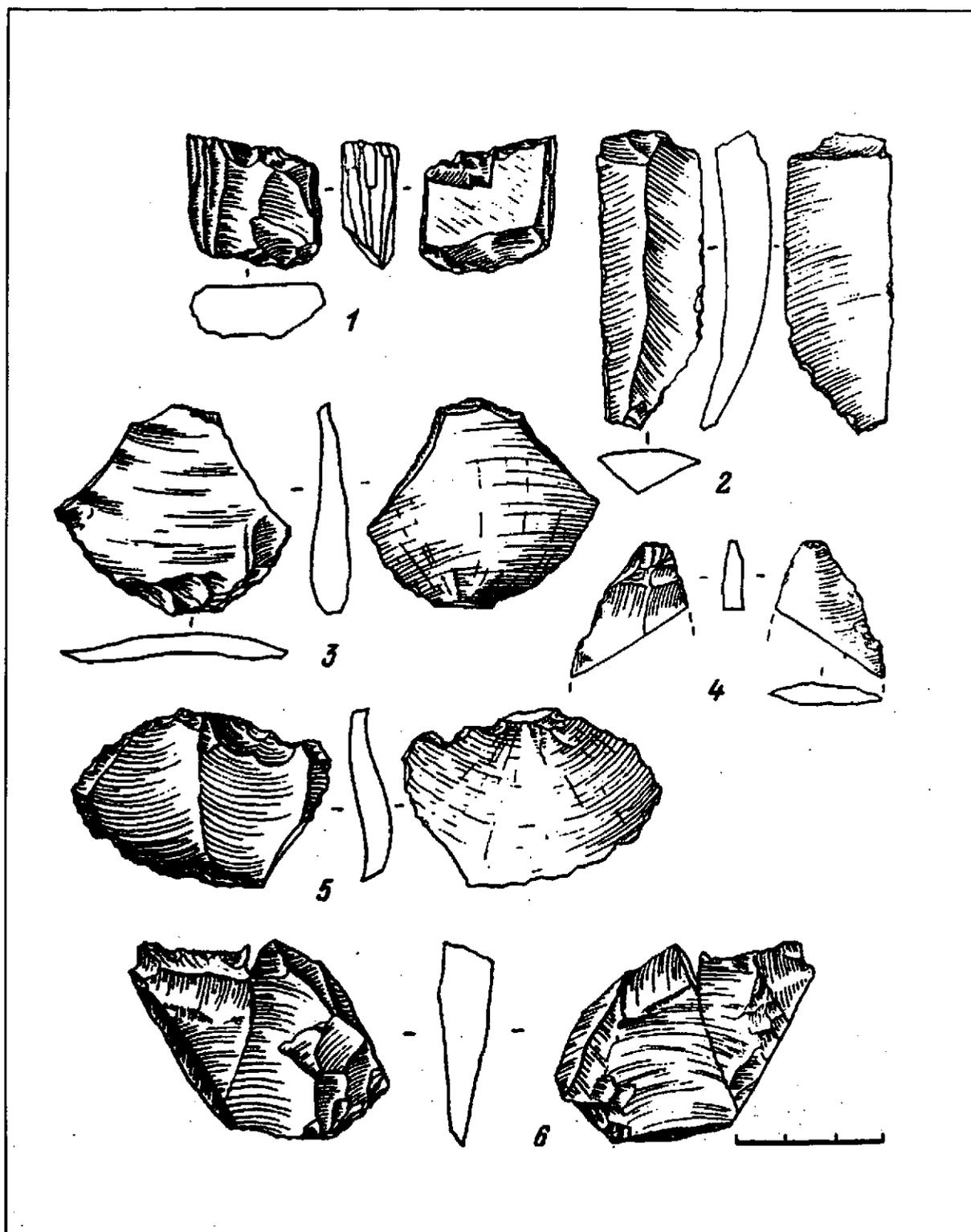


Plate 20. Stone artifacts (upper left - end core) from the Paleolithic Chaatam'e I site (22), 1982.

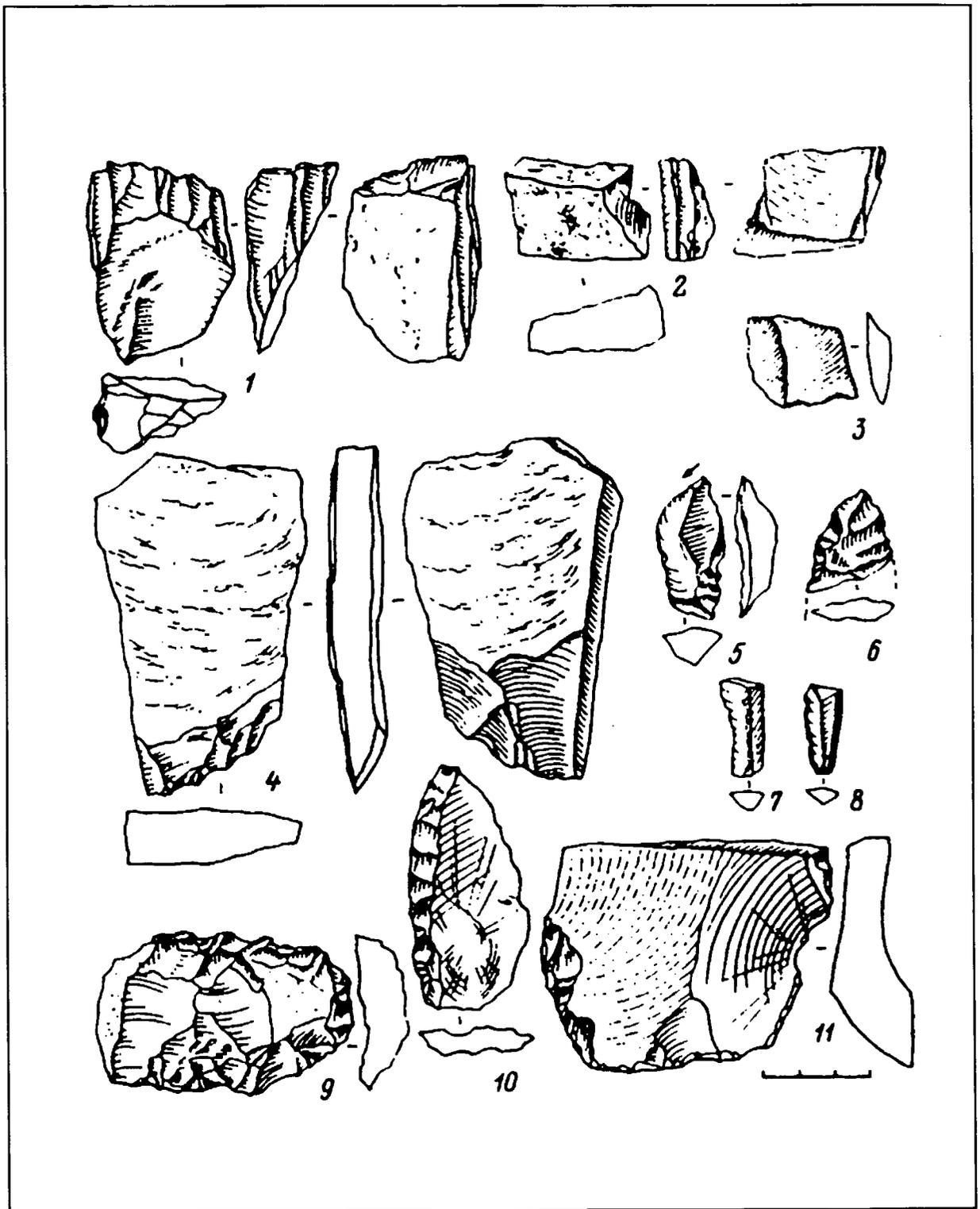


Plate 21. Stone artifacts from the Kym'ynanonyvaam VII site (107), 1984 (1, 4-11); Kym'ynanonyvaam VIII (108), 1984 (2 & 3): 1 - wedge-shaped core; 2 & 12 - end cores.

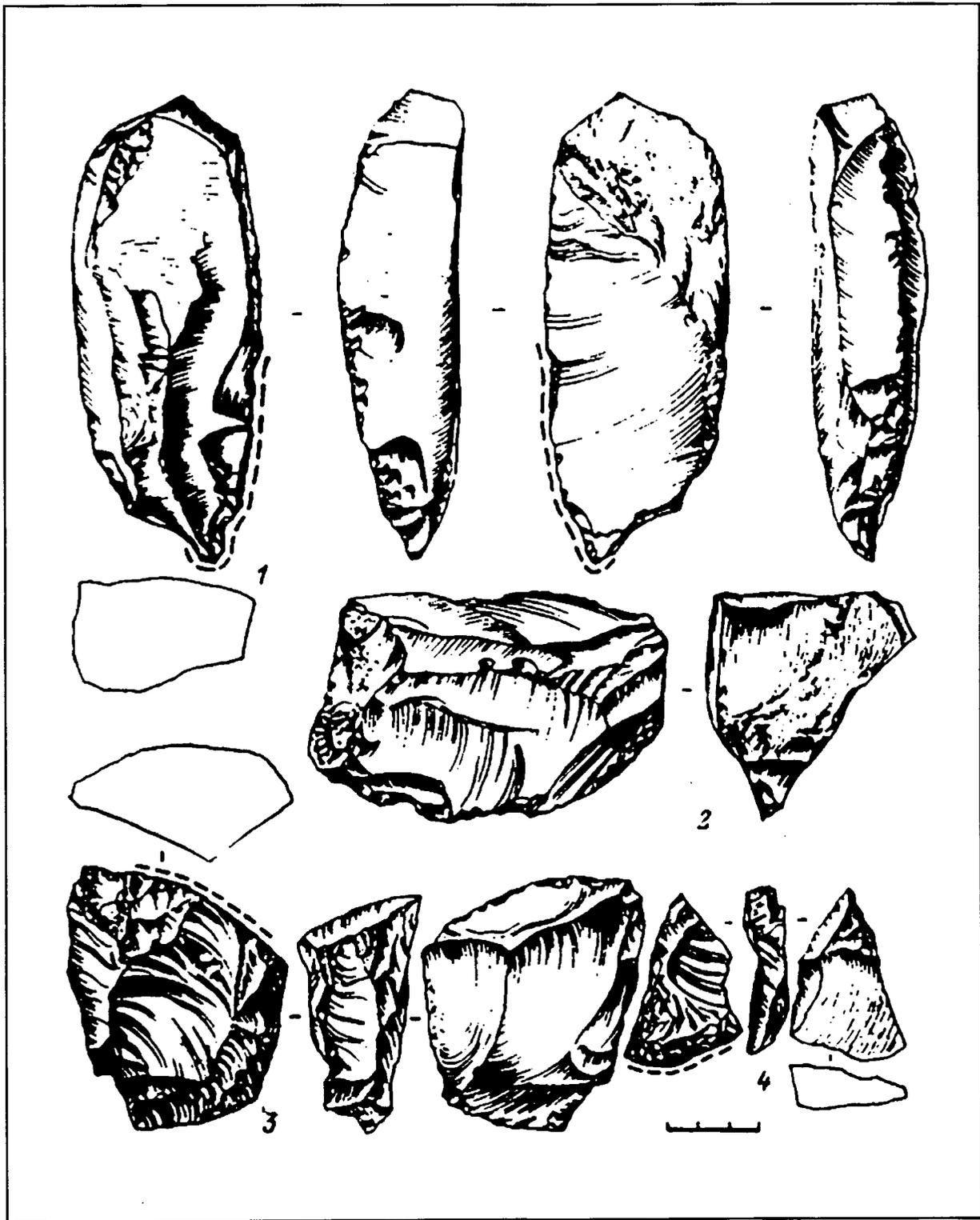


Plate 22. Stone artifacts (Kym`yanonvyvaam XIII [111-113], 1984). 3 - On the slope of the site, the remainder in the channel of Verbliud Creek. 1 - Chopper-like tool; 2 & 3 - skreblo-like; 4 - scraper.

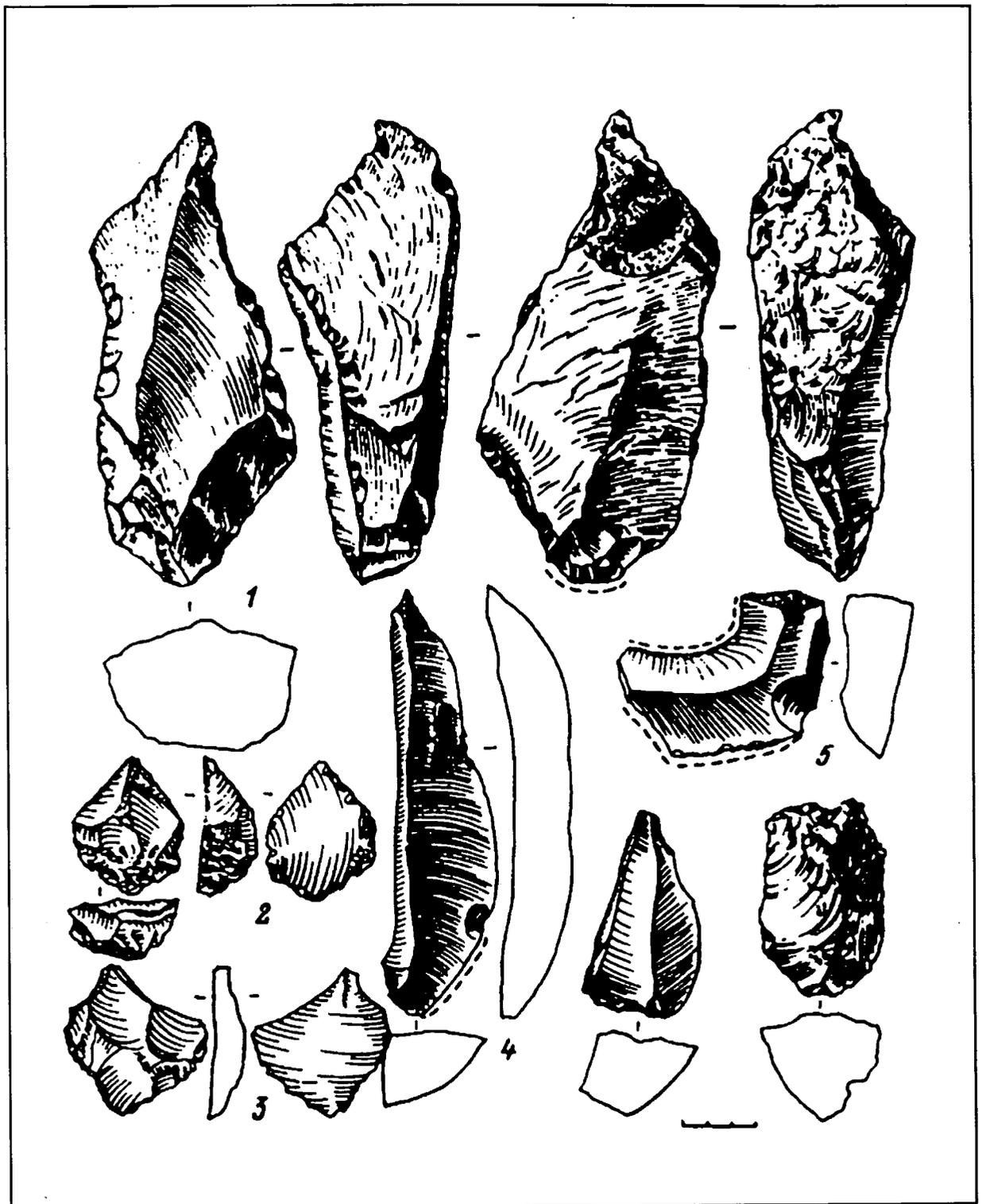


Plate 23. Stone chopper-like tool from the Kym'nyanonvyvaam XIII site (113), excavation 1984, and other surface artifacts (tested for use-wear by N. A. Kononenko). 1 - Surface artifact; 2 - pointed artifact; 3 - scraper; 4 - knife; 5 - saw-spokeshave.

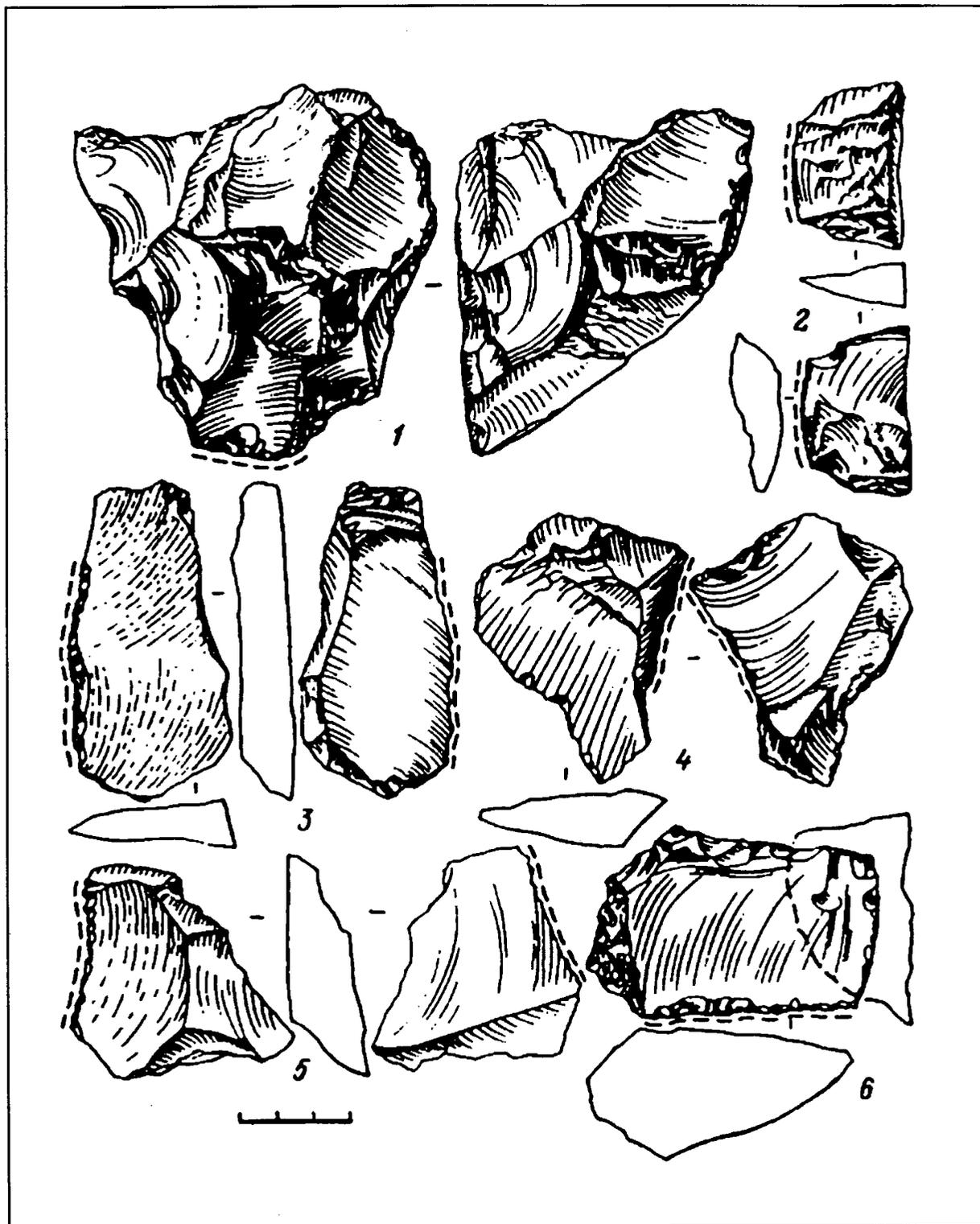


Plate 24. Stone fragments from the channel of Verbliud Creek. Judging by the use-wear determination of N. A. Kononenko, they have traces of chopping (1), graving-sawing (3), and spokeshaving wood (2, 4, 6).

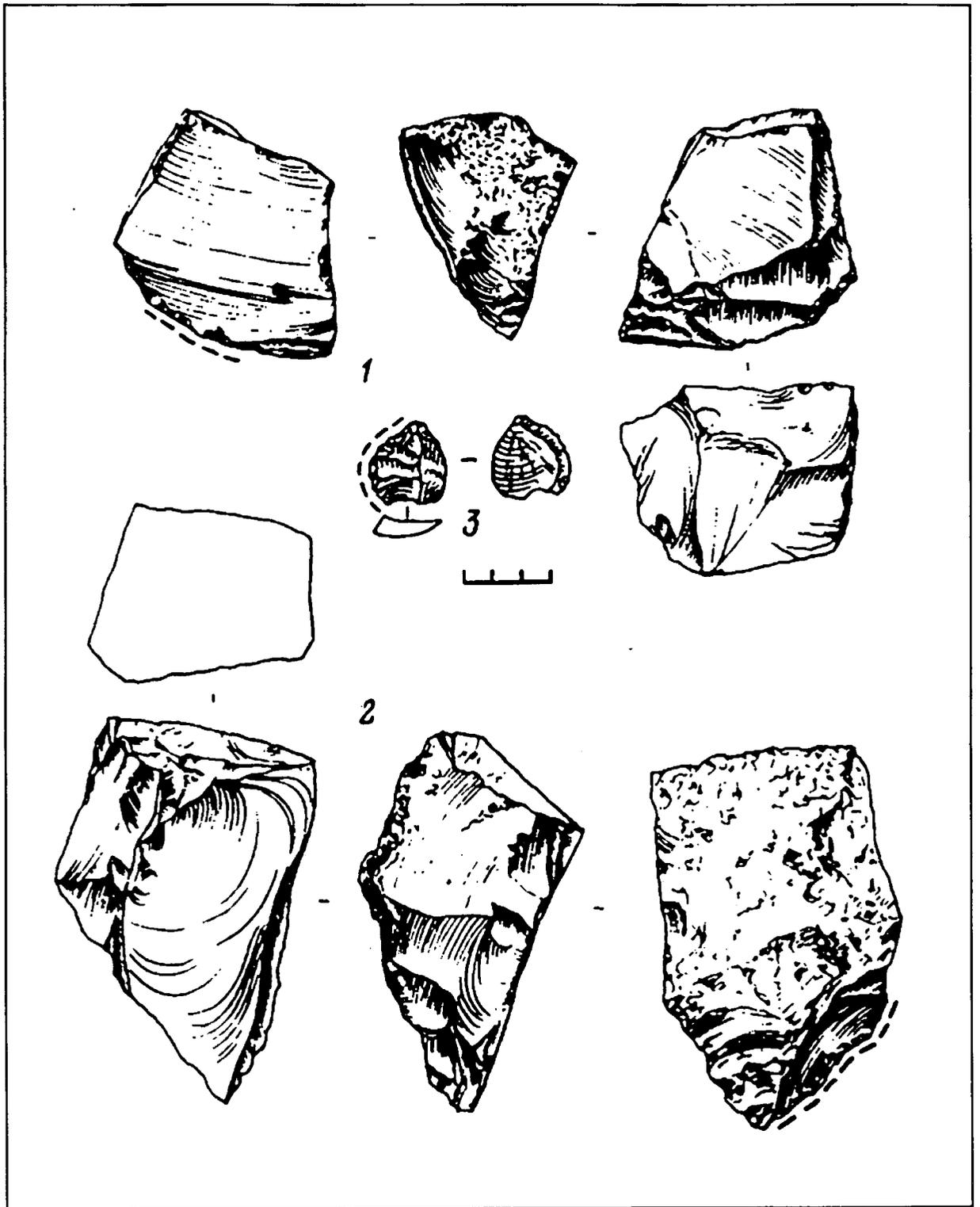


Plate 25. Probable stone artifacts - apparently with traces of use as spokeshaves (1 & 2) and scraper (3). All from Verbliud Creek, in its upper reaches.

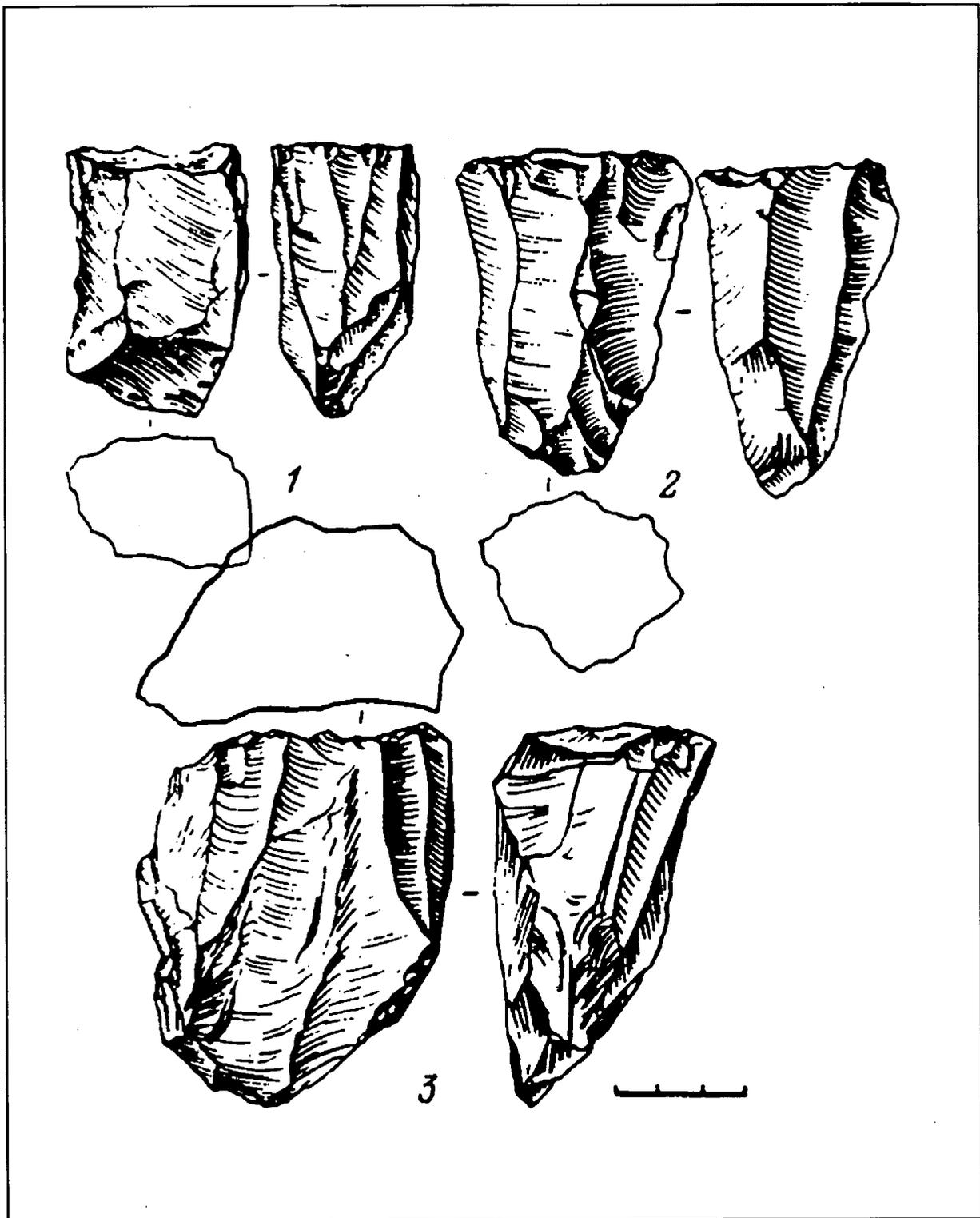


Plate 26. Subprismatic cores - Puturak (4), surface, 1985.

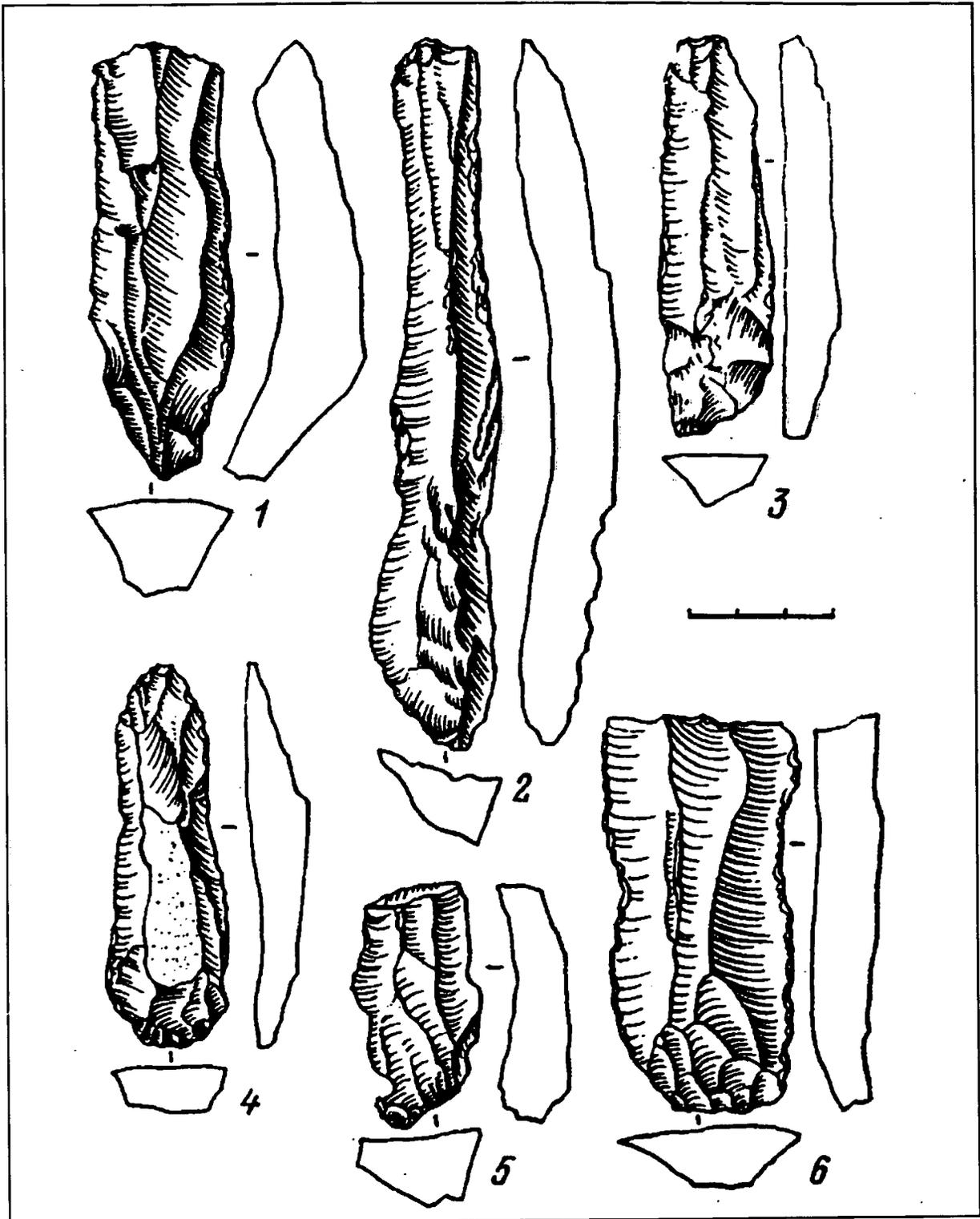


Plate 27. Retouched blades - Puturak (4), surface, 1985.

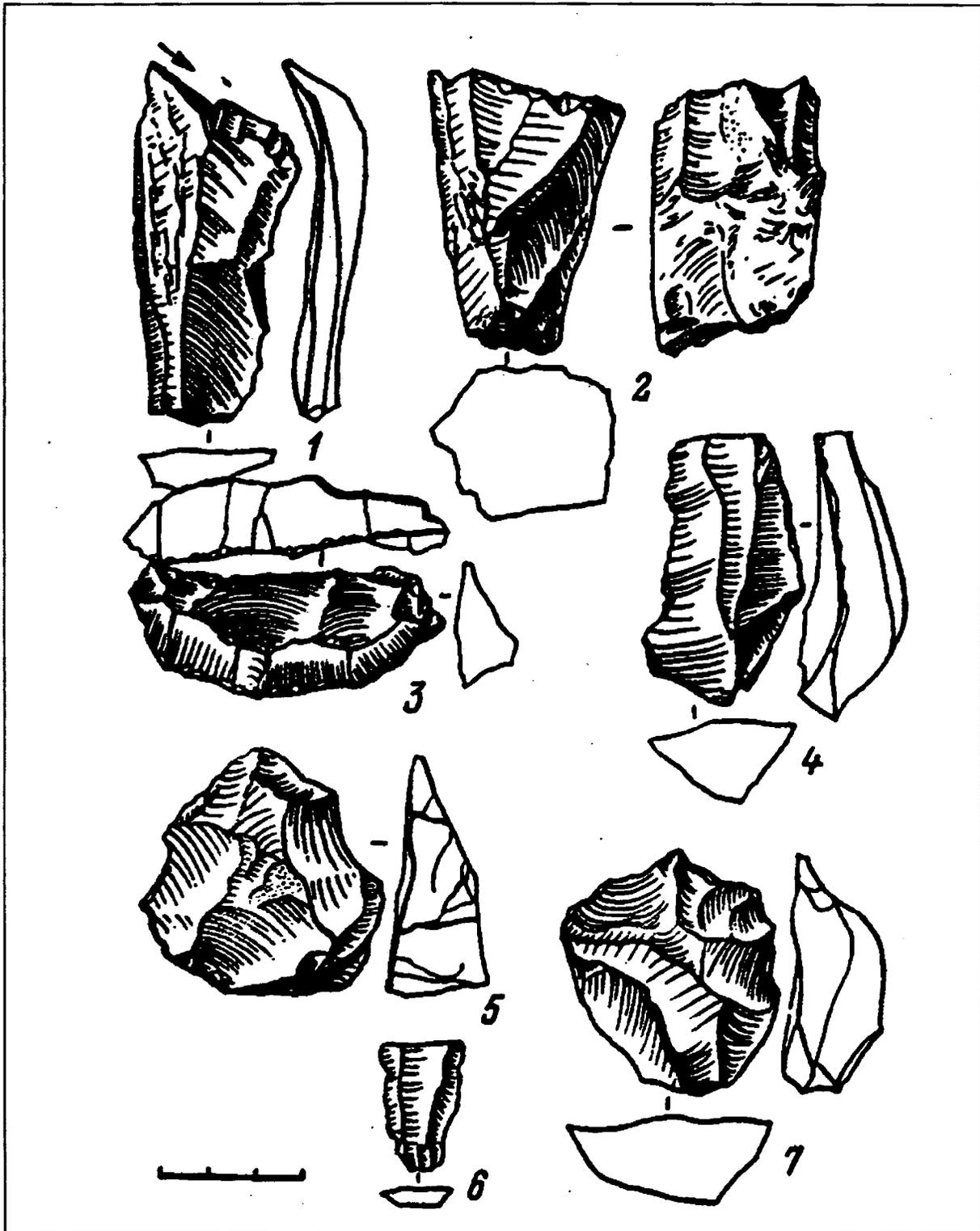


Plate 28. Graver (1), core (2), fragment of core (3), and spalls from cores (4-7) - Puturak (4), excavation 1985.

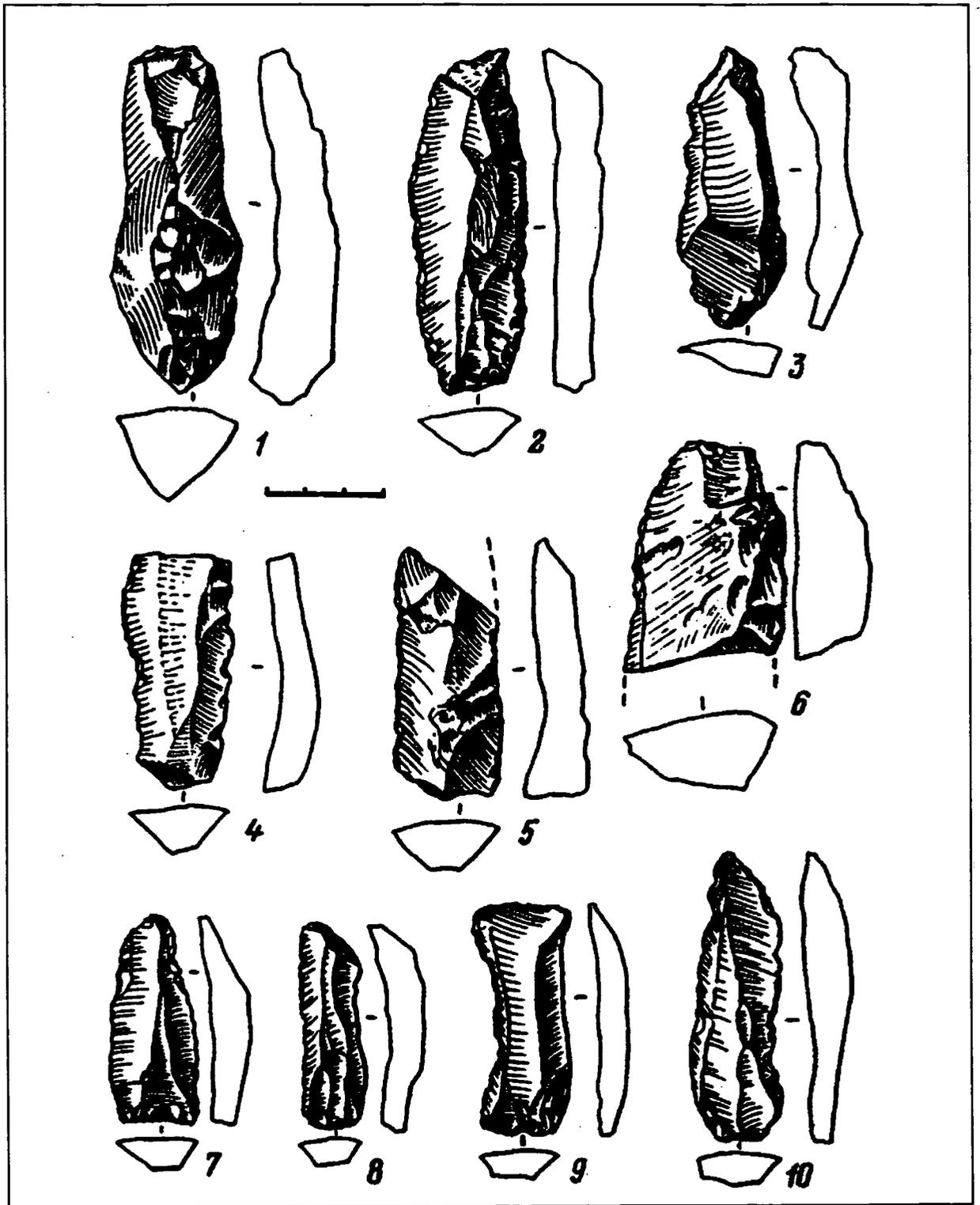


Plate 29. Edge spall from core (1) and unifacial blade tools - Puturak (4), excavation 1985.

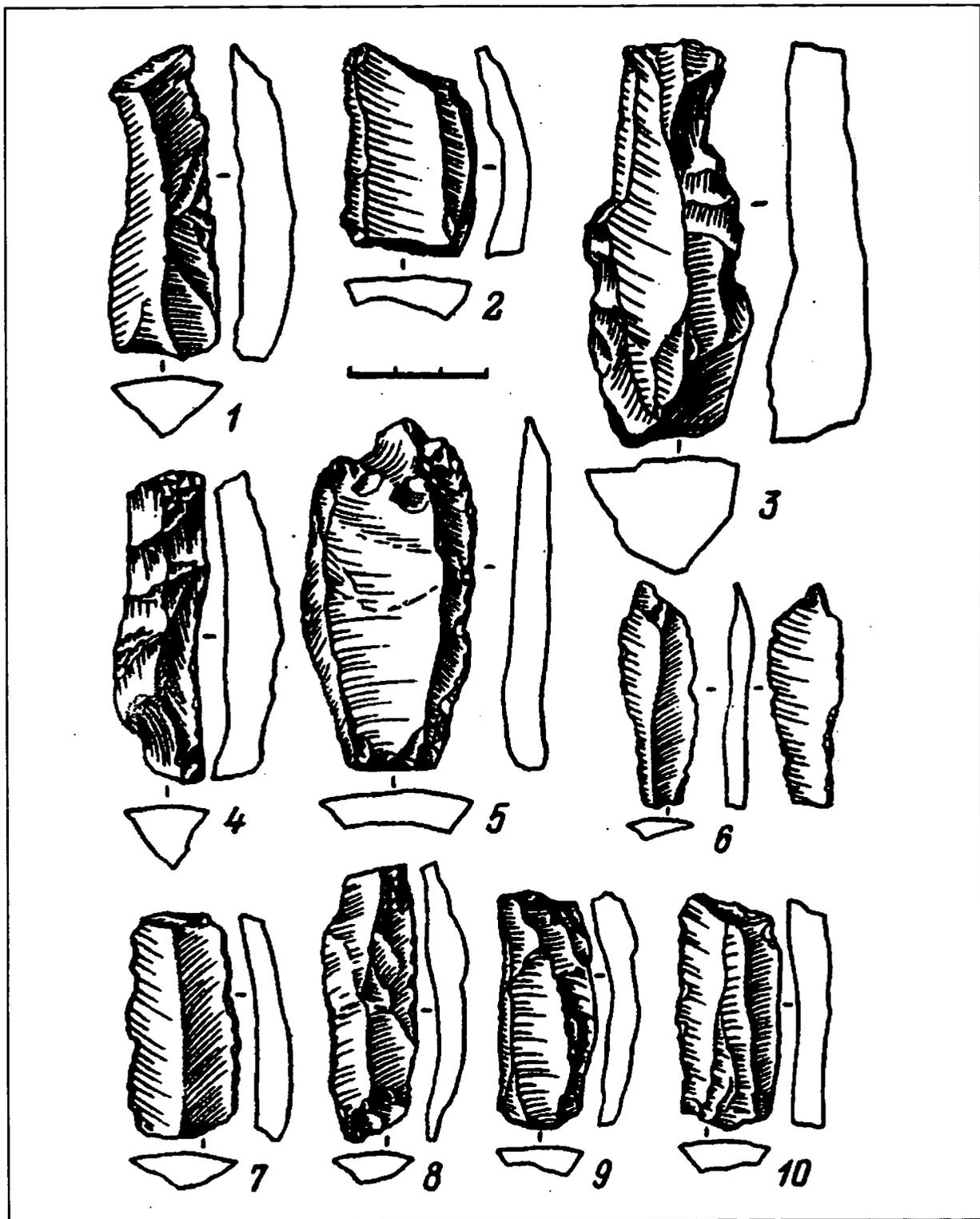


Plate 30. Lamellar unifacial artifacts - Puturak (4), surface, 1985.

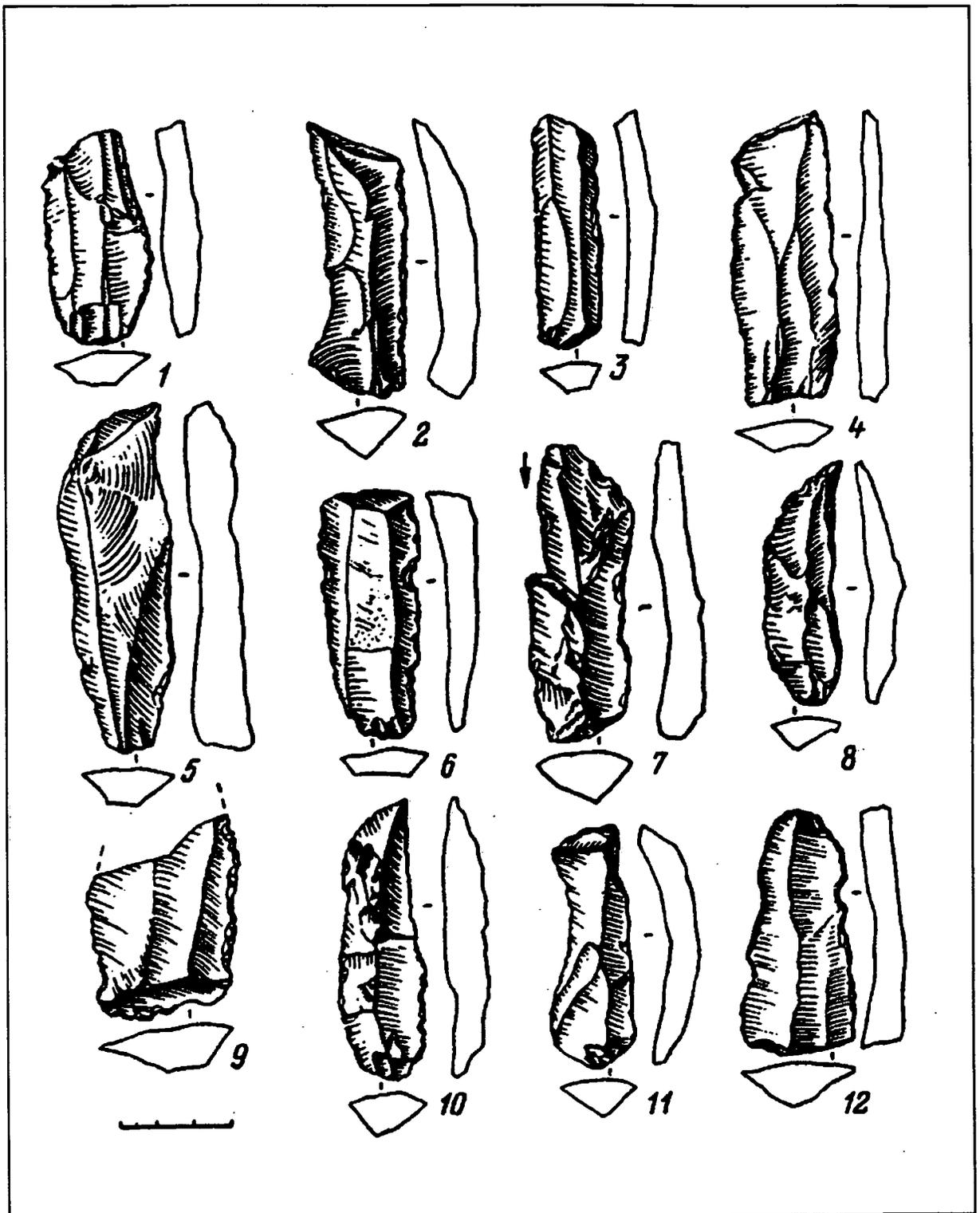


Plate 31. Lamellar unifacial artifacts - Puturak (4), surface, 1985.

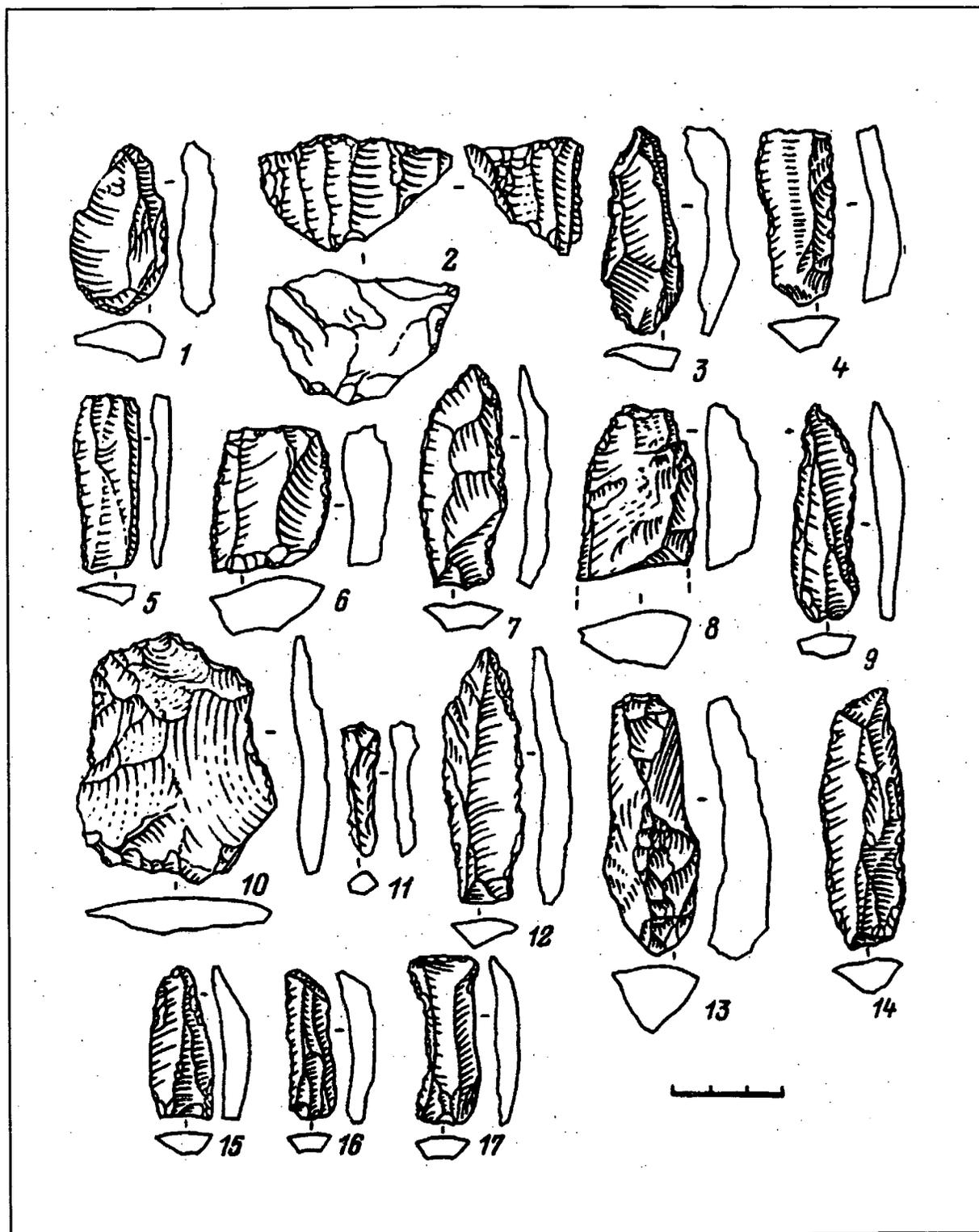


Plate 32. Fragment of a core (2), scraper (10), and unifacial tools from lamellar flakes - Puturak (4), excavation 1985.

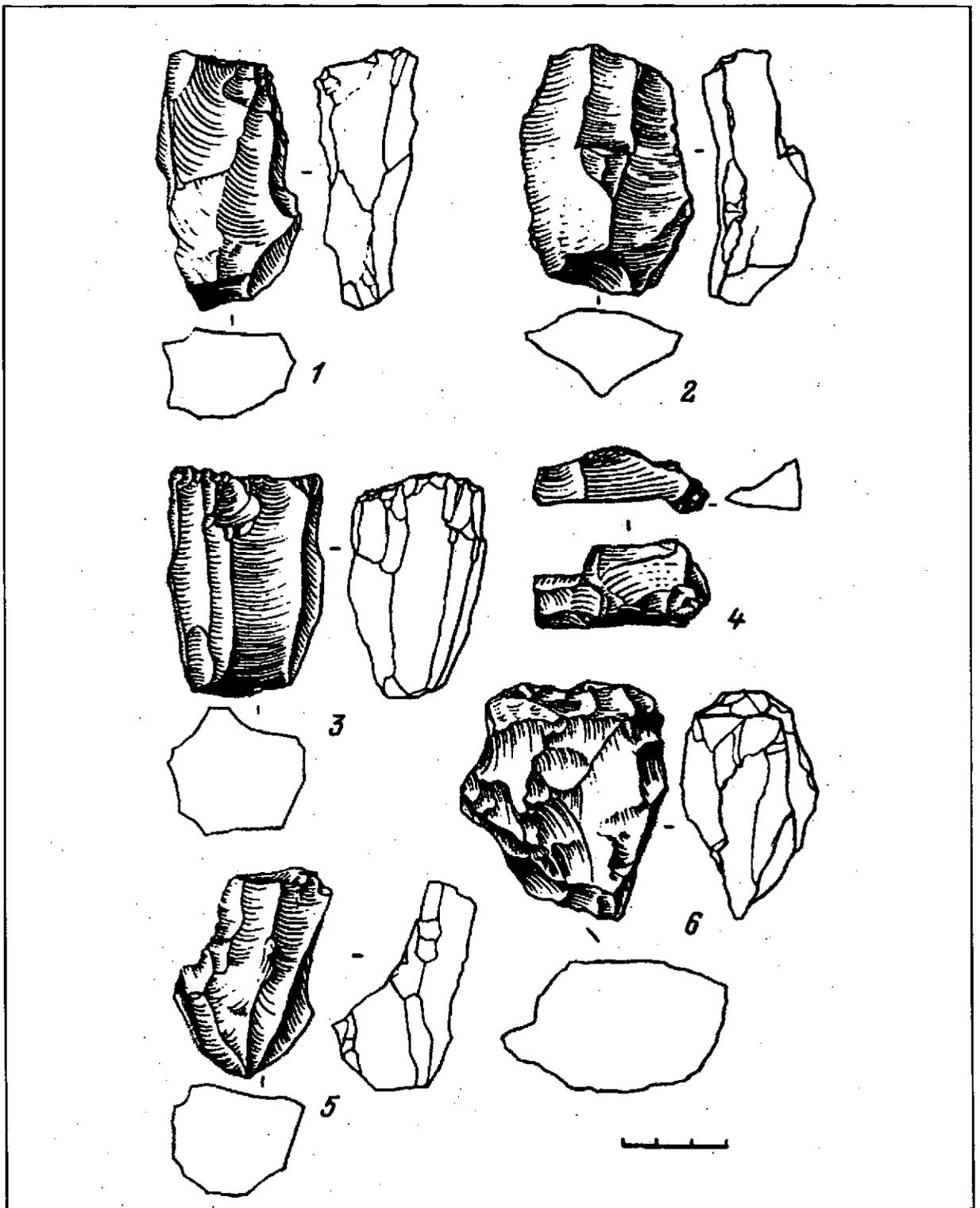


Plate 33. Cores and fragments of them - Puturak (4), excavation 1985.

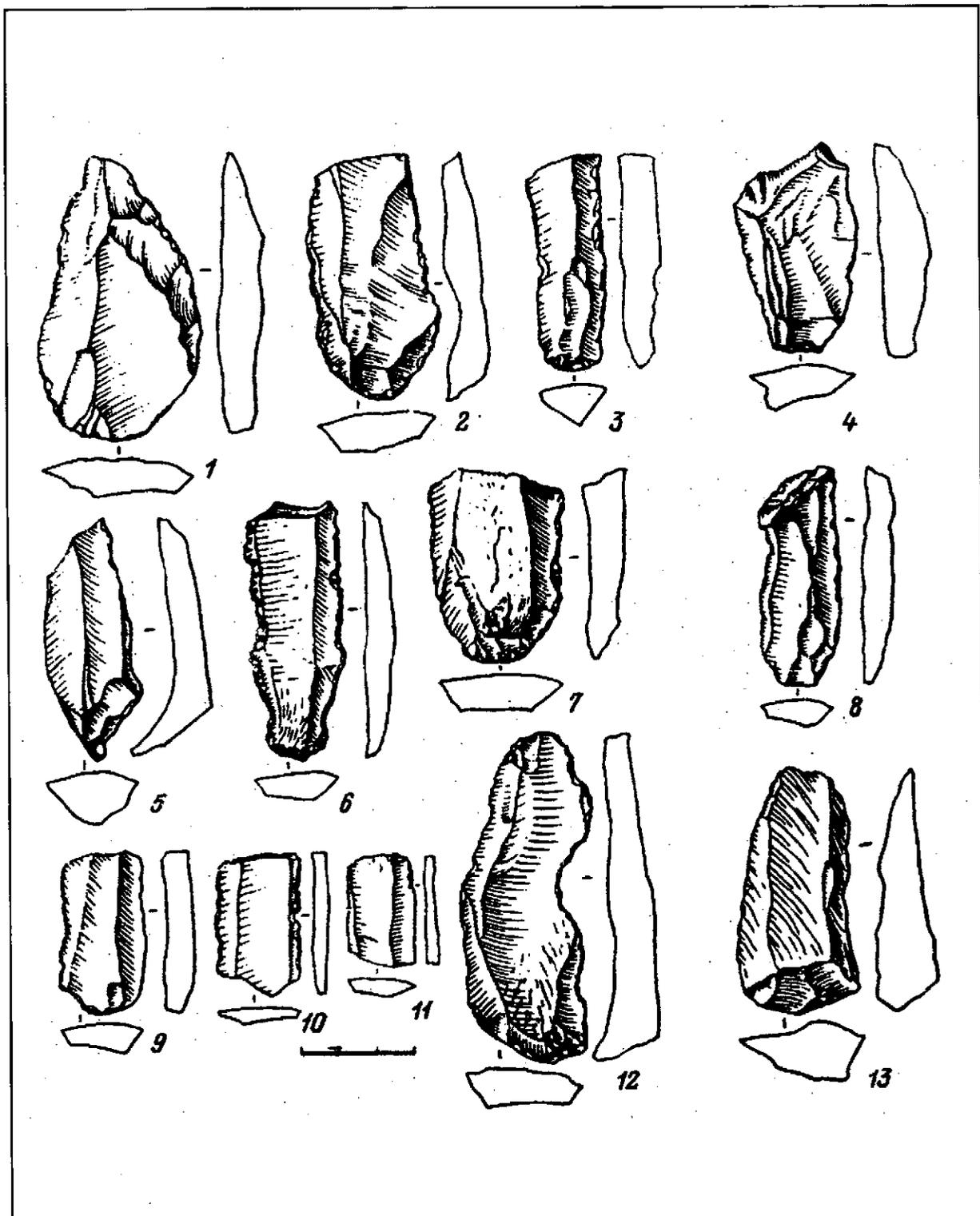


Plate 34. Retouched lamellar artifacts - Puturak (4), excavation 2B (from a pit), 1985.

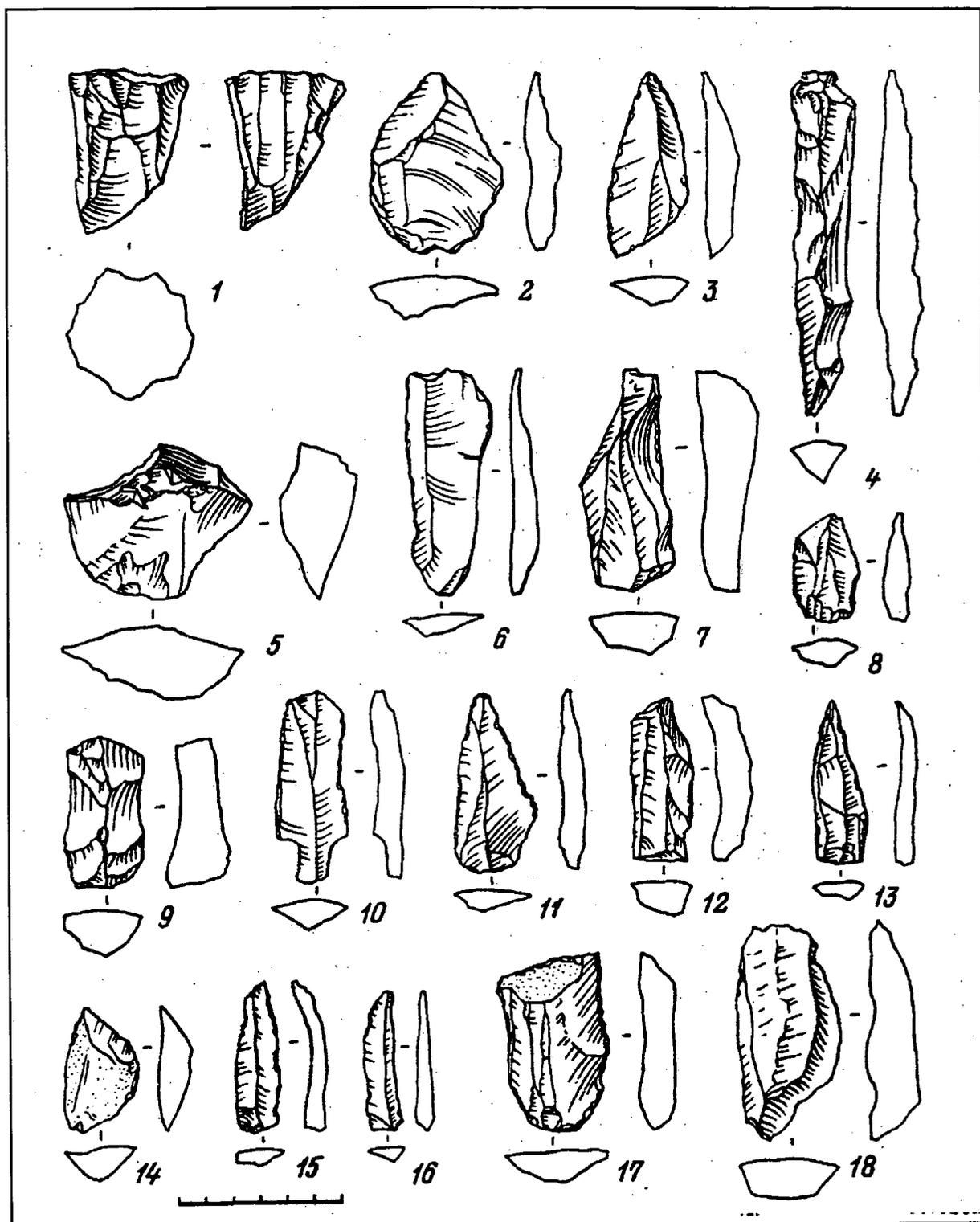


Plate 35. Core (1), blank of leaf-shaped projectile point (2), and other unifaceally worked lamellar artifacts - Puturak (4), excavation 3A (from pit), 1986.

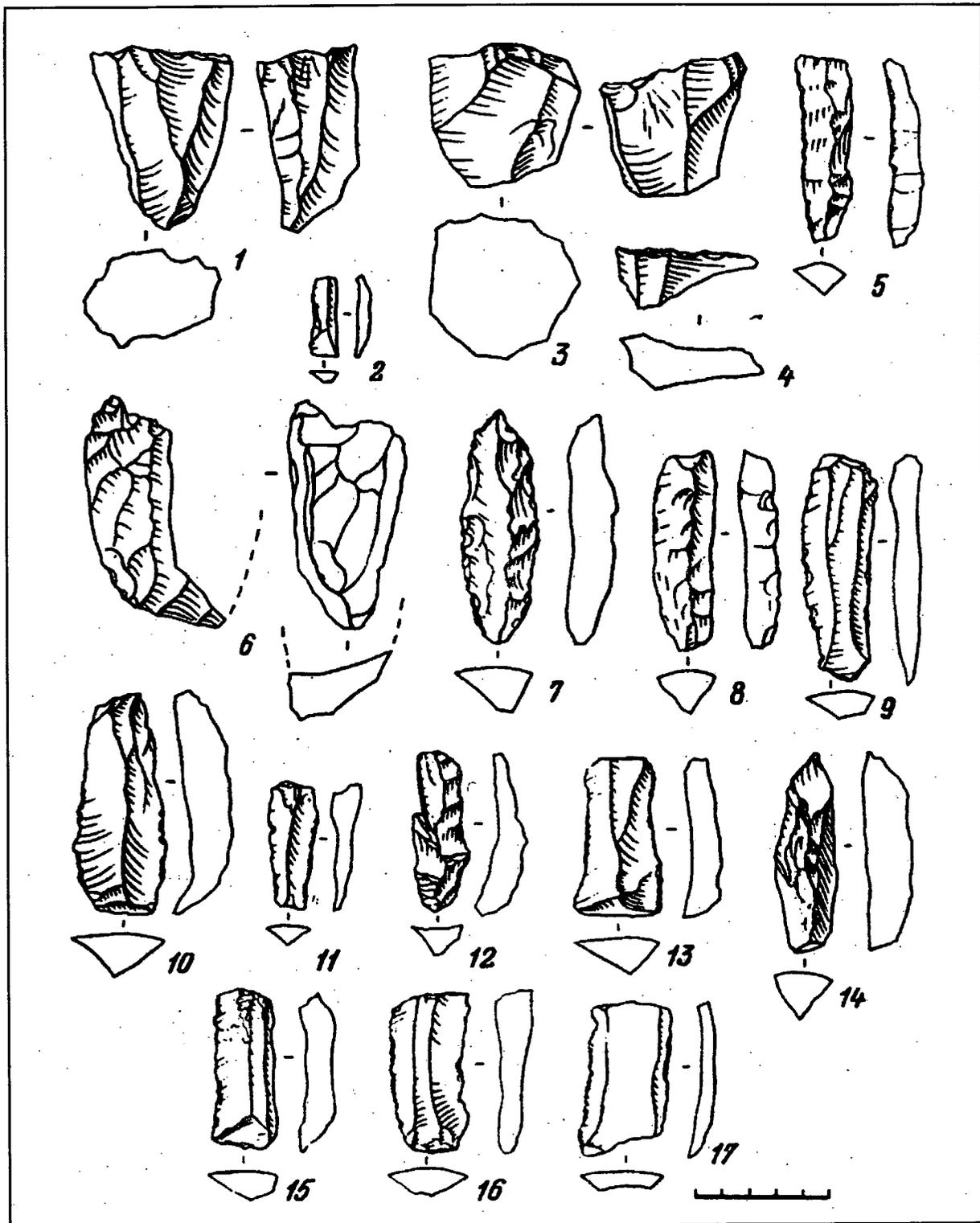


Plate 36. Cores (1 & 3) and fragments of them (4 & 6), as well as lamellar flakes and other artifacts retouched on one side - Puturak (4), excavated from the northern part of the large pit, 1986.

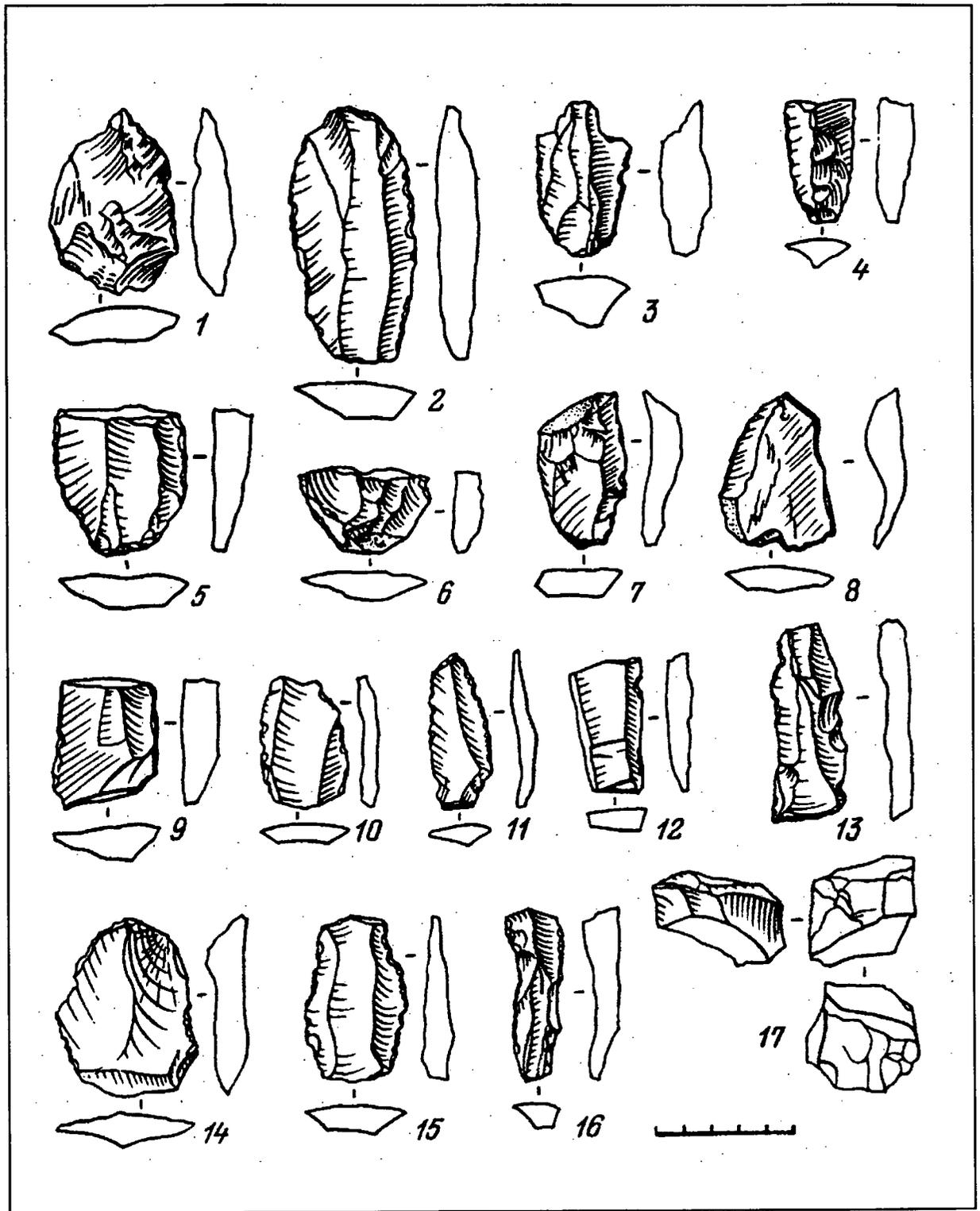


Plate 37. Leaf-shaped blank (1), fragment of a core (17), and flakes uniaxially retouched along the edge - Puturak (4), excavated from the northern part of the large pit, 1986.

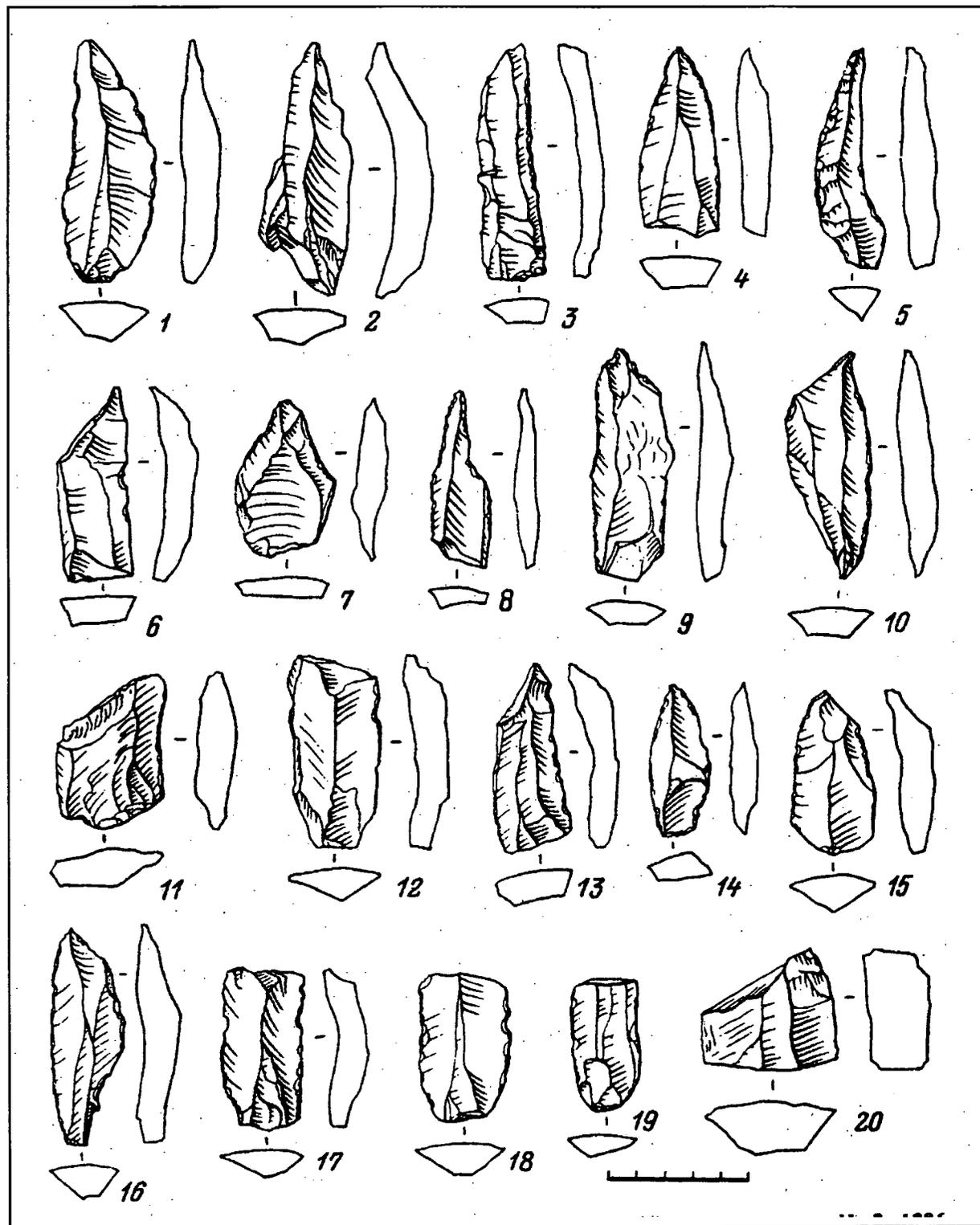


Plate 38. Unifacial lamellar artifacts - Puturak (4), excavated from pit No. 2, 1986.

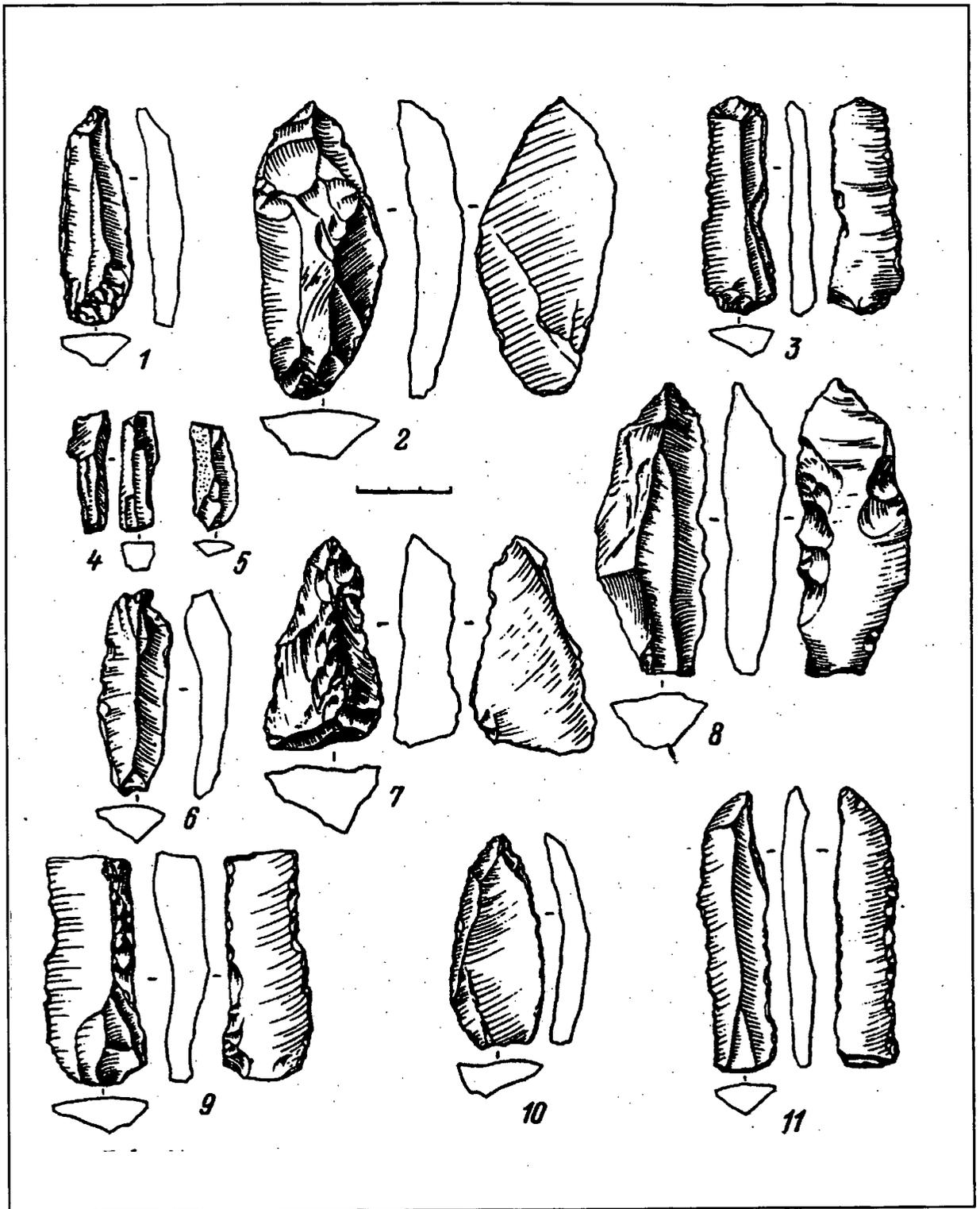


Plate 39. Tools from lamellar flakes - Puturak (4), excavation 1985.

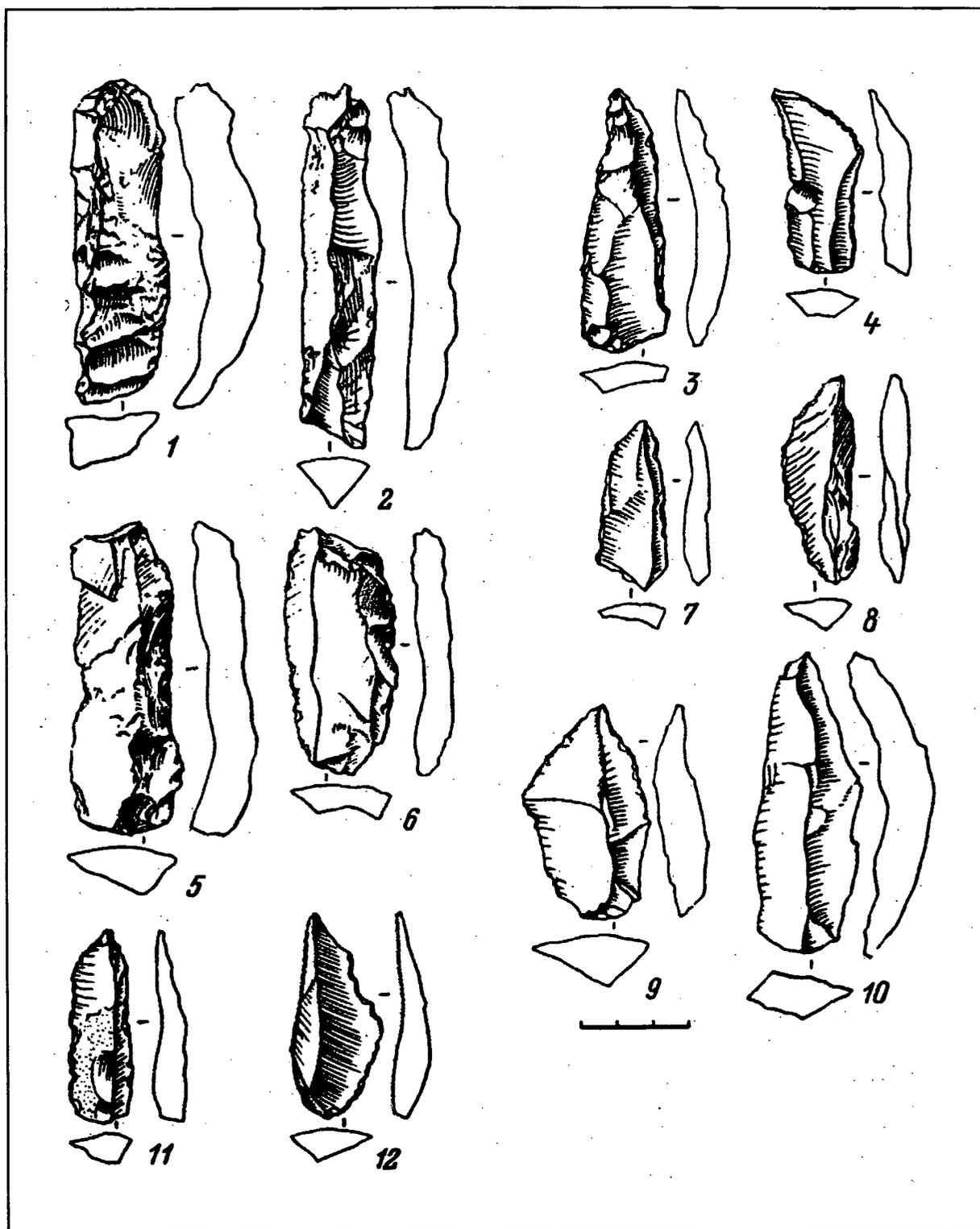


Plate 40. Edge spalls from cores (1, 2, 5), lamellar flakes and graters (all the remaining) - Puturak (4), excavation 1985.

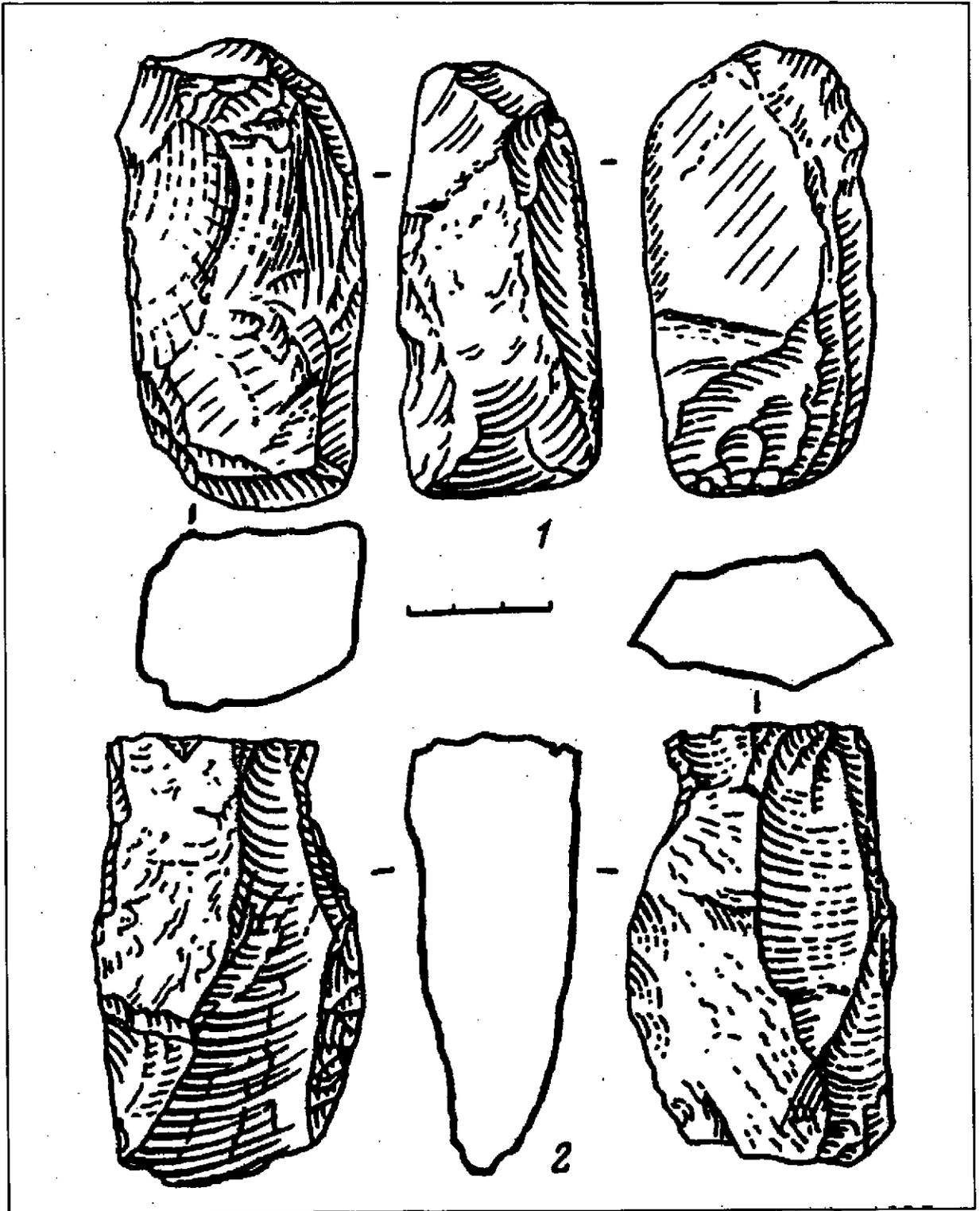


Plate 41. Cores, surface finds - Puturak (4), 1985.

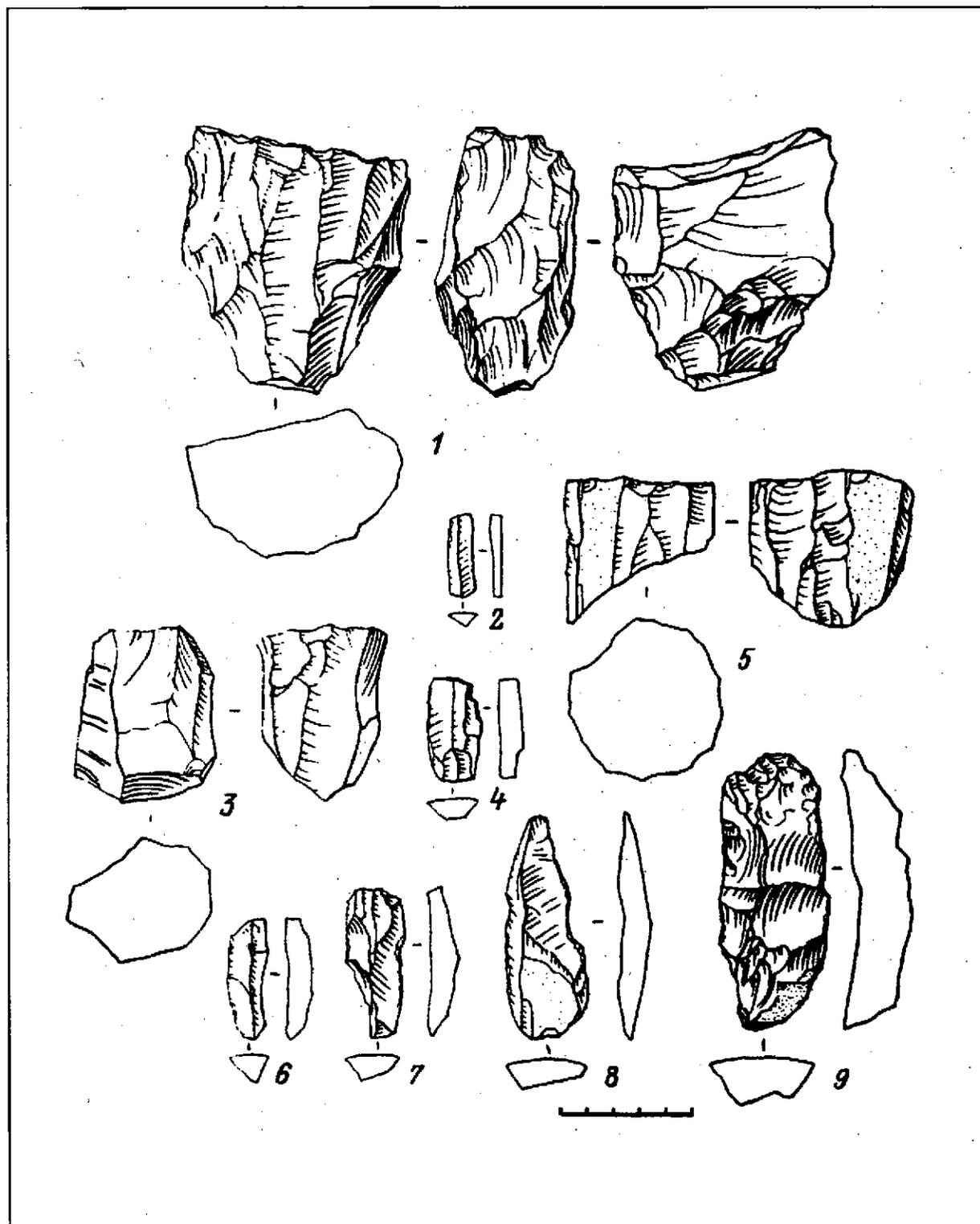


Plate 42. Cores (1, 3, 5), lamellar flakes and artifacts from them (2, 4, 6, 9) - Puturak (4), surface material, 1986.

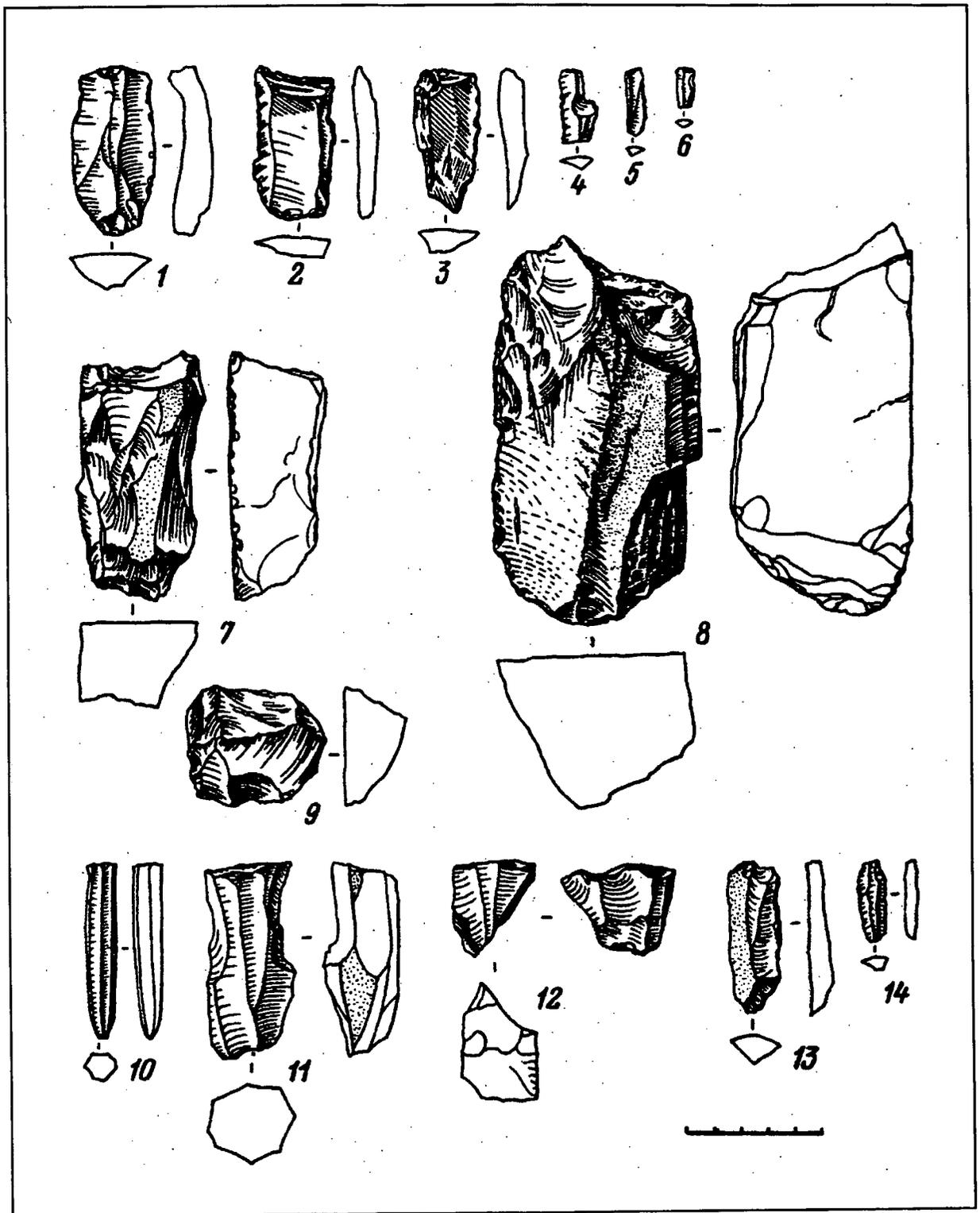


Plate 43. Cores (10-12), "utiuzhkovye" (7 & 8), scraper (9), and other artifacts (1-6) - Puturak (4), surface finds, 1986.

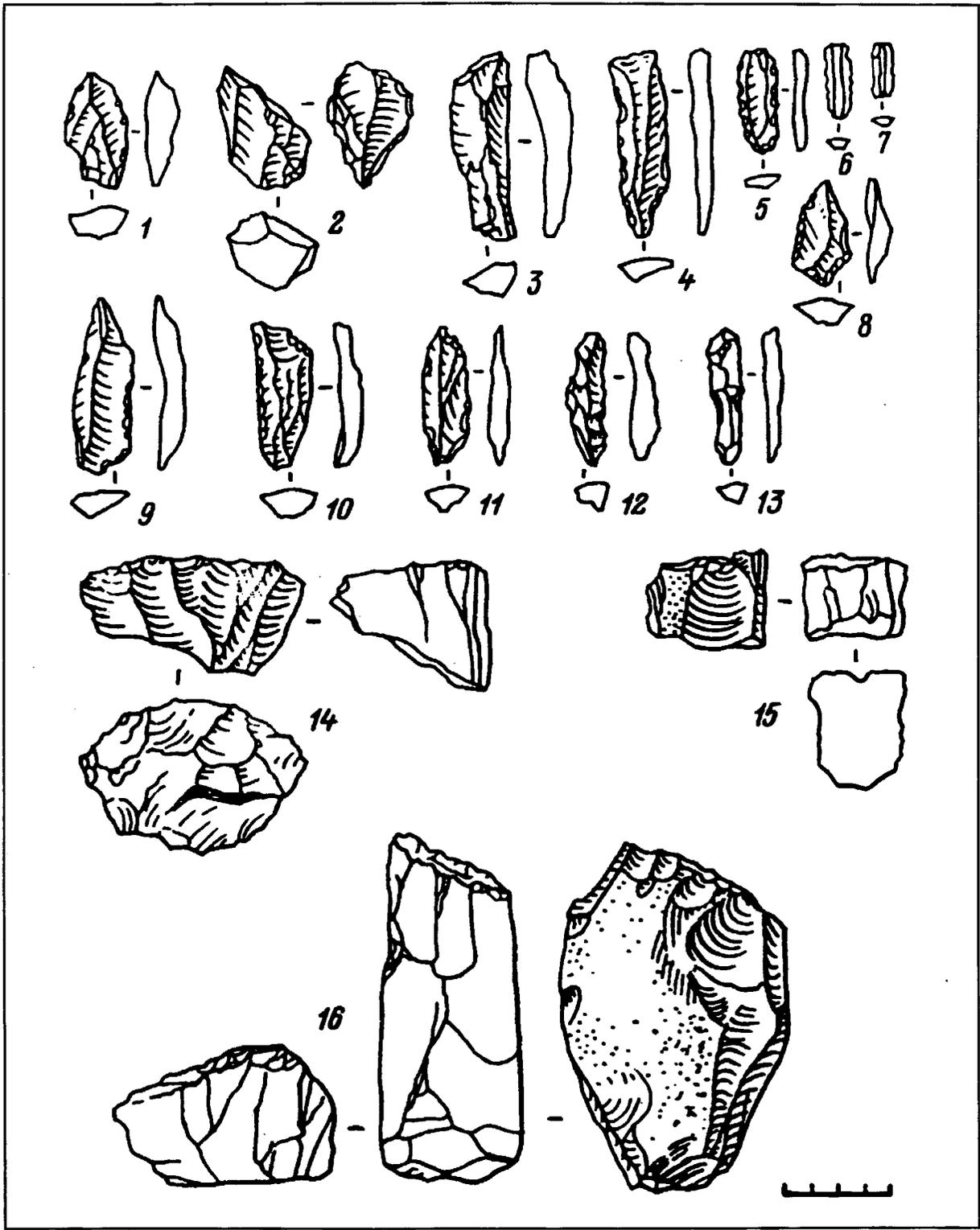


Plate 44. Unifacial lamellar artifacts (1, 3-13) and cores (2, 14-16) - Puturak (4), surface finds, 1986.

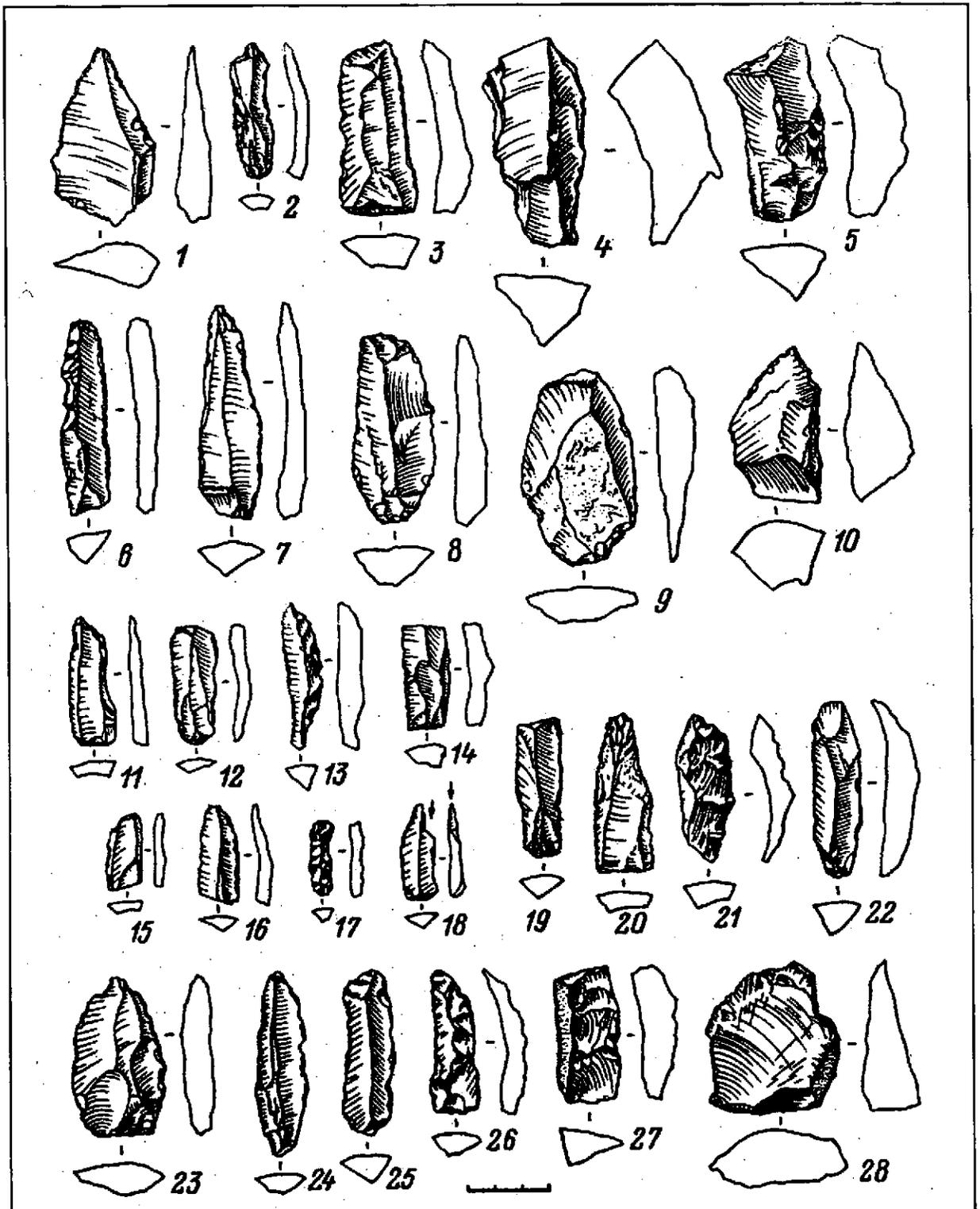


Plate 45. Lamellar flakes and artifacts from them - Puturak (4), surface finds, 1986.

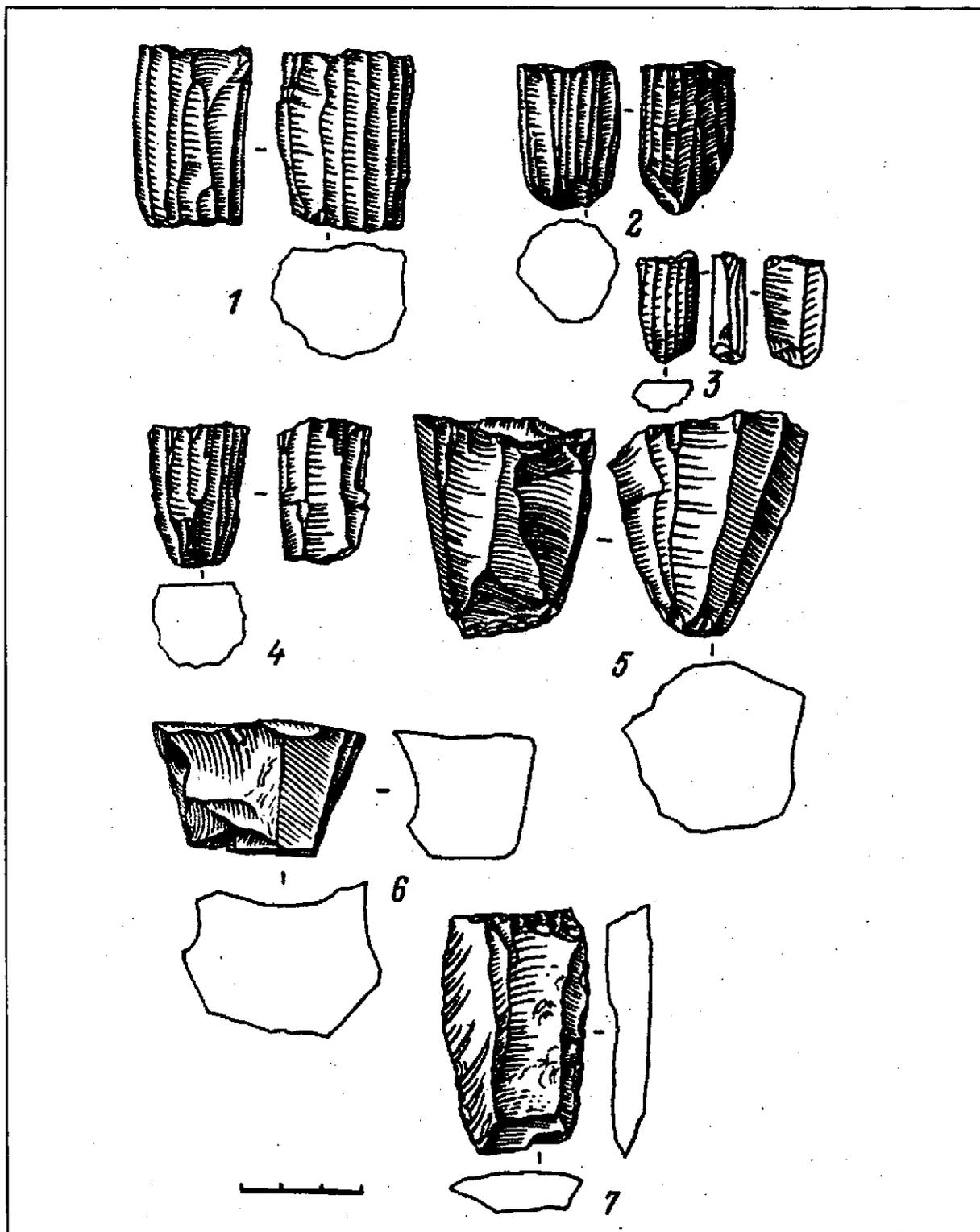


Plate 46. Prismatic cores and retouched lamellar flake from the Puturak site (4) from excavation 2A, 1985.

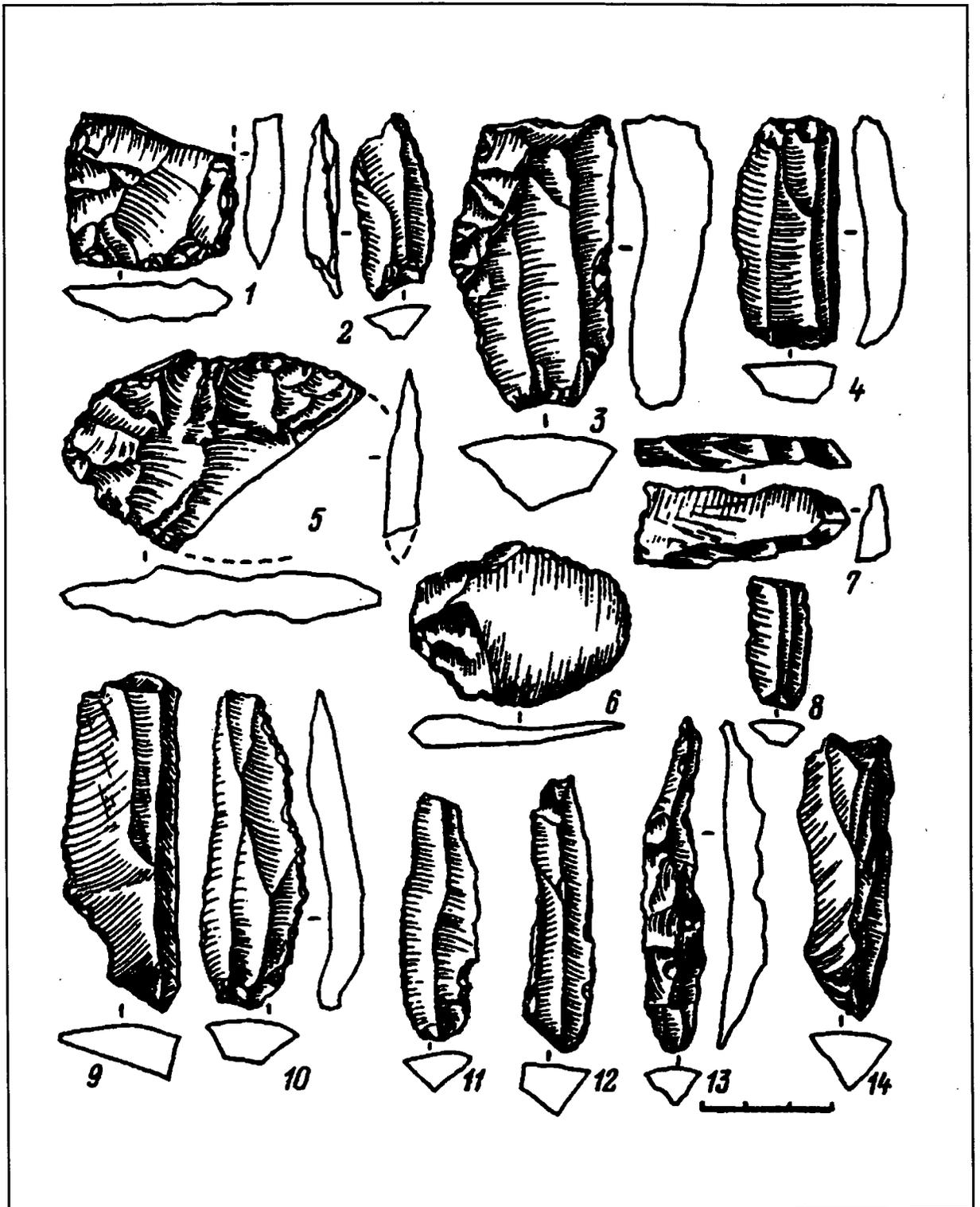


Plate 47. Stone artifacts from lower Itkhat I site (3), 1985: 1 & 5 - pieces of bifaces; 2-4, 6, 8-12 - unifacial lamellar instruments; 7 - ski-shaped spall; 13 & 14 - edge spalls.

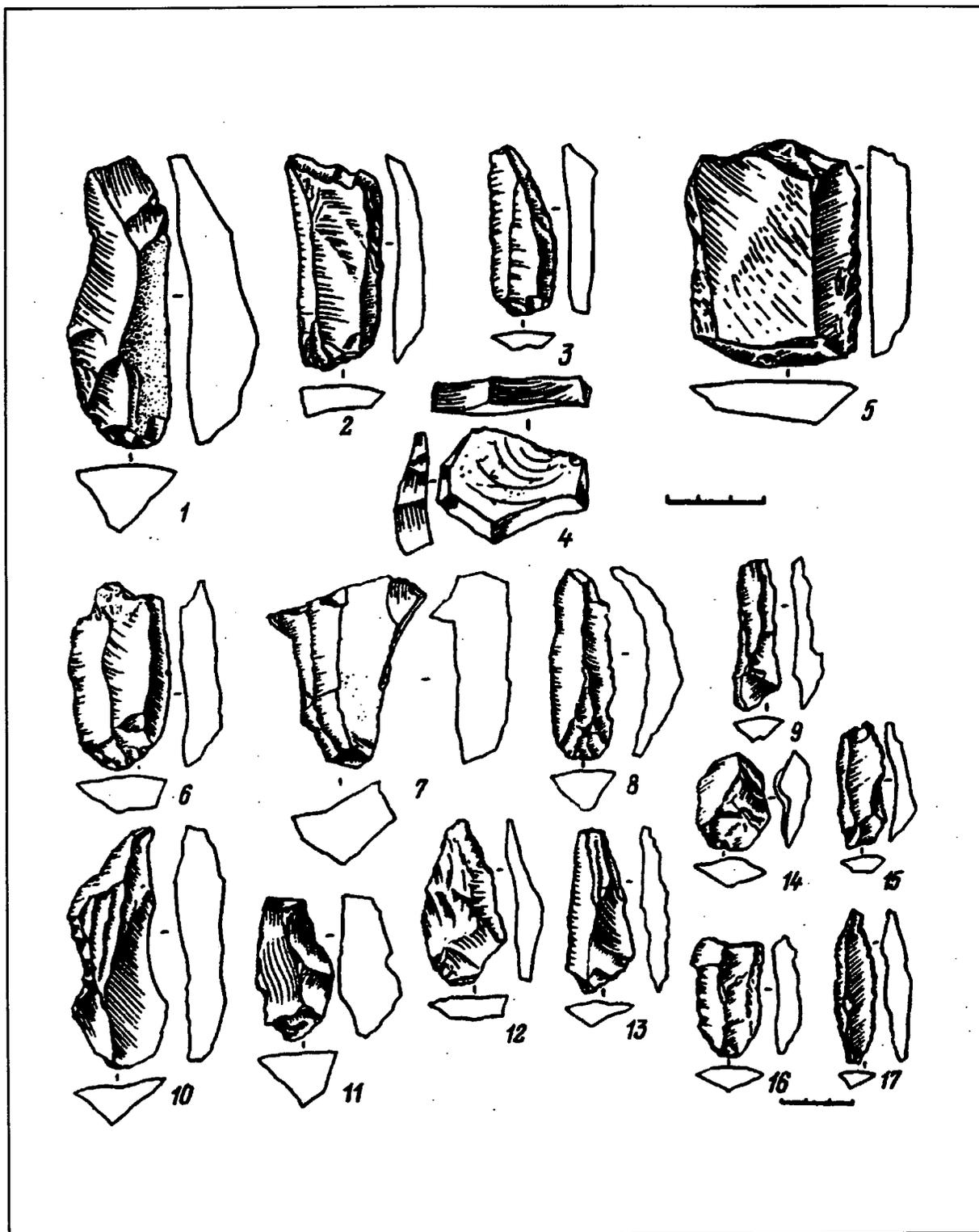


Plate 48. Lamellar artifacts from lower Itkhat I site (3), 1985.

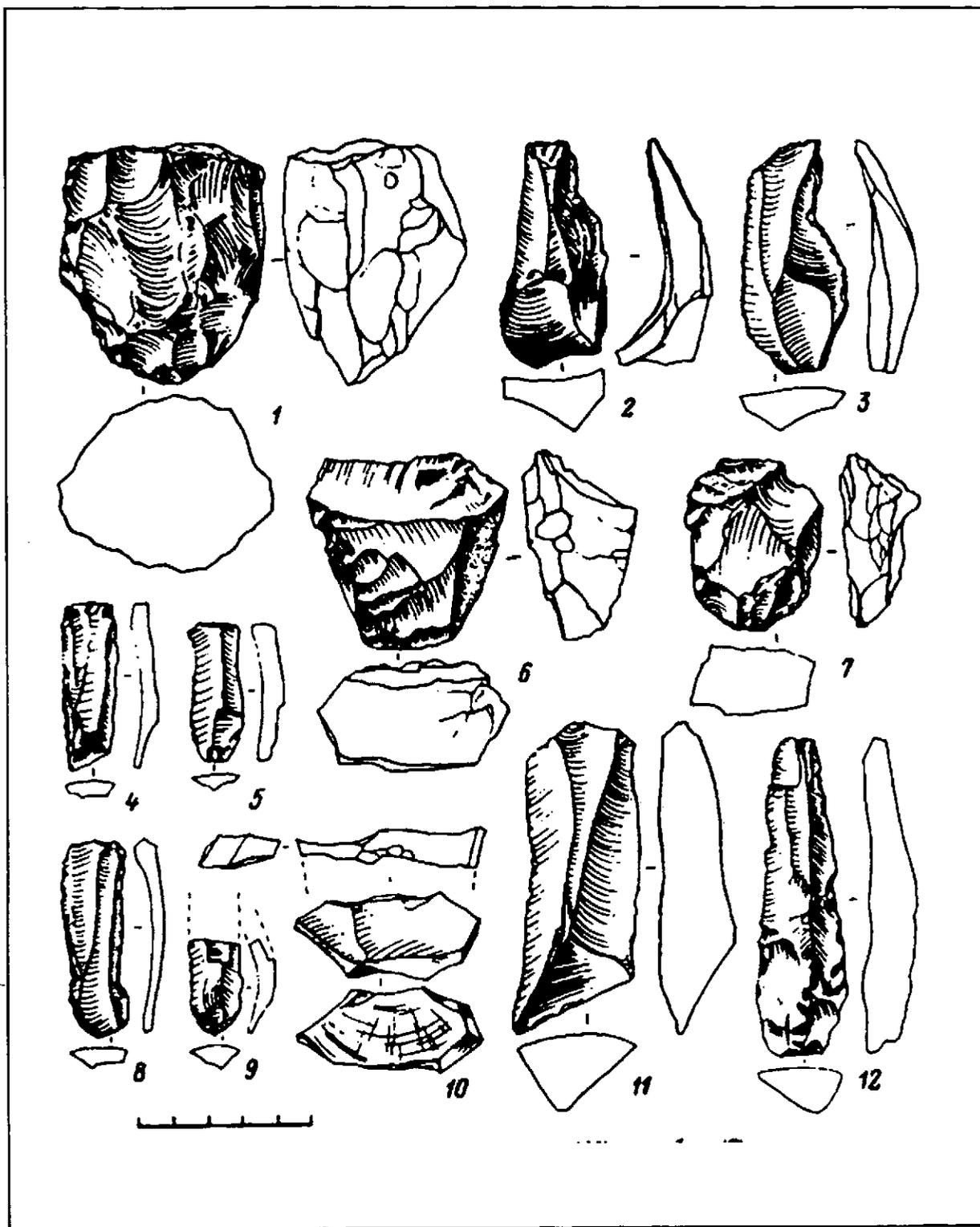


Plate 49. Cores (1 & 6), transverse spall from a core (10), scraper (7), lamellar flakes (2, 3, 11, 12), and knife-like lamellae (4, 5, 8, 9) from the upper Itkhat I site (3), 1986.

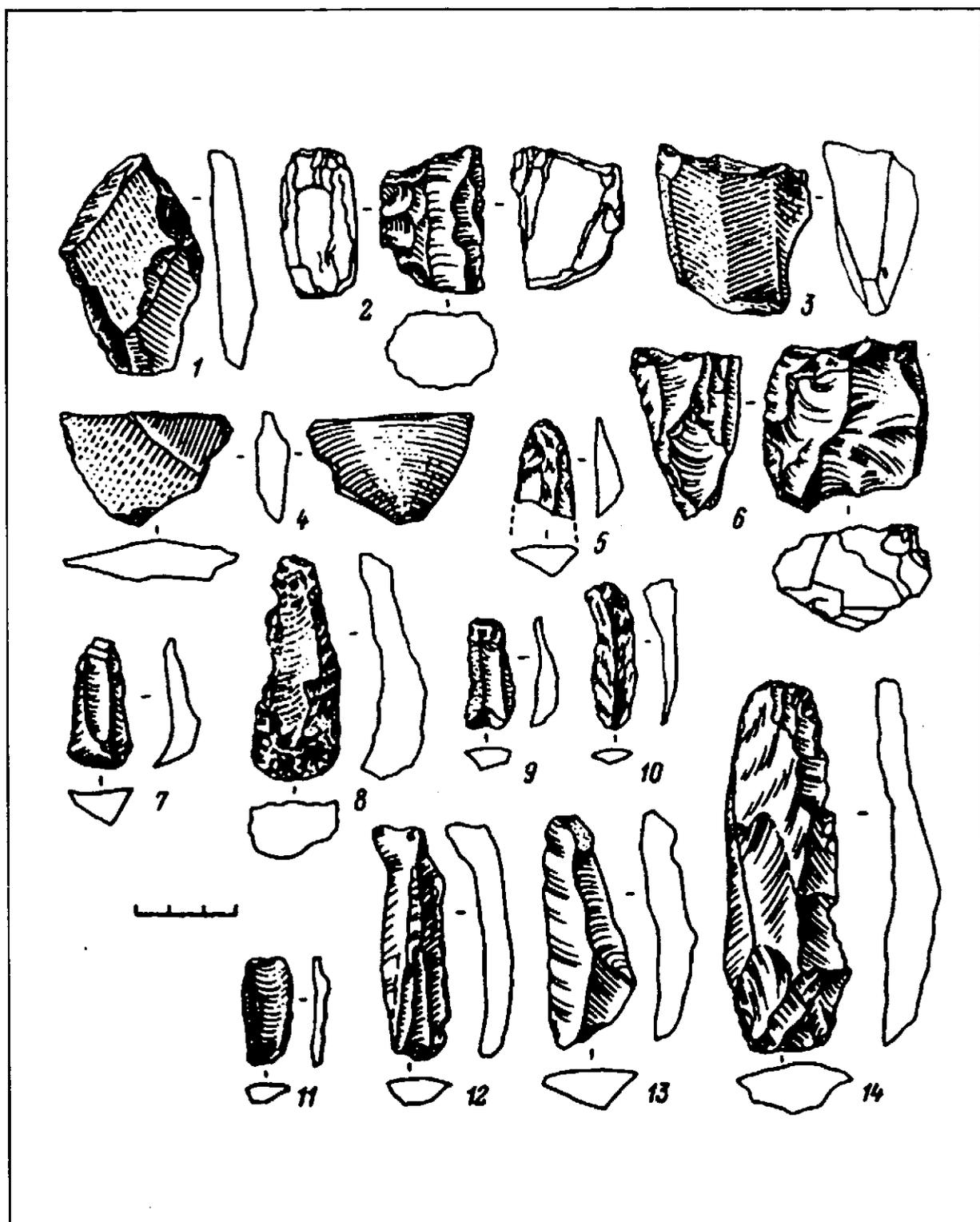


Plate 50. Cores (2, 3, 6) and unifacial lamellar artifacts from the upper Itkhat I site (3), 1986.

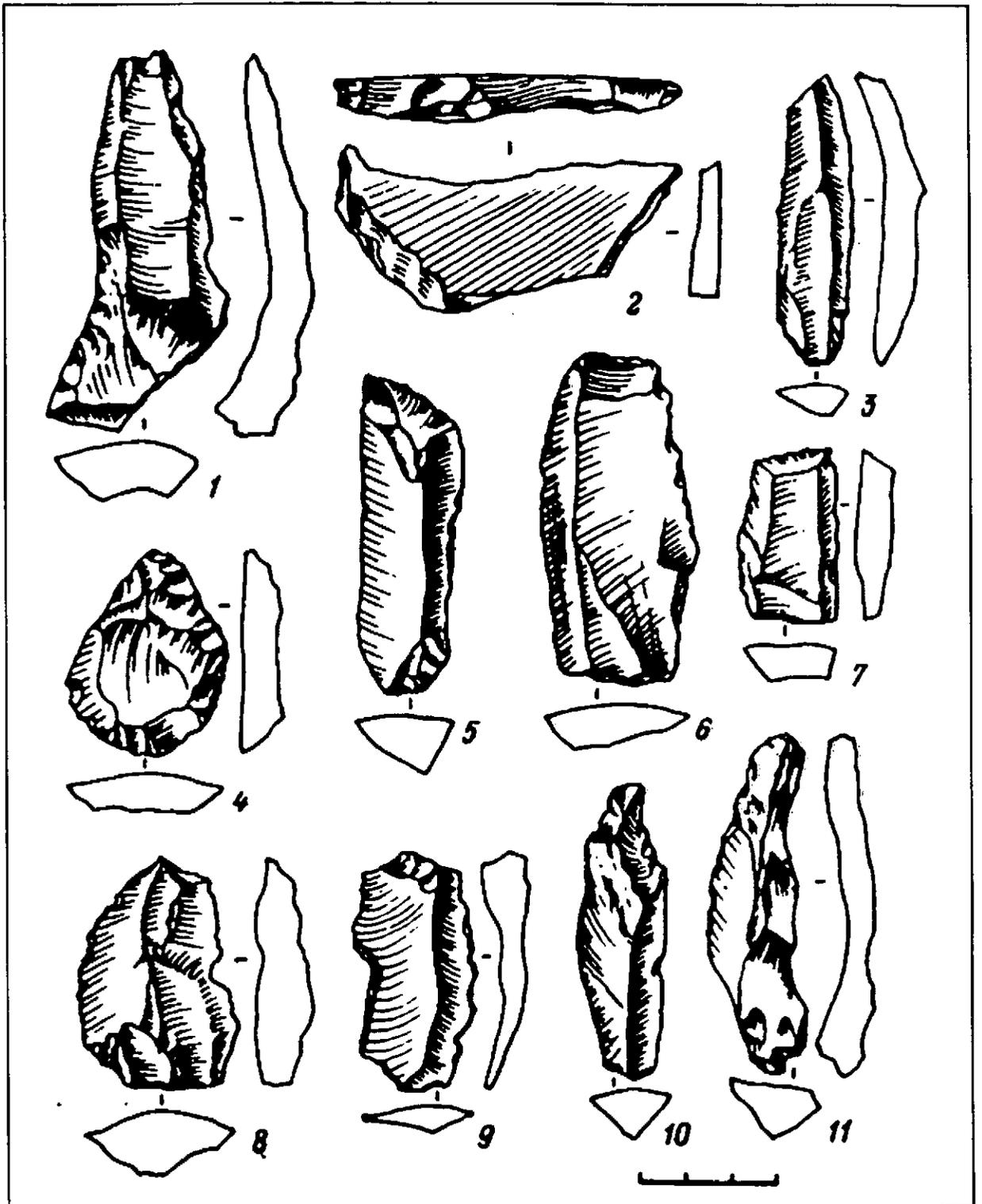


Plate 51. Lamellar artifacts from the upper Itkhat I site (3), 1985.

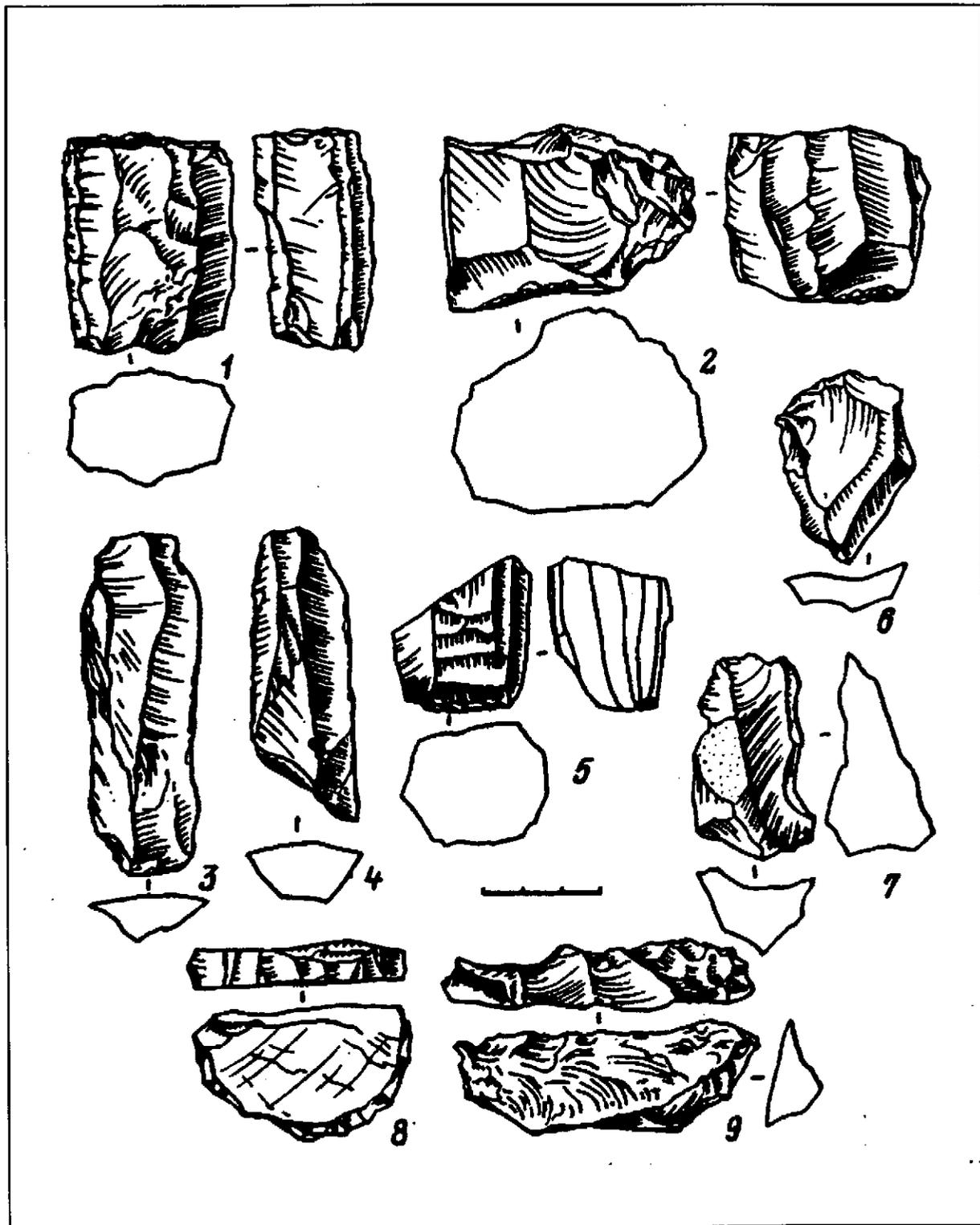


Plate 52. Cores (1, 2, 5), transverse spalls from them (8 & 9), and lamellar flakes (3, 4, 6, 7) from the Itkhat IB site (3), 1986.

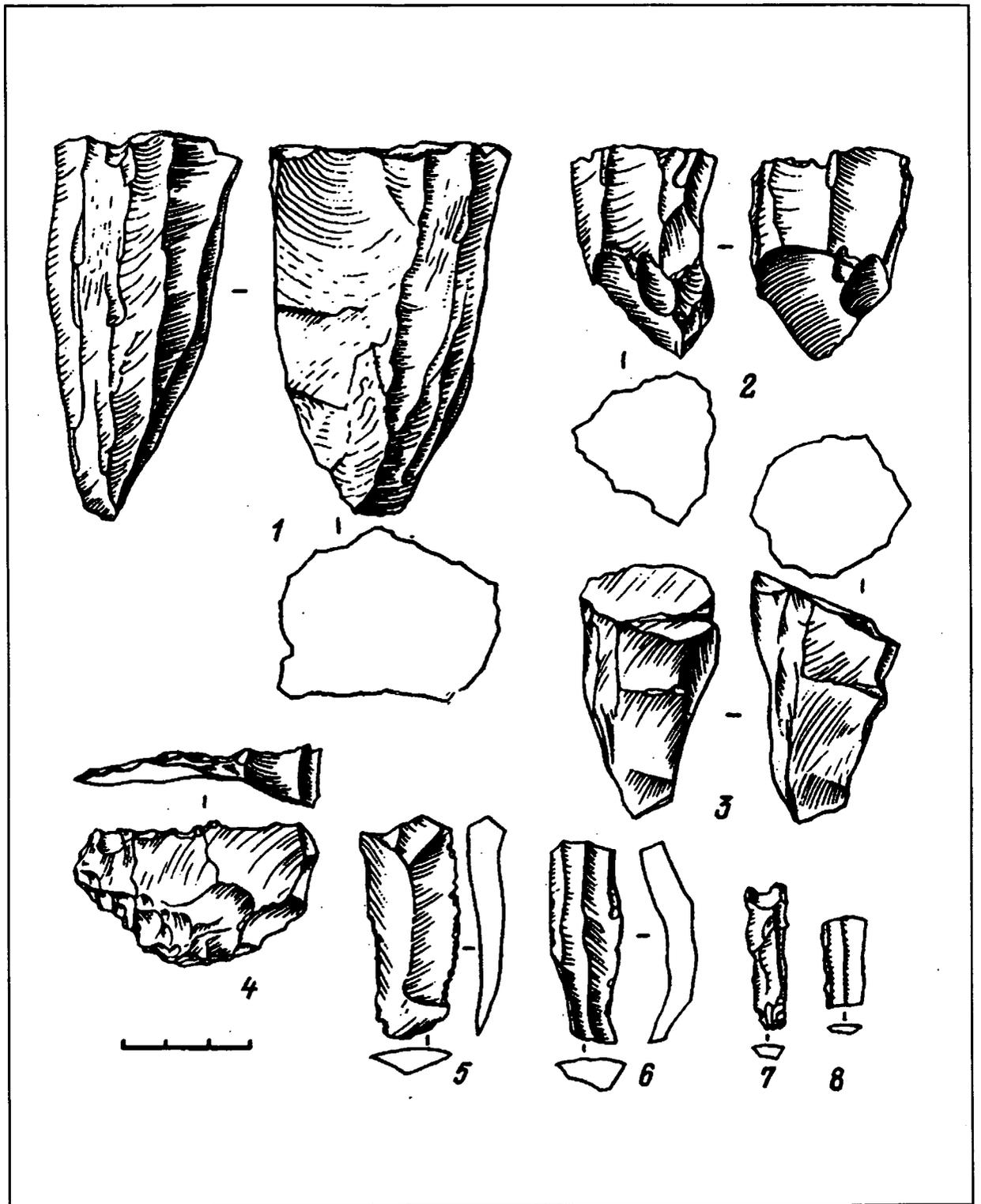


Plate 53. Cores (1-3), transverse spall from a core (4), and knife-like lamellae (5-8) - Itkhat IB (3), 1986.

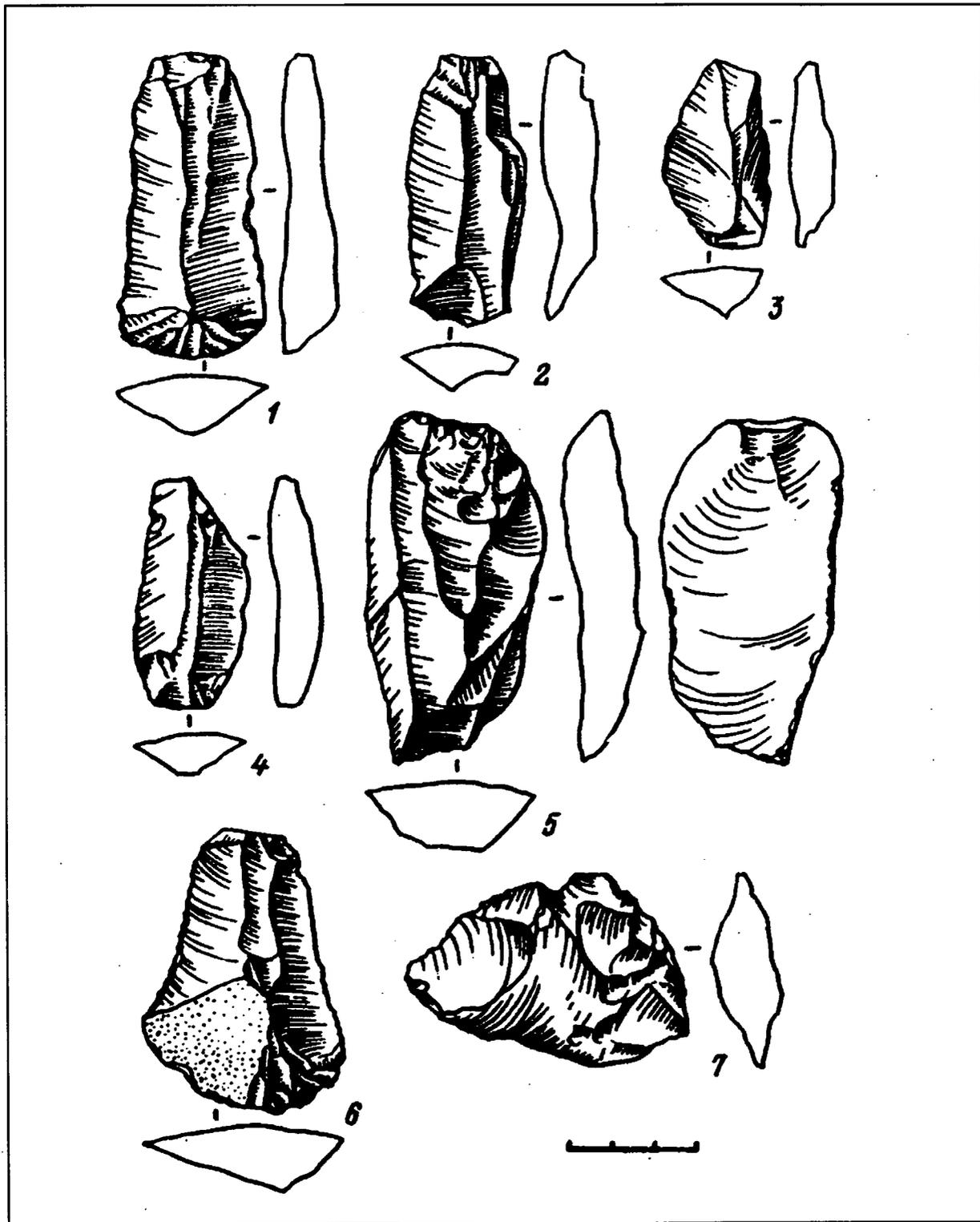


Plate 54. End scraper (1, 5, 6), scraper on a flake (7), and lamellar flakes (2-4) - Itkhat IB (3), 1986.

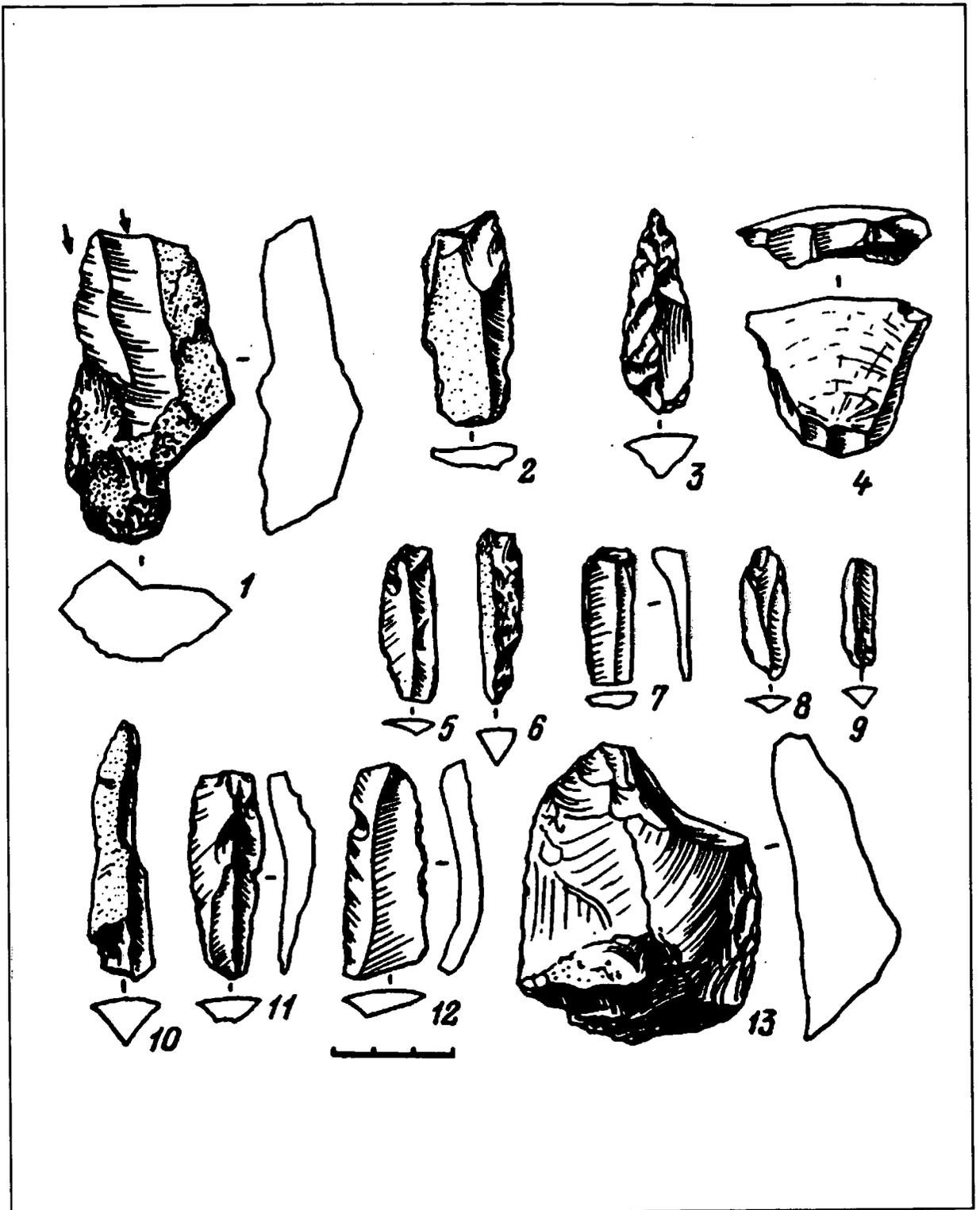


Plate 55. Burin (1), scraper (13), and other stone artifacts - Itkhat IB (3), 1986.

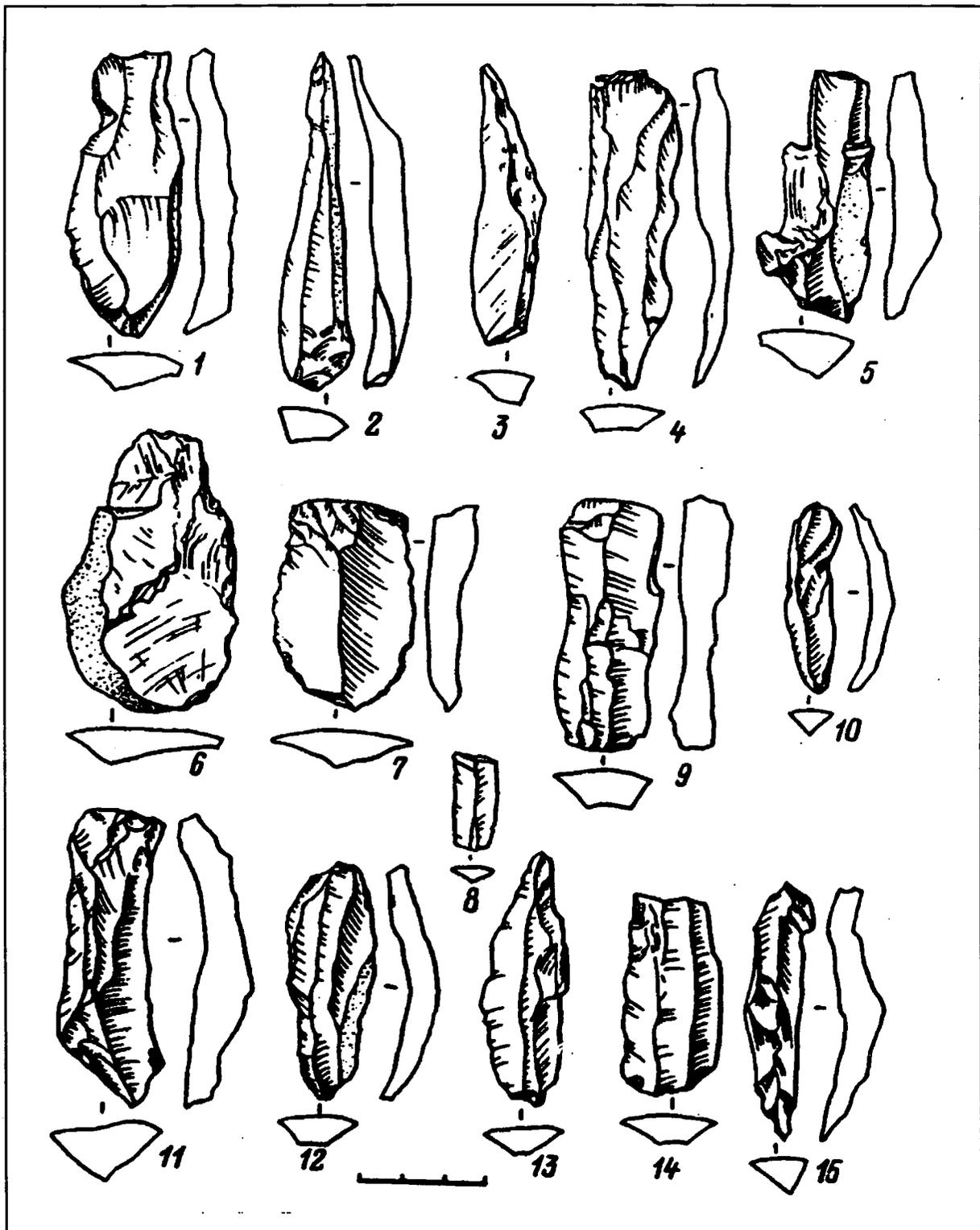


Plate 56. Lamellar flakes - Itkhat IB (3), 1986.

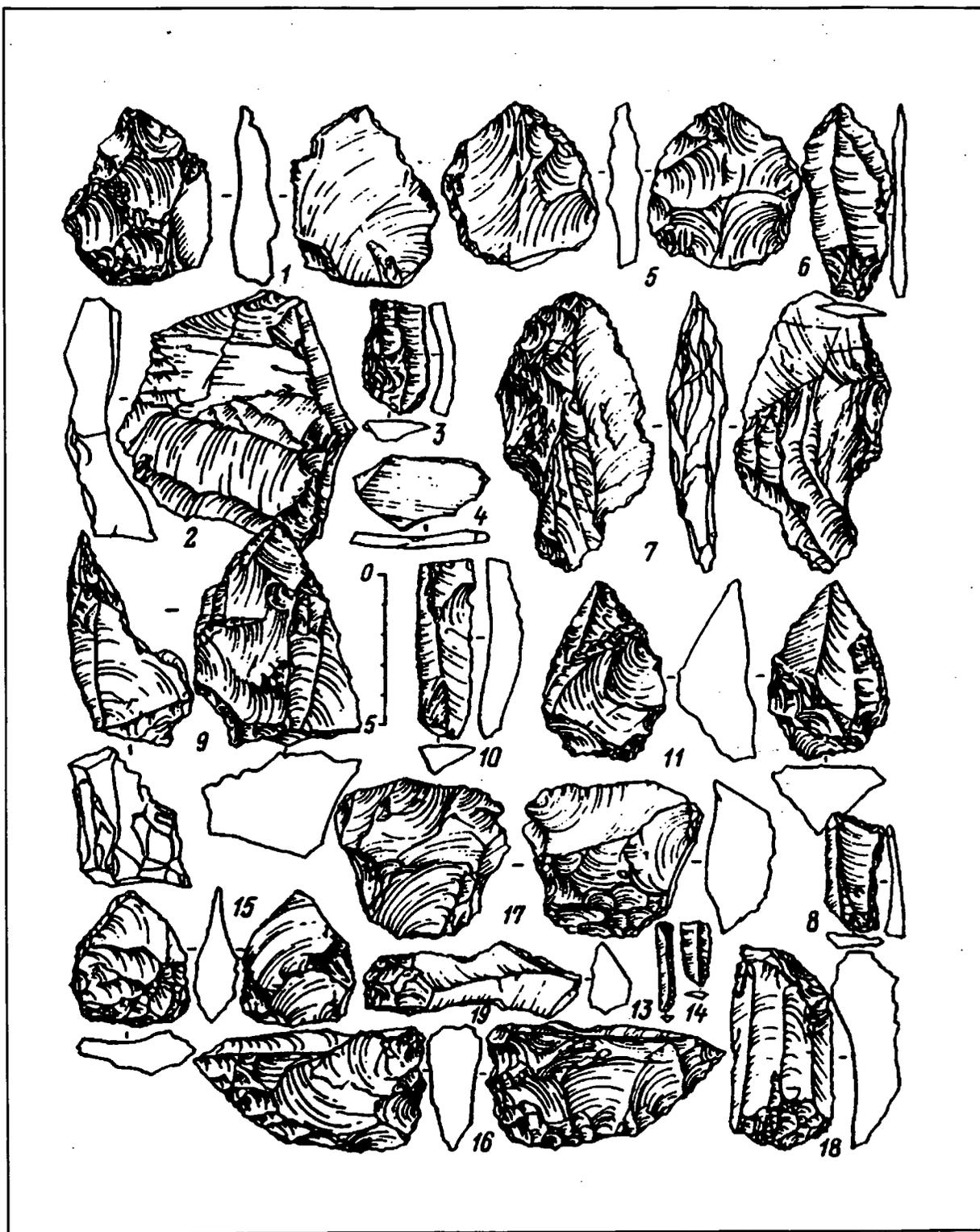


Plate 57. Stone artifacts from the Itkhat IIA site (1-4) and the Itkhat IC campsite (5-7, 17-19), Itkhat IC from pit (10-14), Itkhat IE (8, 9, 15, 16). Pointed artifacts (1, 5, 11, 15), blank of an arrow point (6), blank of a knife (7), scrapers (17 & 18), segmented biface (16), fragment of a core (9), transverse spalls from cores (2 & 4), lamellar flakes (3, 8, 10, 19), and knife-like lamellae (13 & 14).

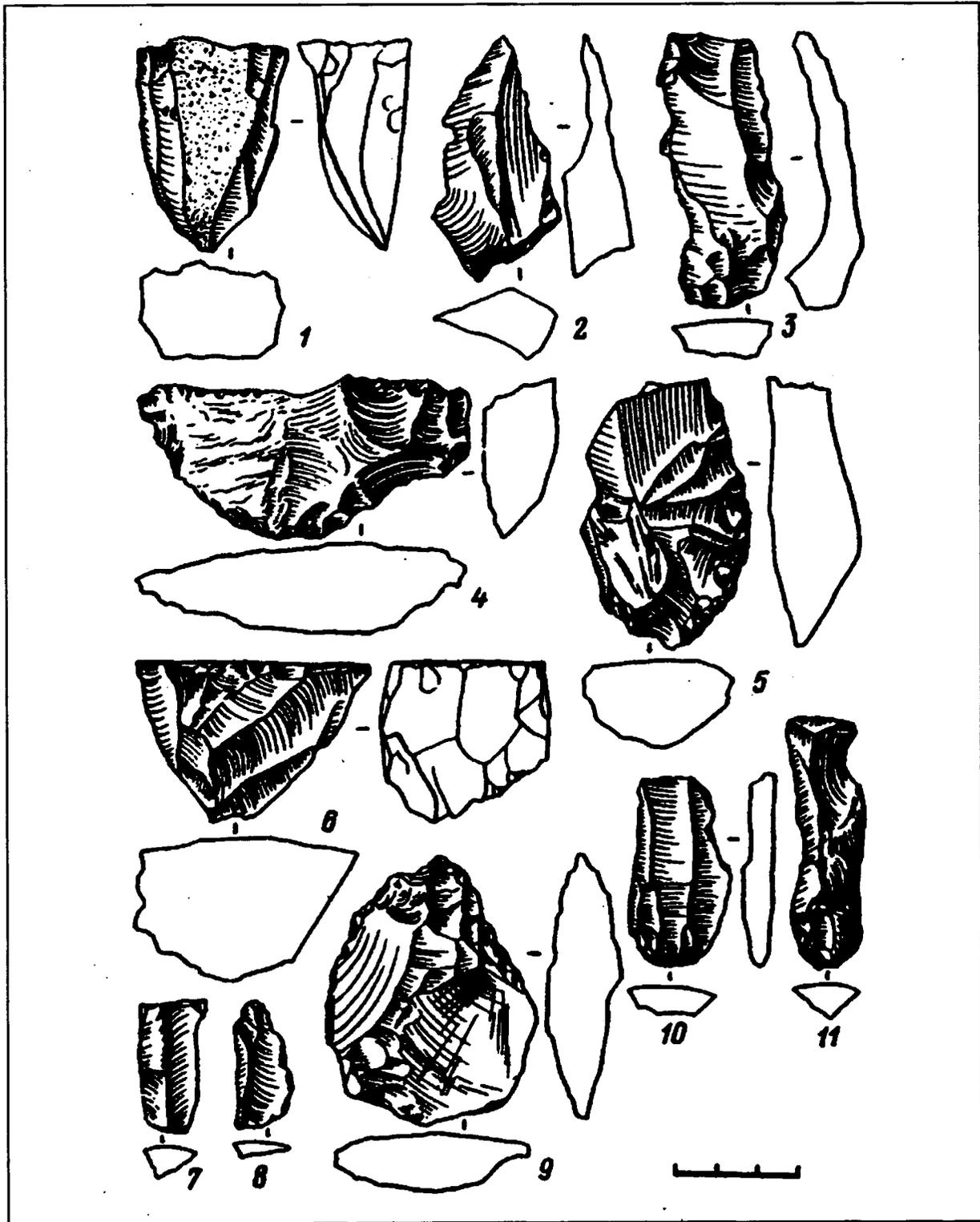


Plate 58. Stone artifacts from the Tkachen site (5), 1986: cores (1 & 6), knife (4), scraper (5), pointed artifact (9), and lamellar flakes (3, 7, 8, 10, 11).

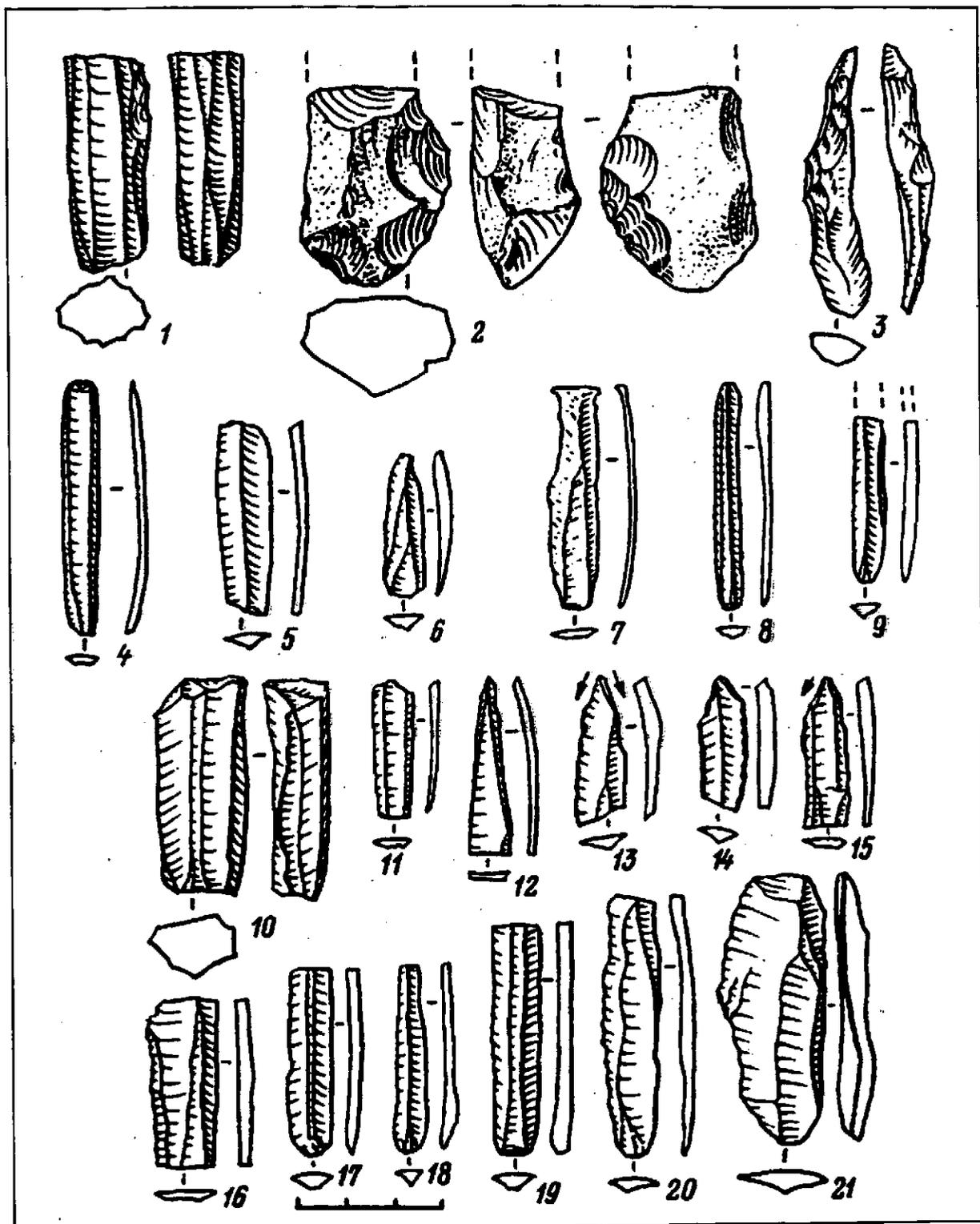


Plate 59. Siliceous cores, knife-like lamellae and burins from them from the Mesolithic Chel'kun IV site (38), 1979, 1982.

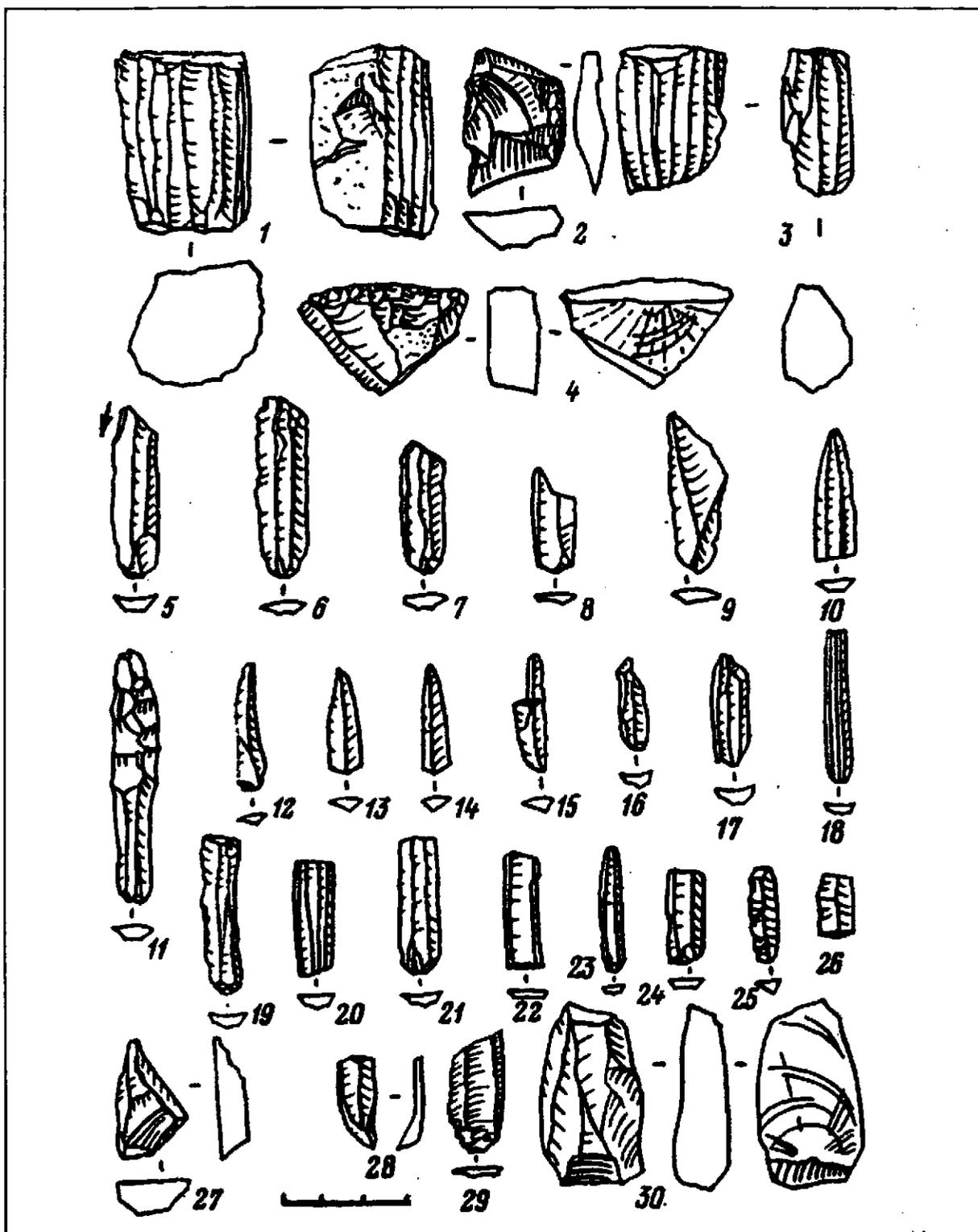


Plate 60. Two prismatic cores (1 & 3), a blank (4), burin (5), microblades (6-8, 10-26, 28, 29) and flakes (9, 27, 30), trapezoidal artifact - scale 2/3 (2) - all of light-gray flint - from the Chel'kun IV site (38), 1982.

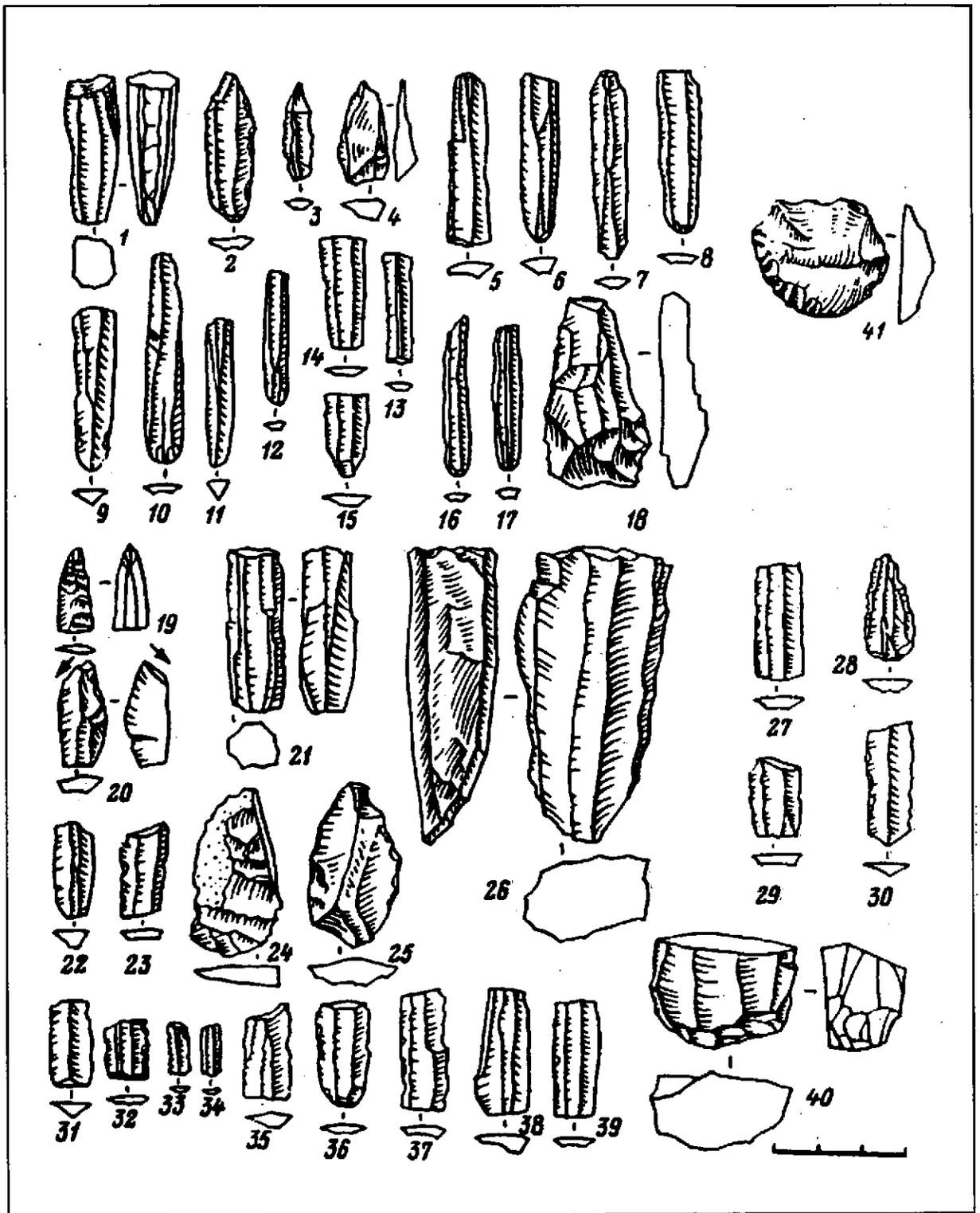


Plate 61. Stone artifacts from the Mesolithic Chel'kun IV site (38), 1982 (1-18); at Lake Achchen at the mouth of the Likvylneveem River (12), 1981 (19-40); and Ananaiveem (48), 1984 (41).

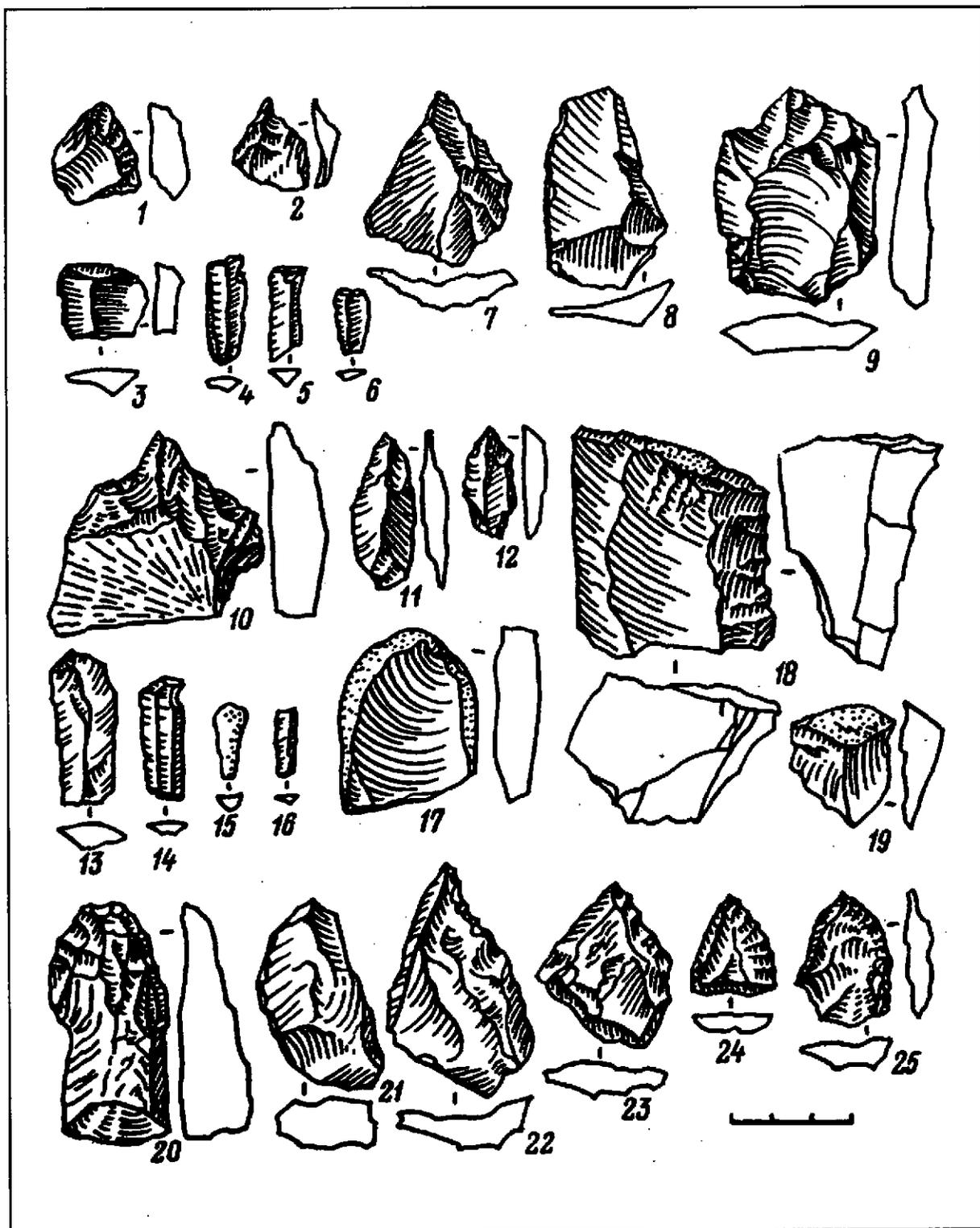


Plate 62. Artifacts from siliceous slate from the Sineveem site (8) - 1-9, Val'karvaam (10) - 10-19, and Kaatap I (13) - 20-25, 1981.

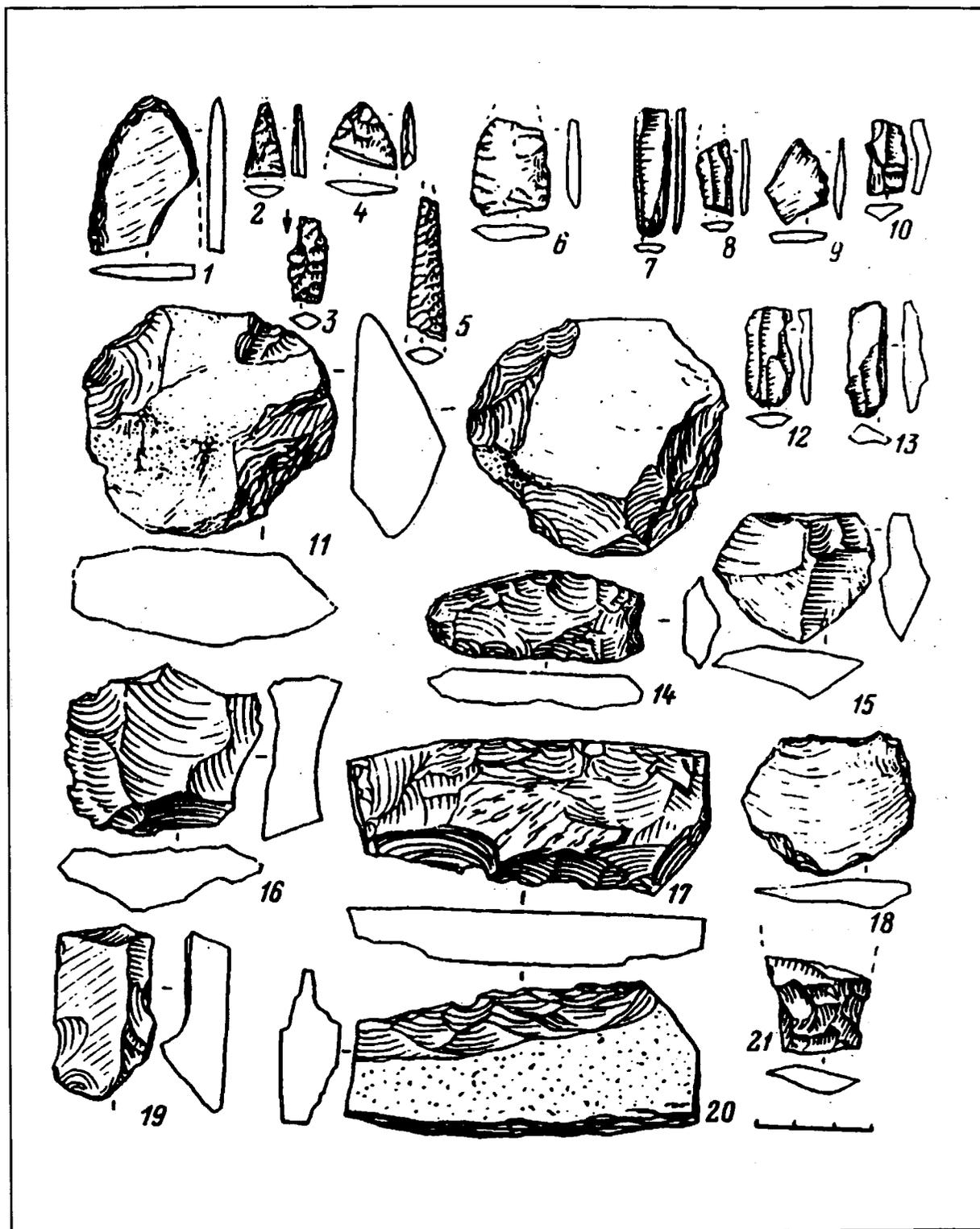


Plate 63. Artifacts from the Karytkin site (21), 1980: 7, 10 - of light-yellow flint, 13 - of silicified tuff, the remainder - of yellowish-gray siliceous slate.

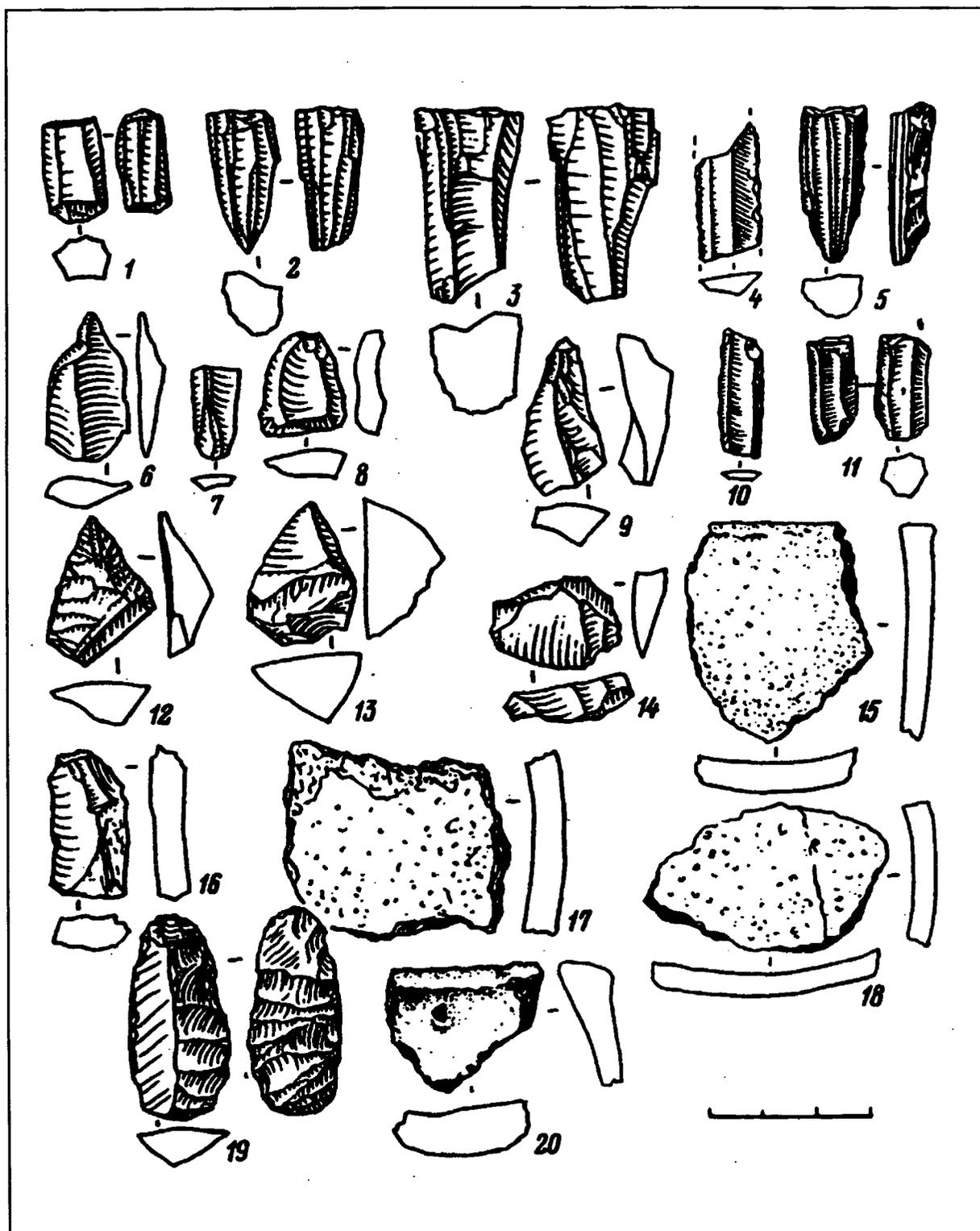


Plate 64. Neolithic complex of artifacts from the Kurupka I site (16), 1979 (collections of G. I. Kazinskaia).

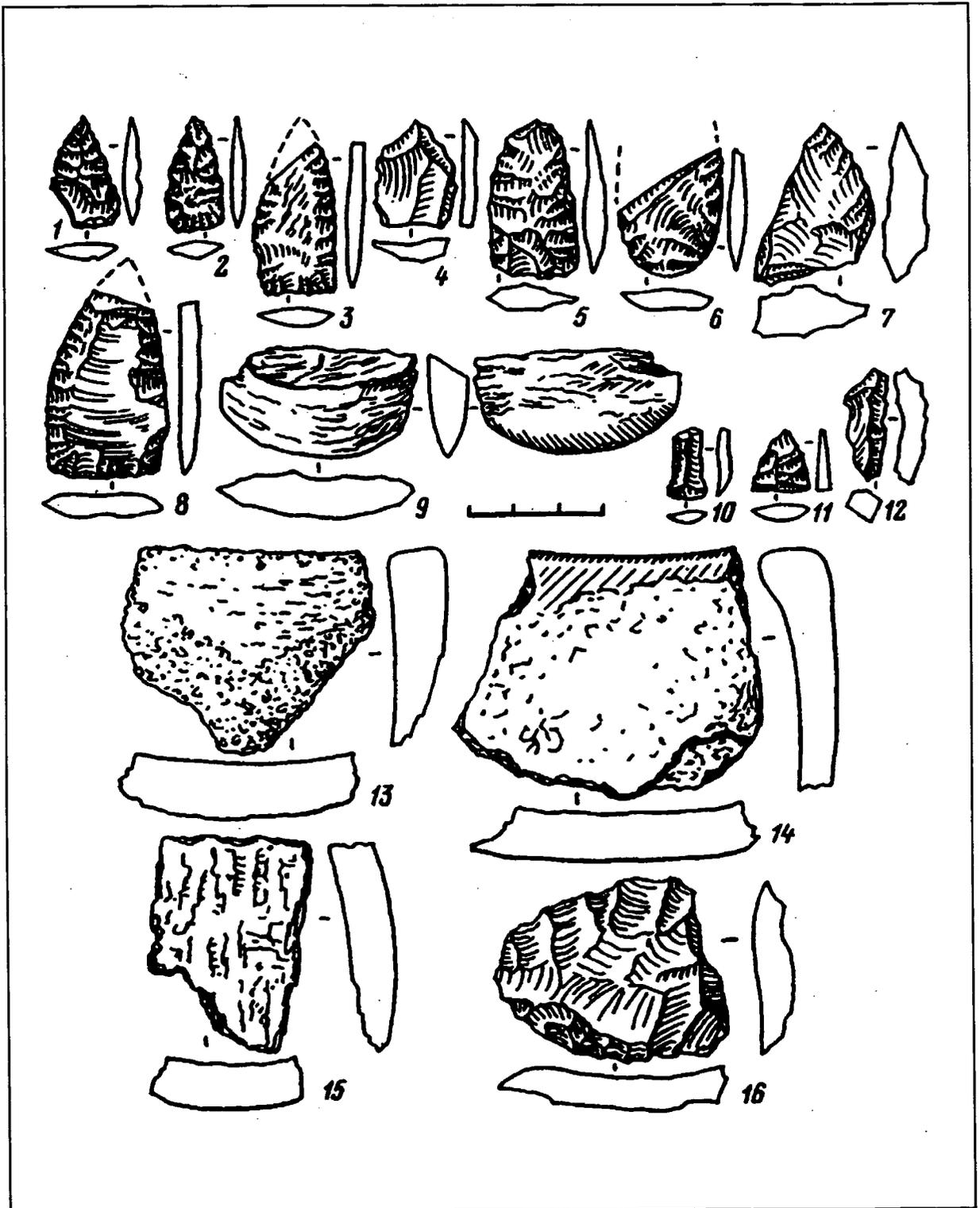


Plate 65. Stone artifacts and fragments of clay vessels from the Kurupka II site (15), 1979: 7 - gray stone; 10 - obsidian; 1-5, 8, 9, 11, 12, 16 - siliceous slate; 13-15 - ceramics.

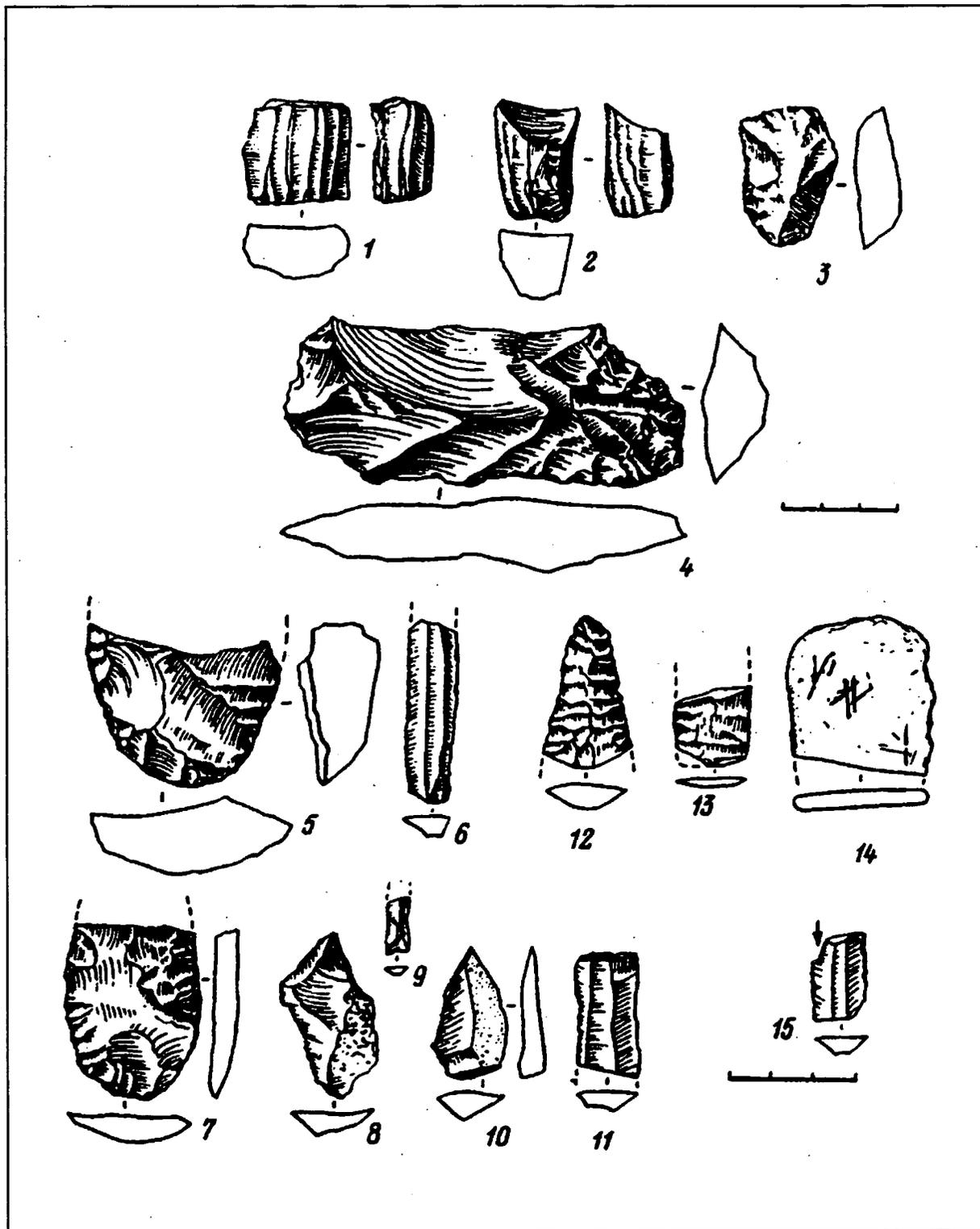


Plate 66. Stone artifacts from the Neolithic Ol'khovka site (4) - 1-4; Ioniveem III (28) - 12-14; Chel'kun VIIA (31) - 5-11; Chel'kun VIIB (32) - 15.

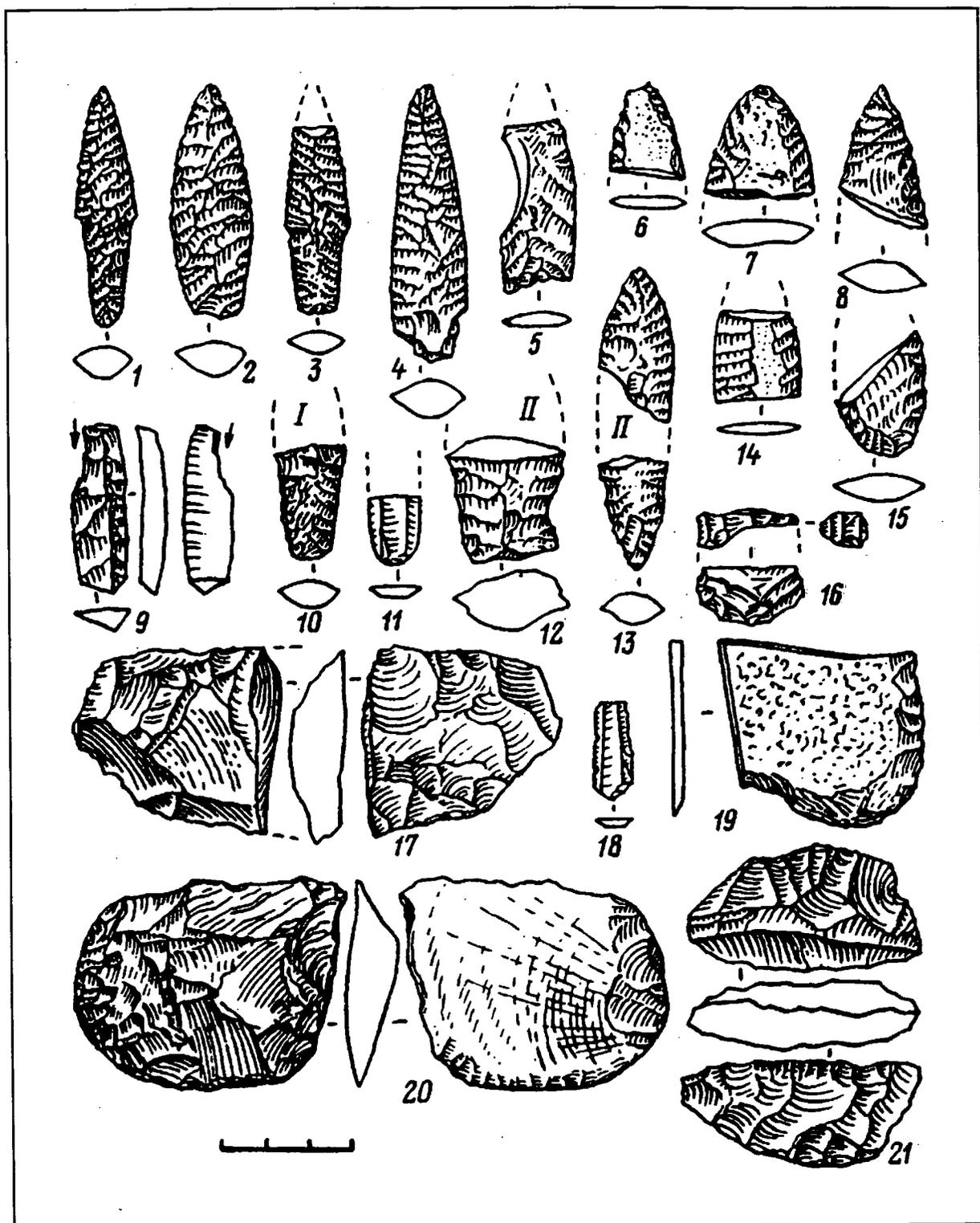


Plate 67. Artifacts of siliceous slate from the Terkemkyn I ("Strelka") site (26), 1982, 1984.

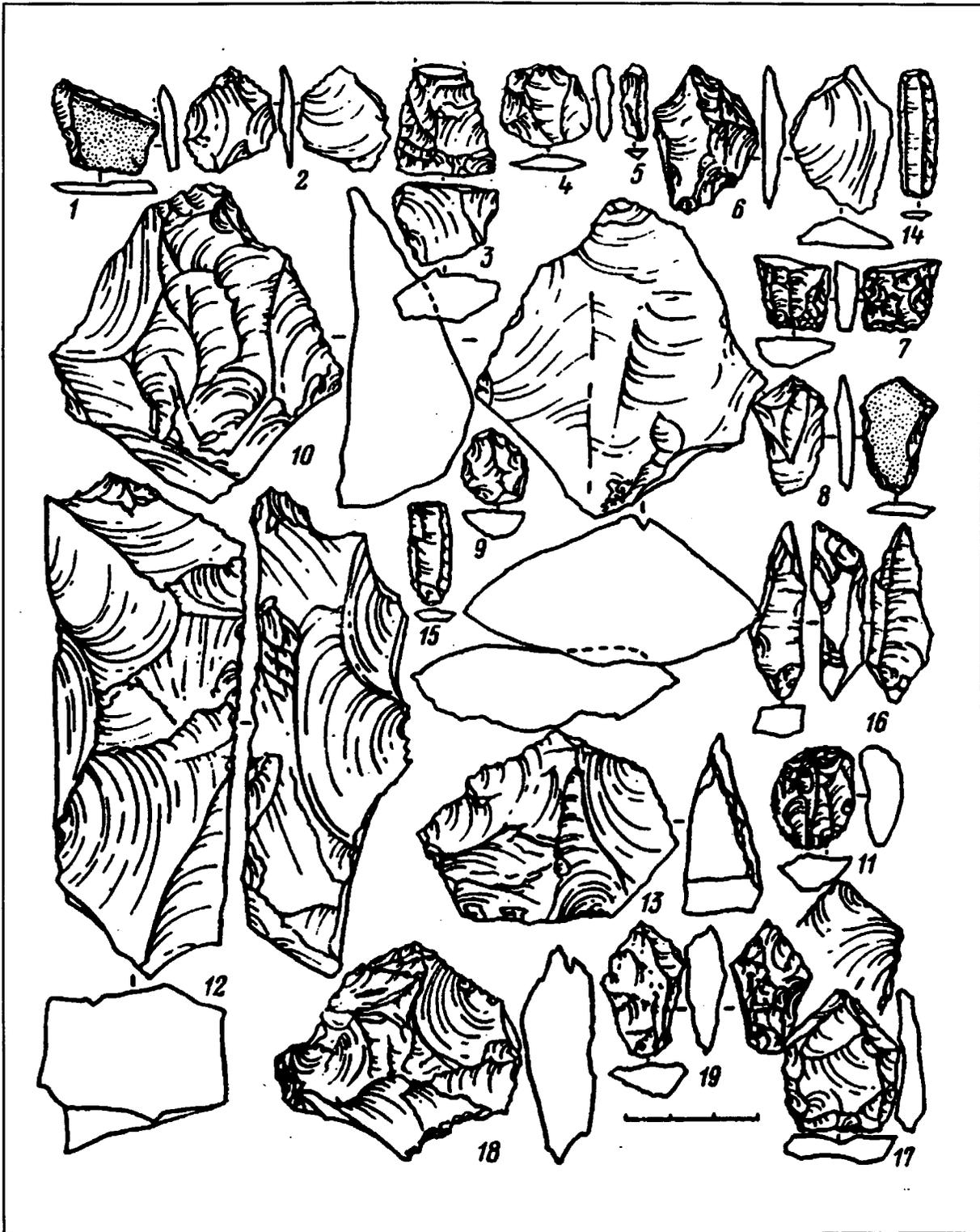


Plate 68. Artifacts from the Terkemkyn I and II sites (26): 1-4 - dark-gray silicified slate; 5 - dark-gray flint; 6-19 - light-gray siliceous slate.

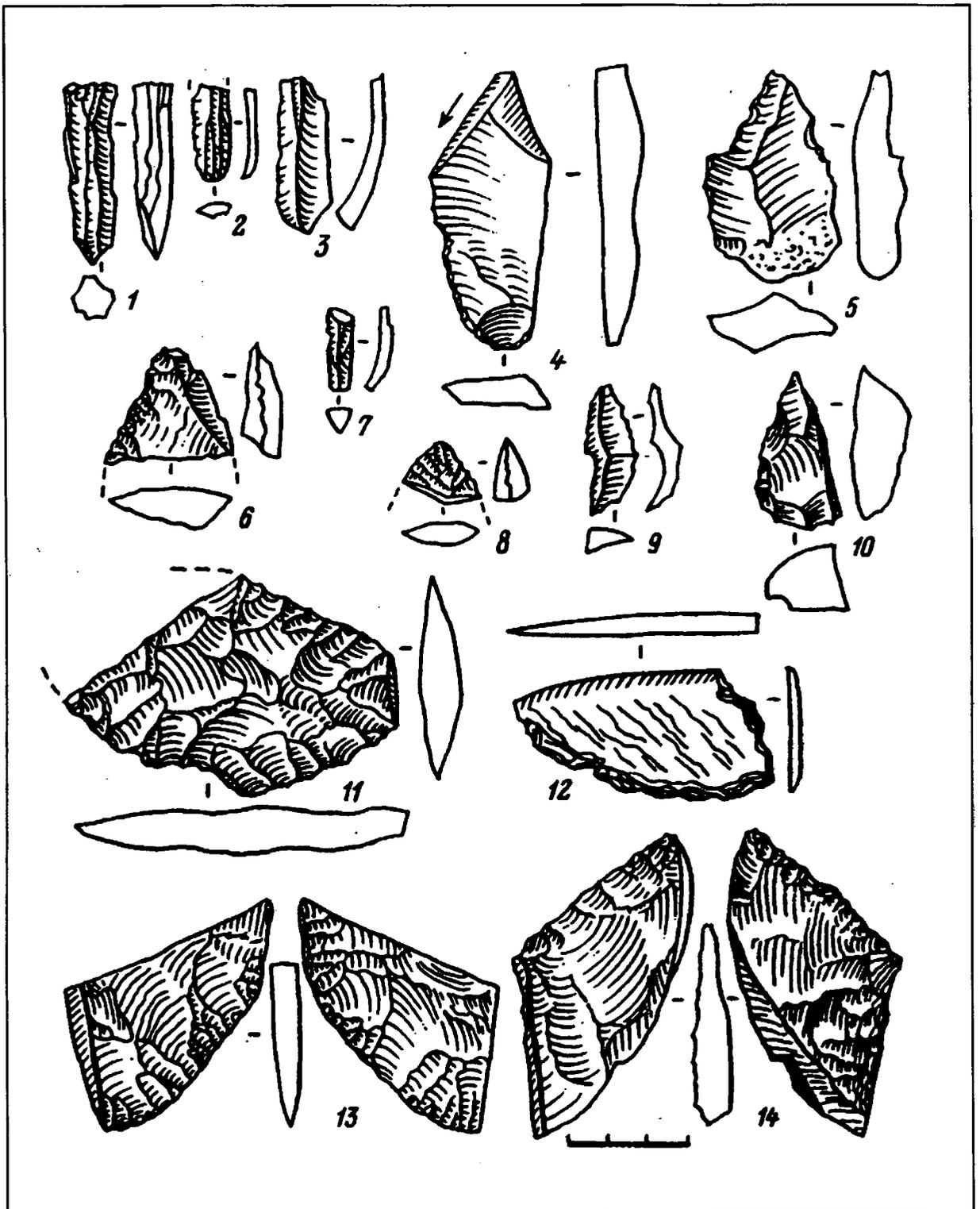


Plate 69. Stone artifacts from the Neolithic Chel'kun I site (37), 1979.

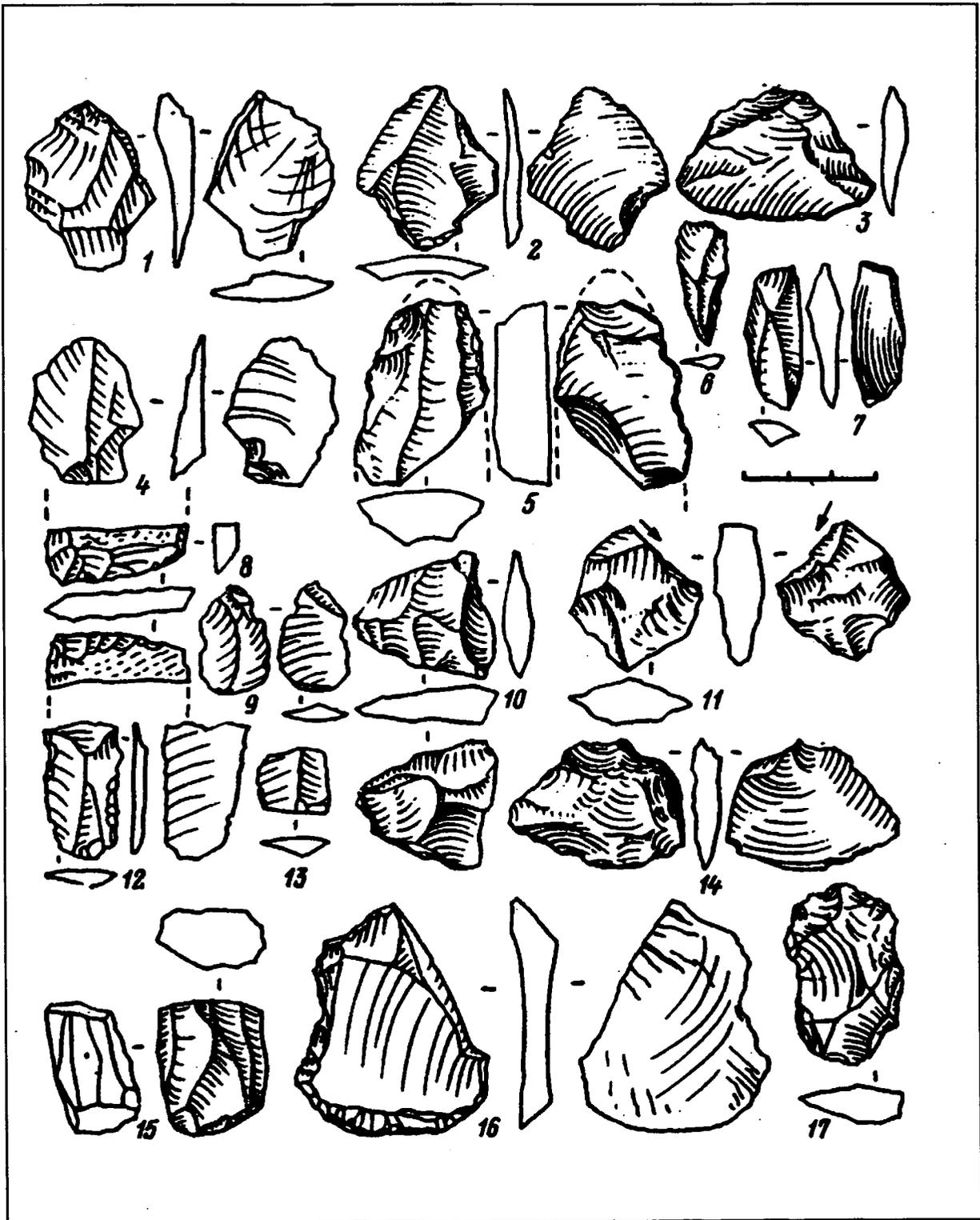


Plate 70. Artifacts of silicified tuff from the Chel'kun II site (39), 1979, 1982.

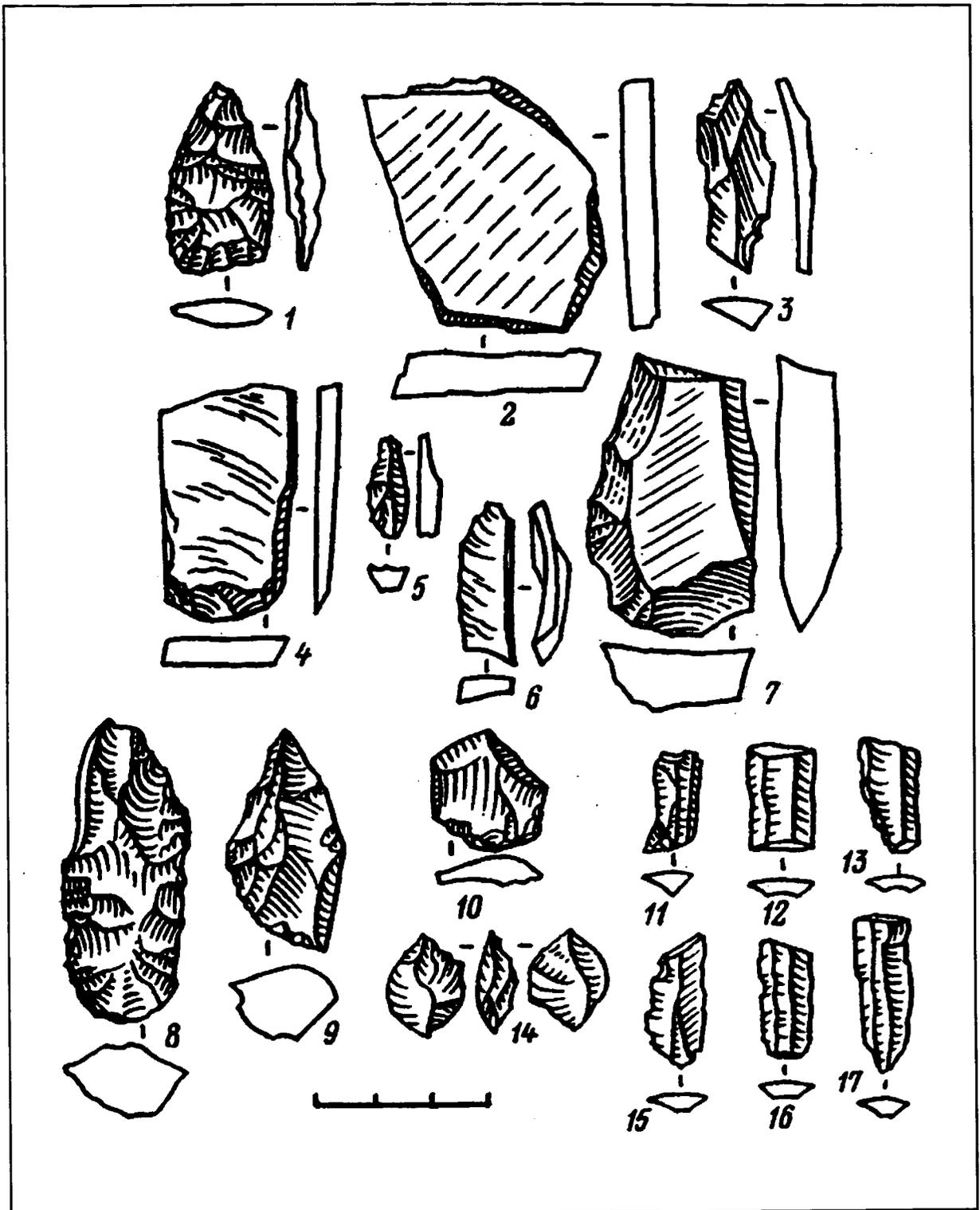


Plate 71. Stone artifacts from the Chel'kun V site (40), 1979 and Ioniveem V (43, 1981 - respectively: 1-7 and 8-17.

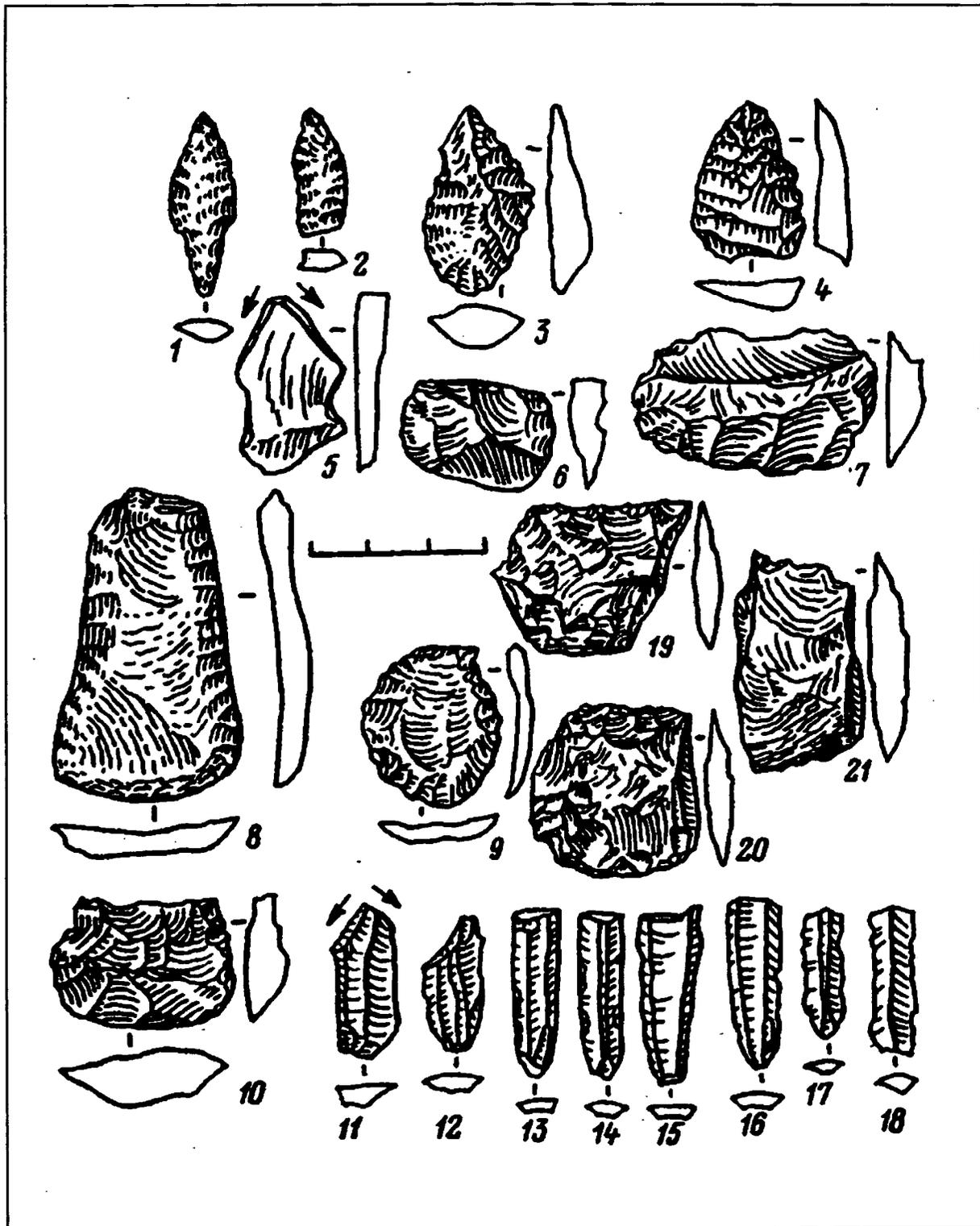


Plate 72. Stone artifacts from the Ioniveem VIII site (46), 1982 (1-7), Kurupka III (14), 1982 (8 & 9), Chel'kun IIIA (35a), 1982 (13-21), and Kurupka VI (20), 1980 (10-12).

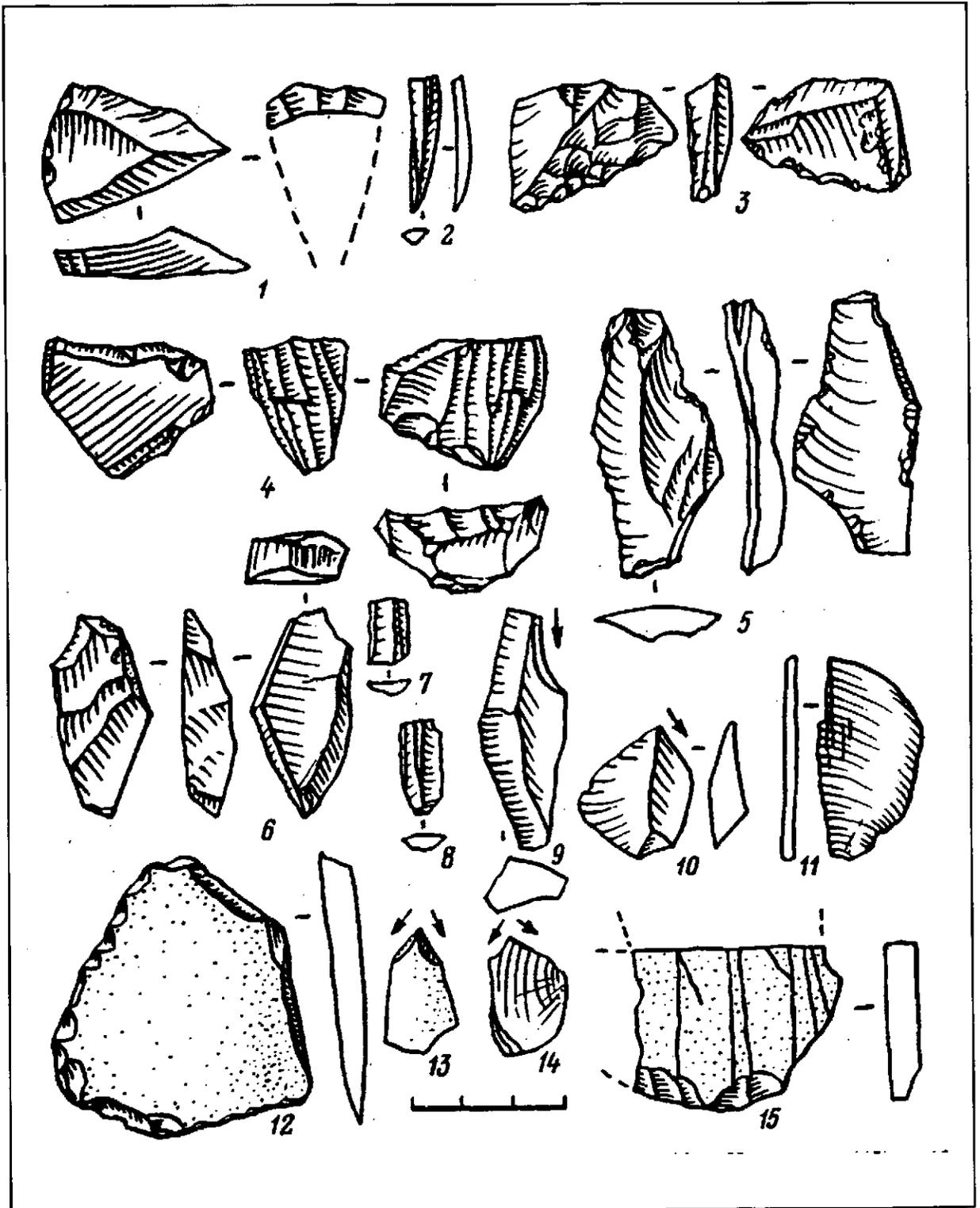


Plate 73. Stone artifacts from the Ioniveem VII site (45) - 1-11 and Nekunveem (42) - 12-15.

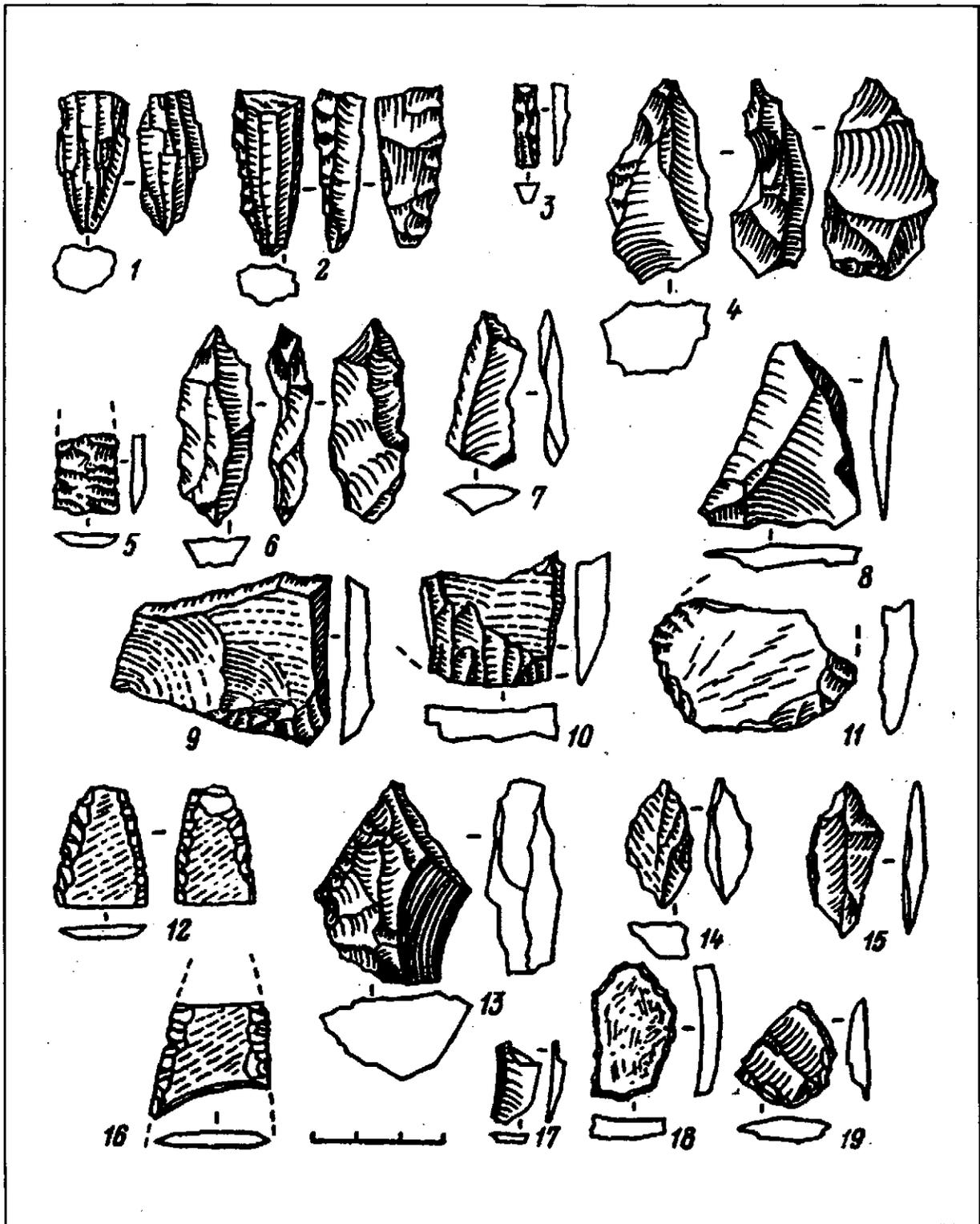


Plate 74. Stone artifacts from the Neolithic Naurech'e III site (55) - 1-11 and Naurech'e IV (56) - 12-19, 1979.

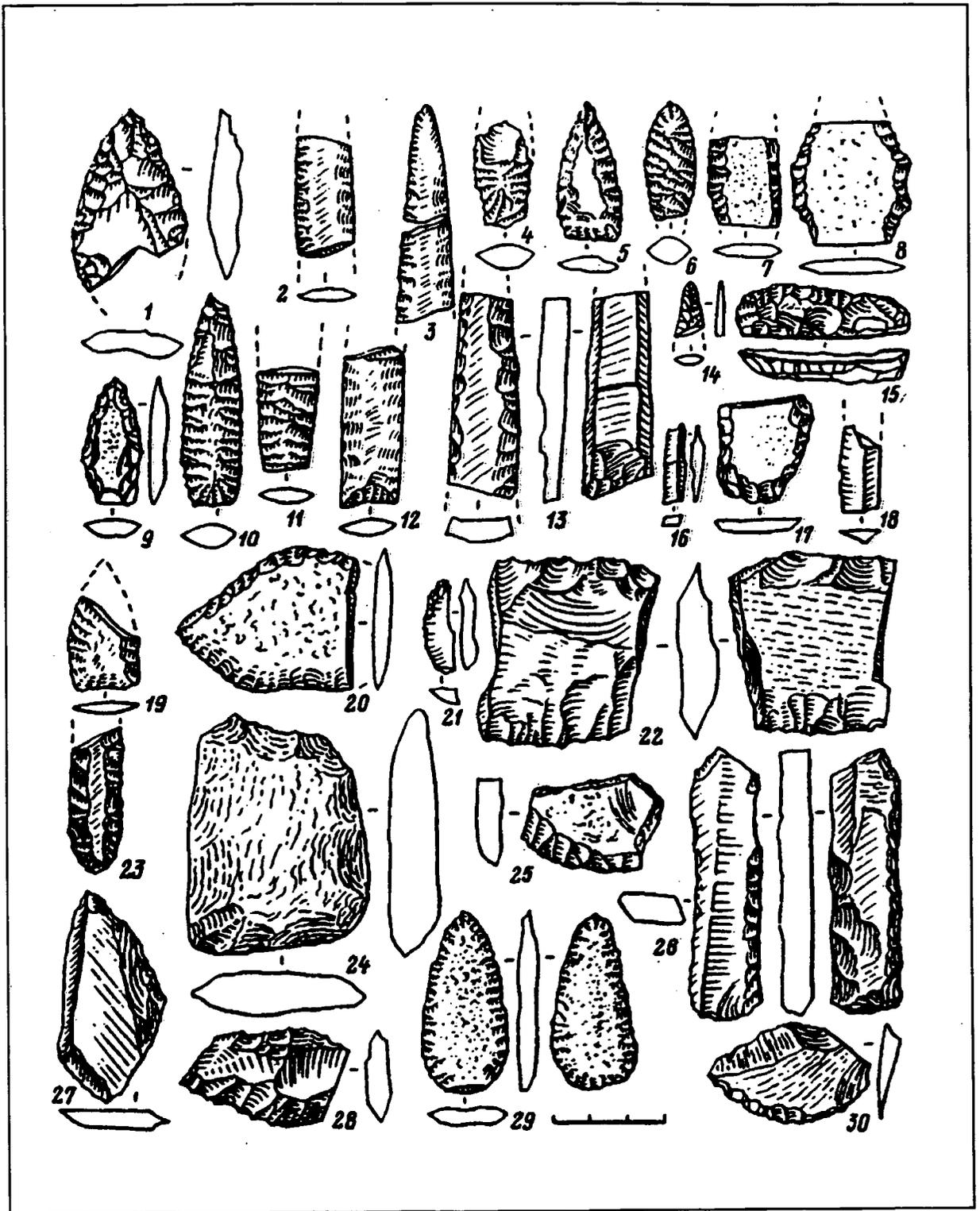


Plate 75. Stone artifacts from the Neolithic Naurech'e V site (57), 1979, 1981 (1, 5-7, 9-18, 20-31) and Naurech'e VI (58), 1979 (2, 3, 4, 8, 19).

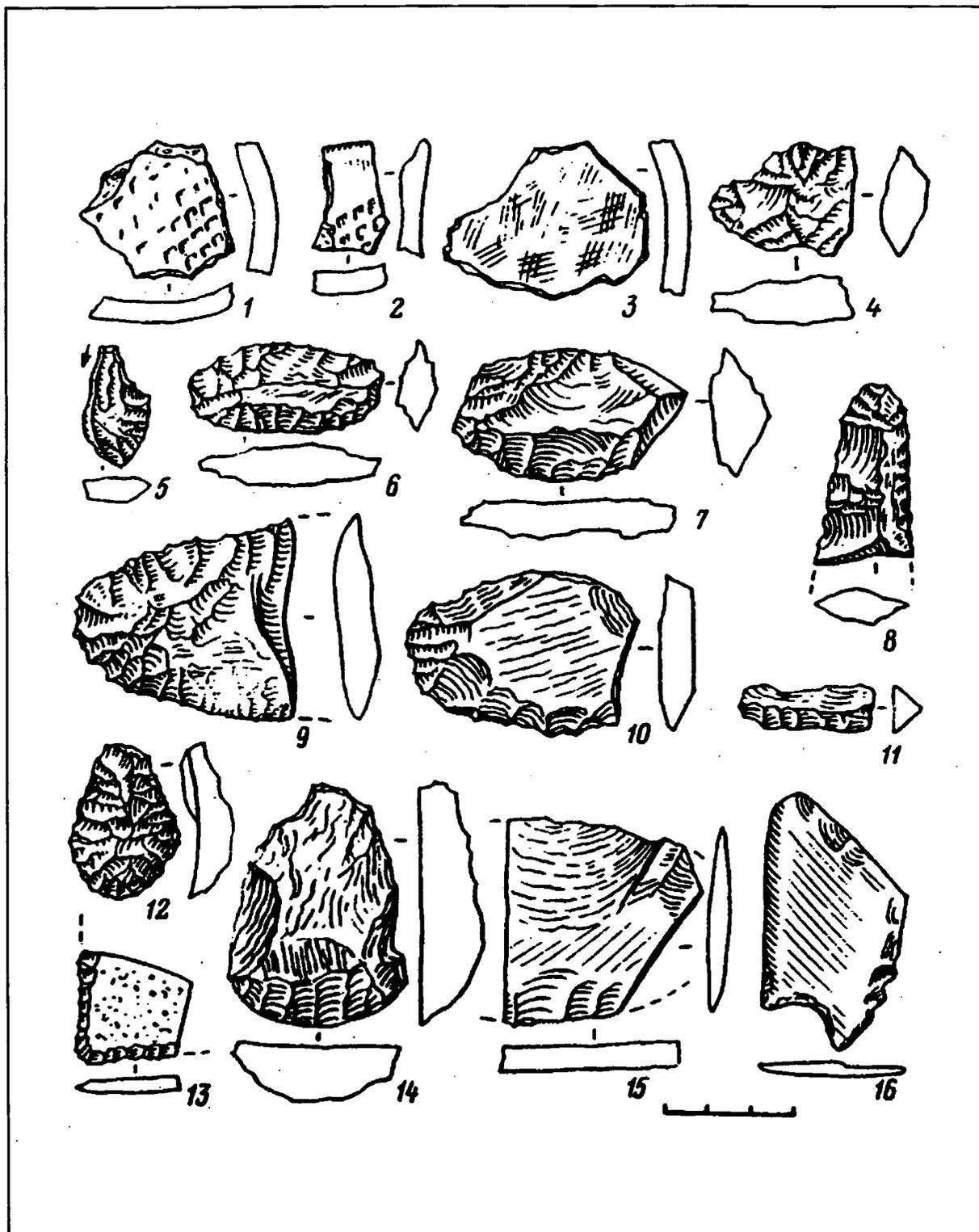


Plate 76. Fragments of clay vessels and stone artifacts from the Neolithic Naurech'e V site (57), 1979, 1981 (1-5, 7-9, 11-13, 15-16) and Naurech'e VI, 1979 (6, 10, 14).

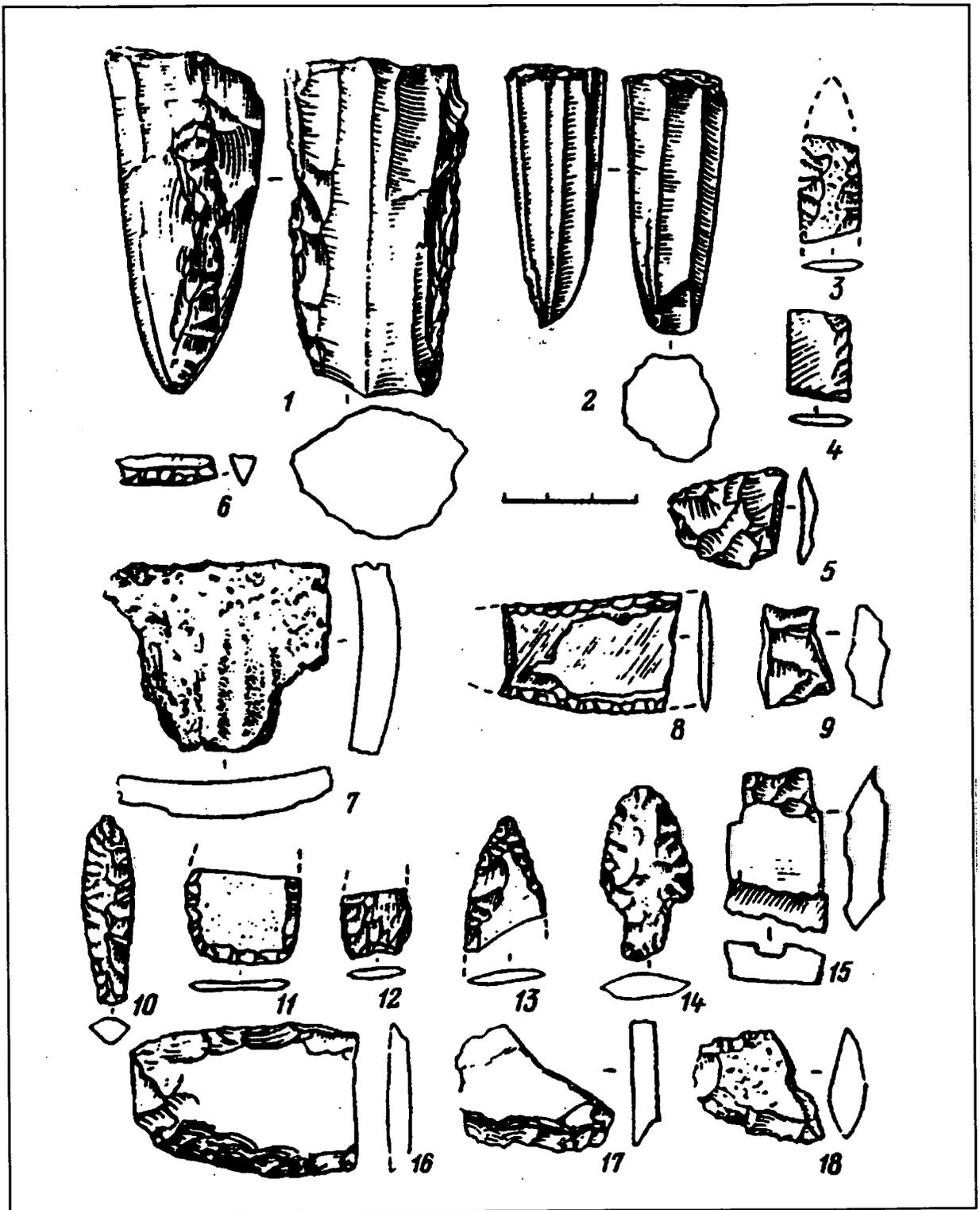


Plate 77. Artifacts from the Naurech'e VII site (59) - 1, 2; Naurech'e VI (58) -3, 4, 5, 7, 9, 10, 15-18; Tynnaia III (62) - 8; Tynnaia I (60) - 11-14, 1981.

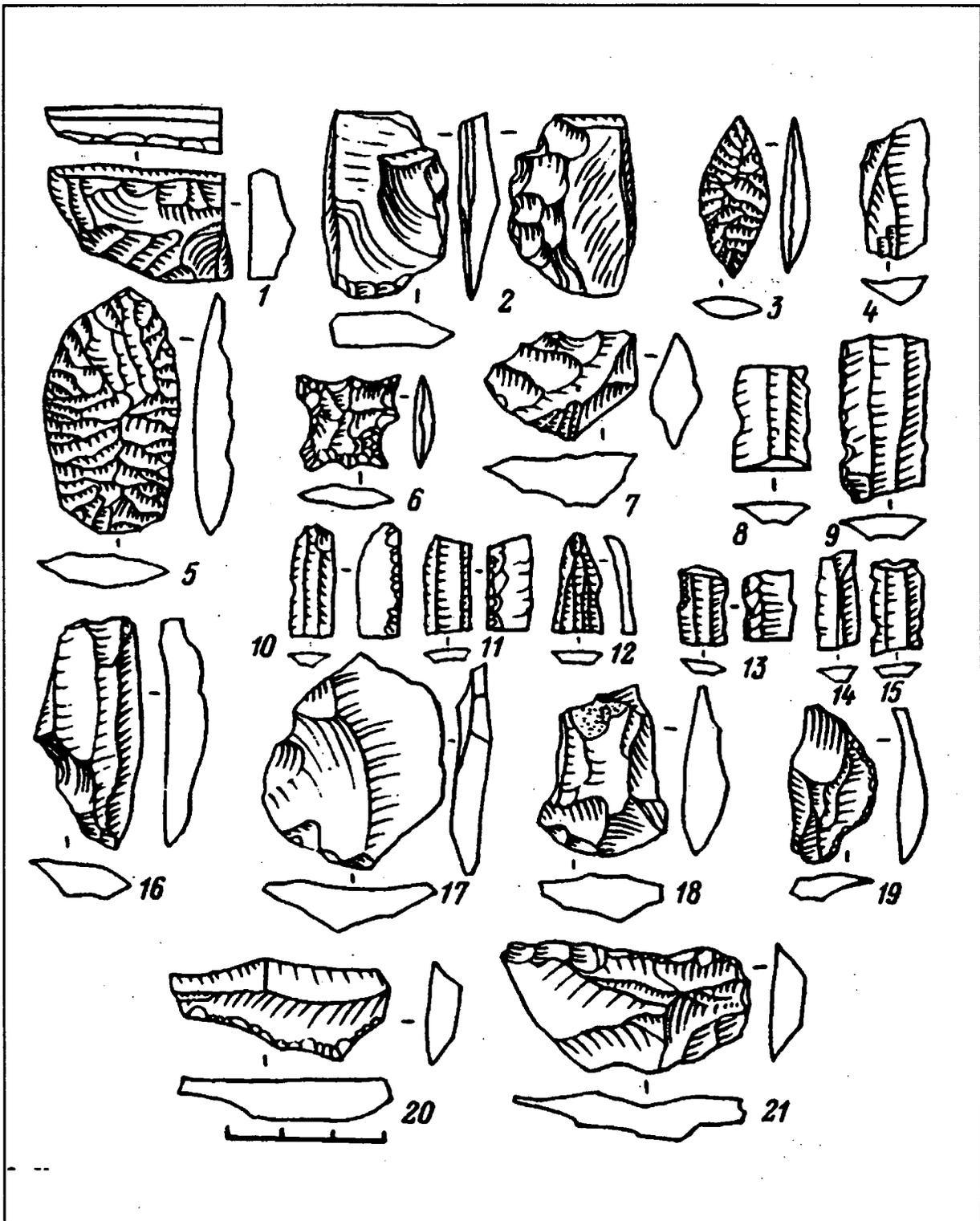


Plate 78. Stone artifacts from the Chuvaigythyn II site (65), 1981 (1, 2 - somewhat like wedge-shaped cores; 3-21 - the remaining artifacts of the complex).

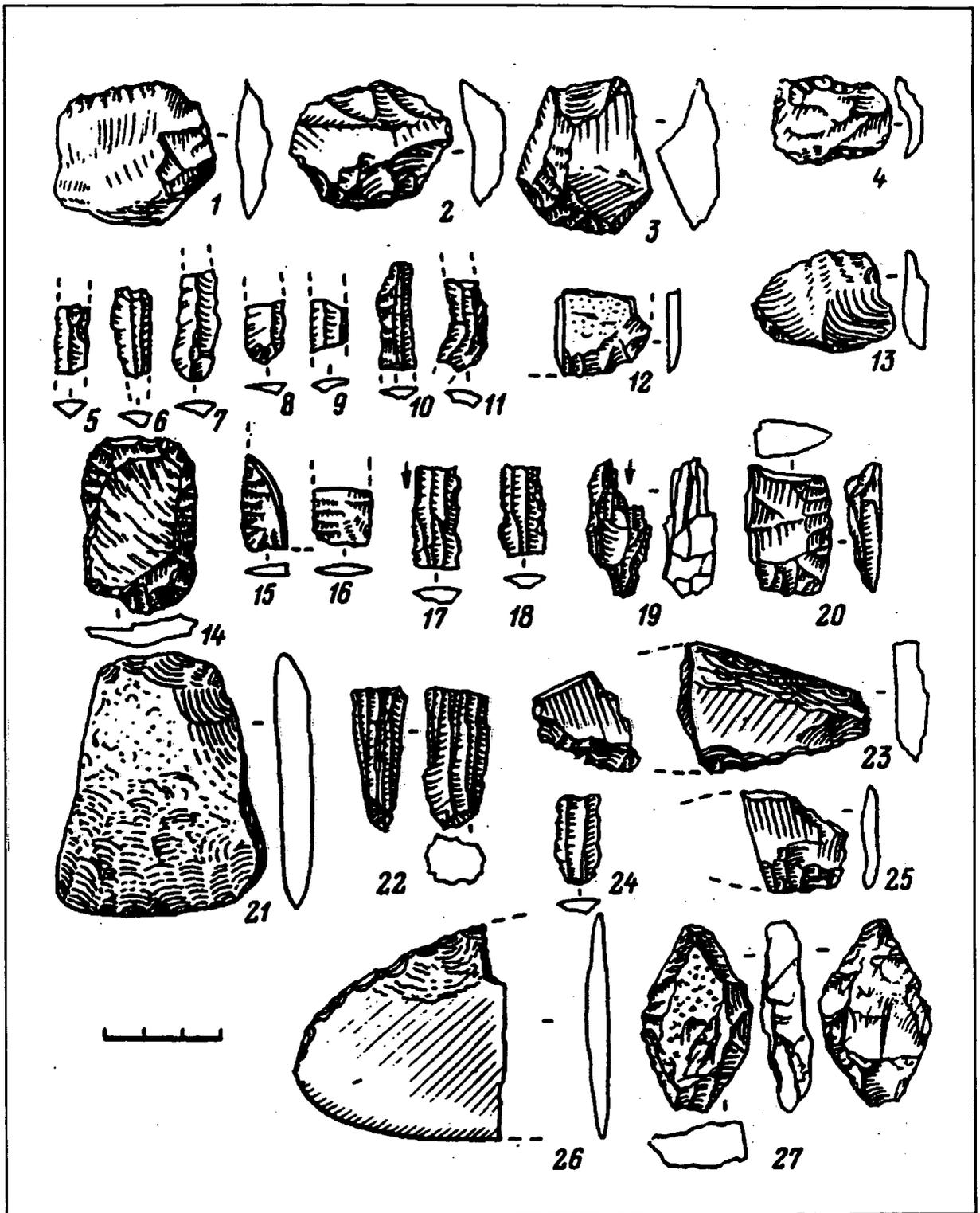


Plate 79. Stone artifacts from the Chuvaigytkhyn IIA site (65), Chuvaigytkhyn IV (67), Chuvaigytkhyn V (68), Chuvaigytkhyn cliff (Ioniveem XI) (72a), and Chuvaigytkhyn III (66), 1979, 1981, respectively: 15-20; 24 & 25; 1-13; 26 & 27.

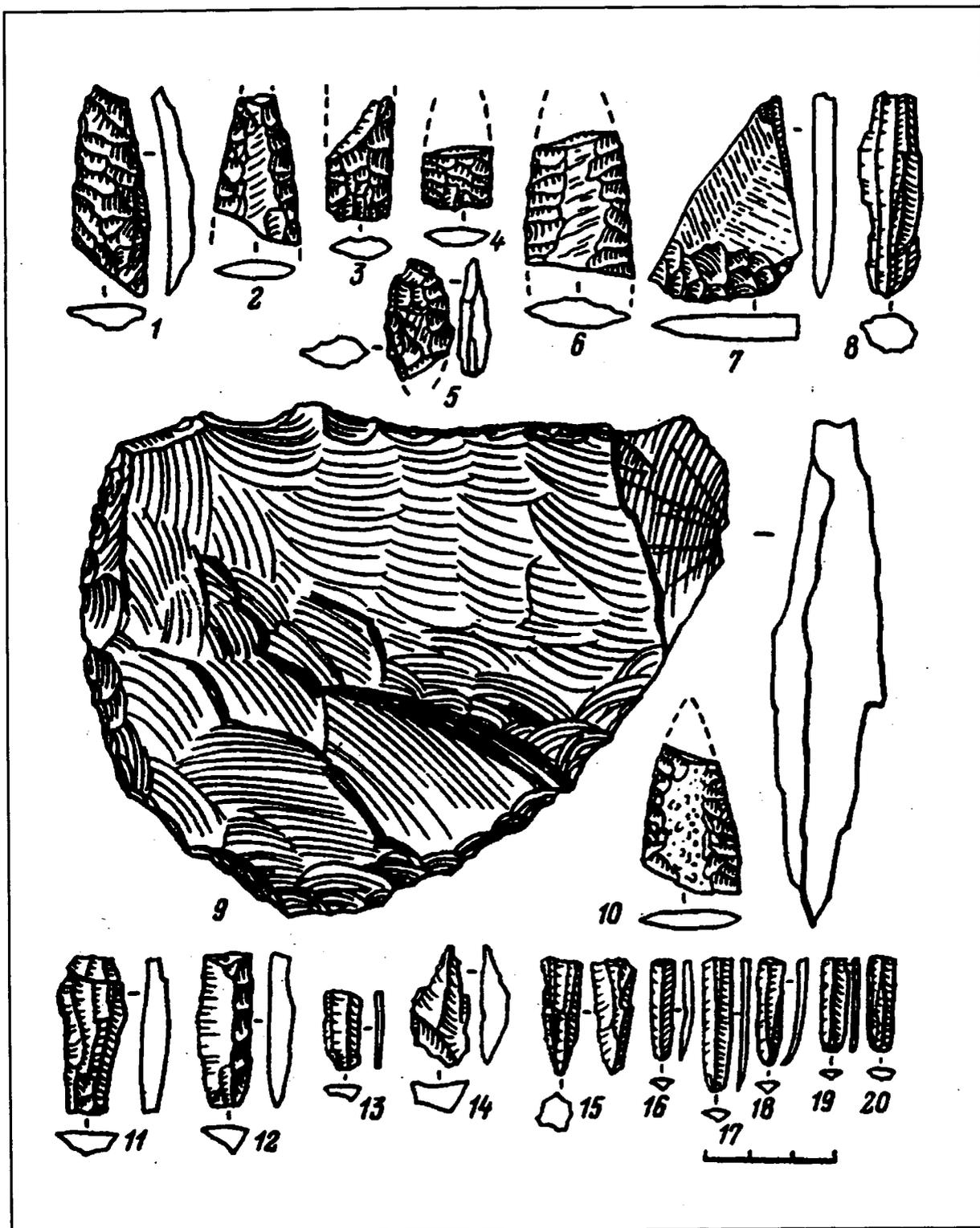


Plate 80. Stone artifacts from the Chuvaigytkhyn III (66) and Chuvaigytkhyn IV (67) sites, 1979 - respectively: 1-10 and 11-20.

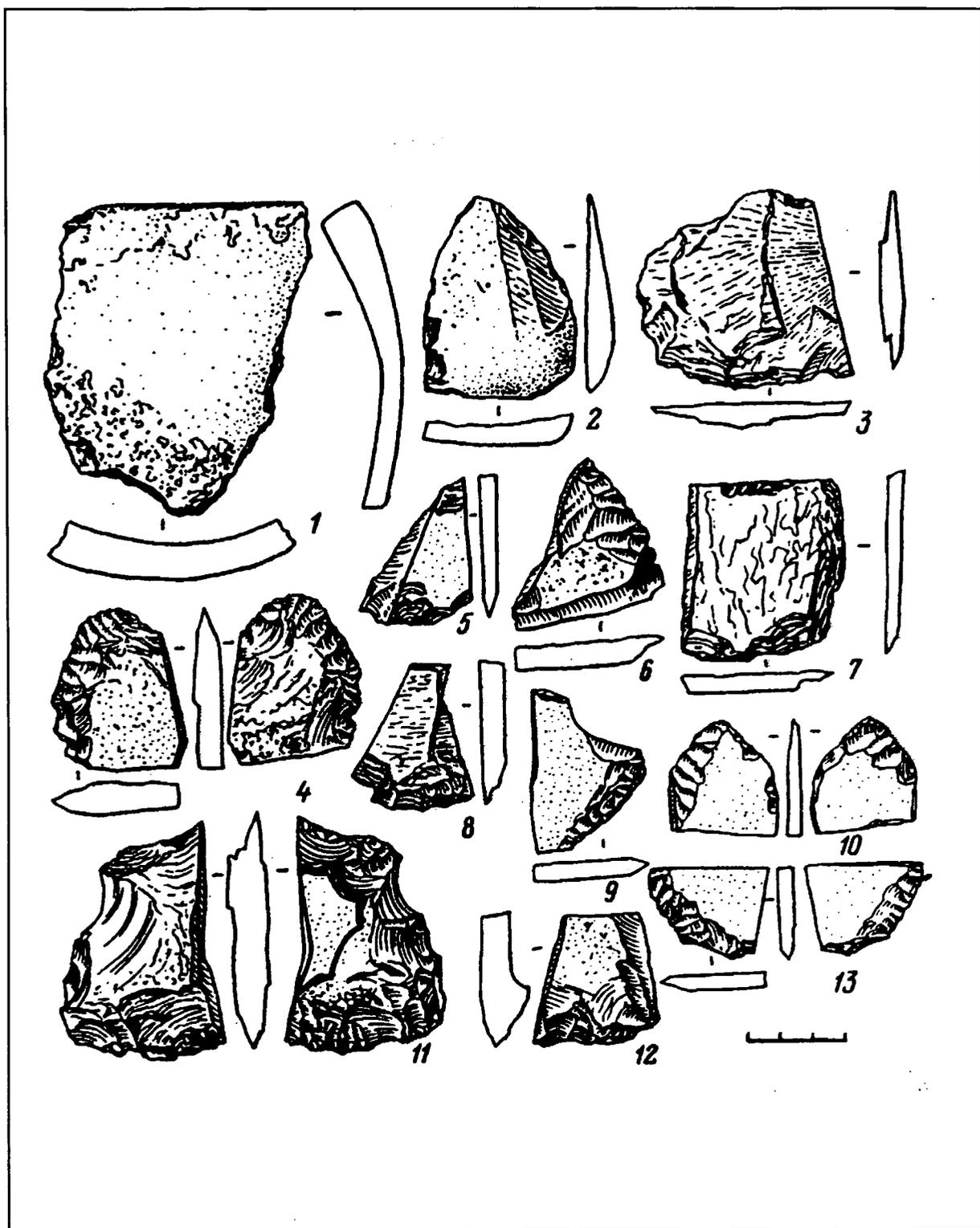


Plate 81. Fragment of a clay vessel and slate knives (ground) and skreblos from the Chuvaigytkhyn V site (68), 1981.

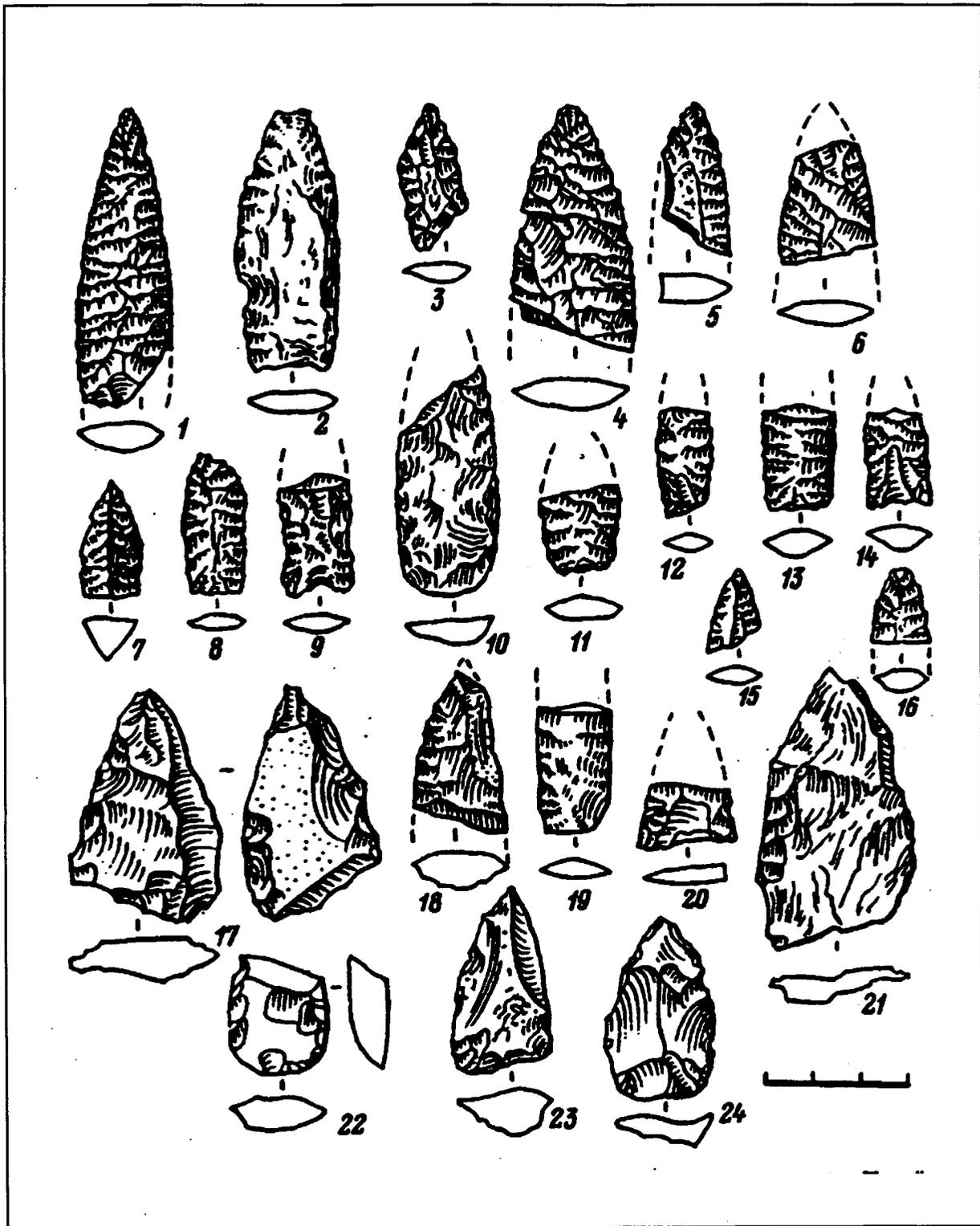


Plate 82. Arrow points and other artifacts of siliceous slate from the Chuvaigtkhyn V site (68), 1981.

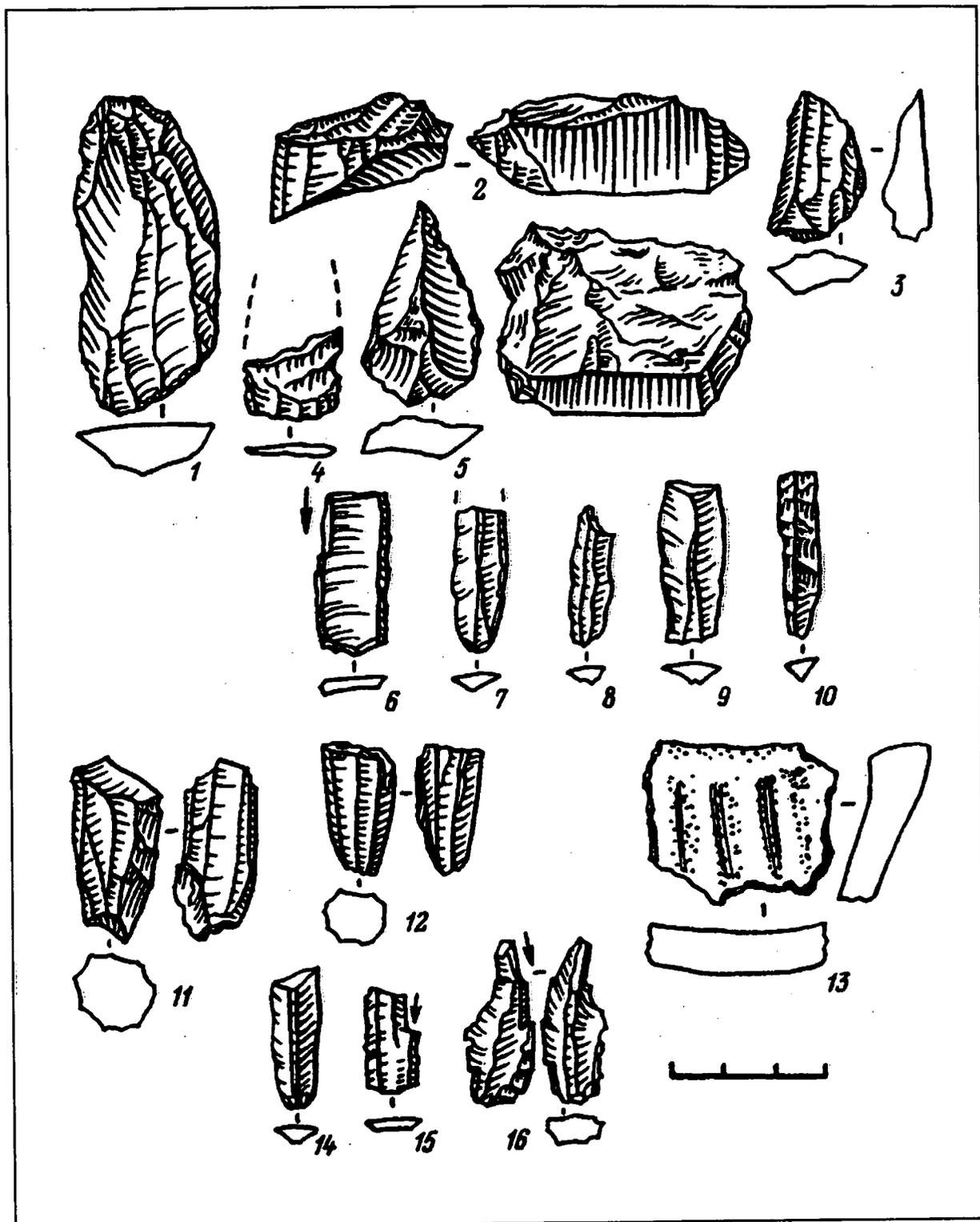


Figure 228. Stone and ceramic artifacts from the Chuvaigytkhyn VII and Chuvaigytkhyn IX (72) sites, 1981 - respectively: 1-10, 11-12, 14-16 - stone and 13 - a piece of clay vessel (rim fragment).

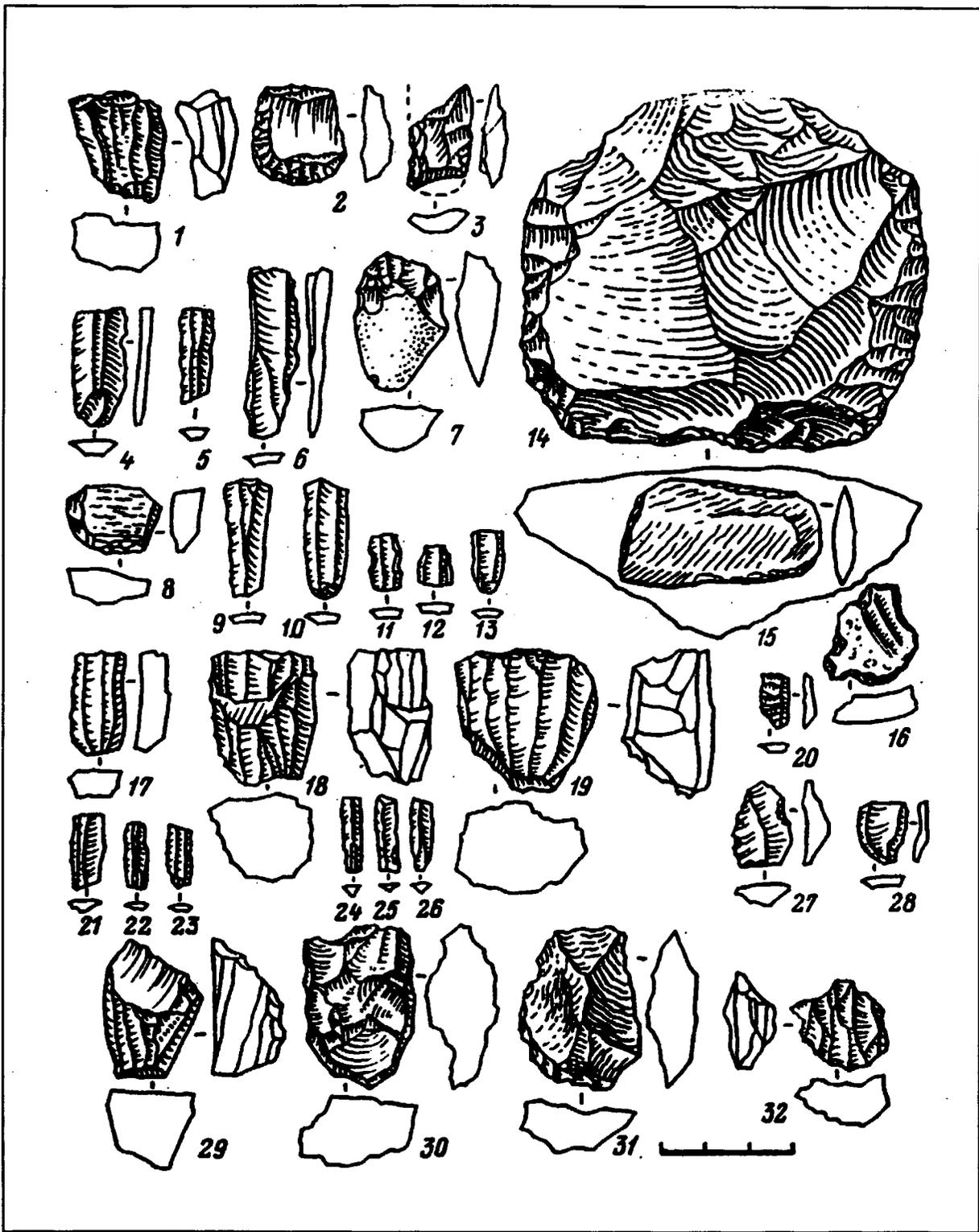


Plate 84. Stone artifacts from the Neolithic Ioni IA (73), 1979 and Ioni IB (74) sites, 1979 - respectively: 1-16 and 17-32. Of gray siliceous slate (3, 5, 6, 8, 9, 11), the remainder - pink.

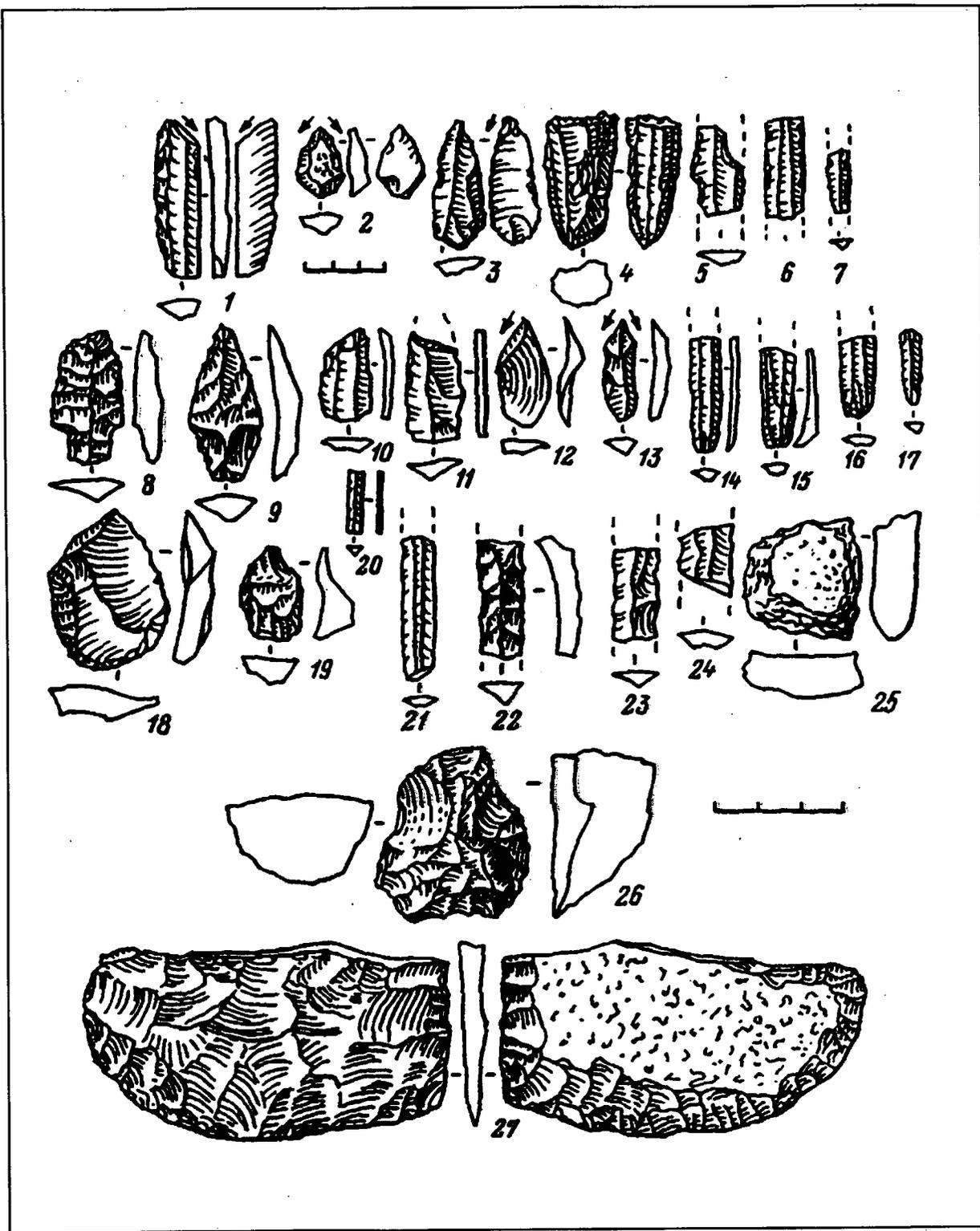


Plate 85. Stone artifacts from the Ioni IIA site (75), 1979, Ioni IIB (75), and Ioni XII (85), 1981 - respectively: 1-25, 26, and 27.

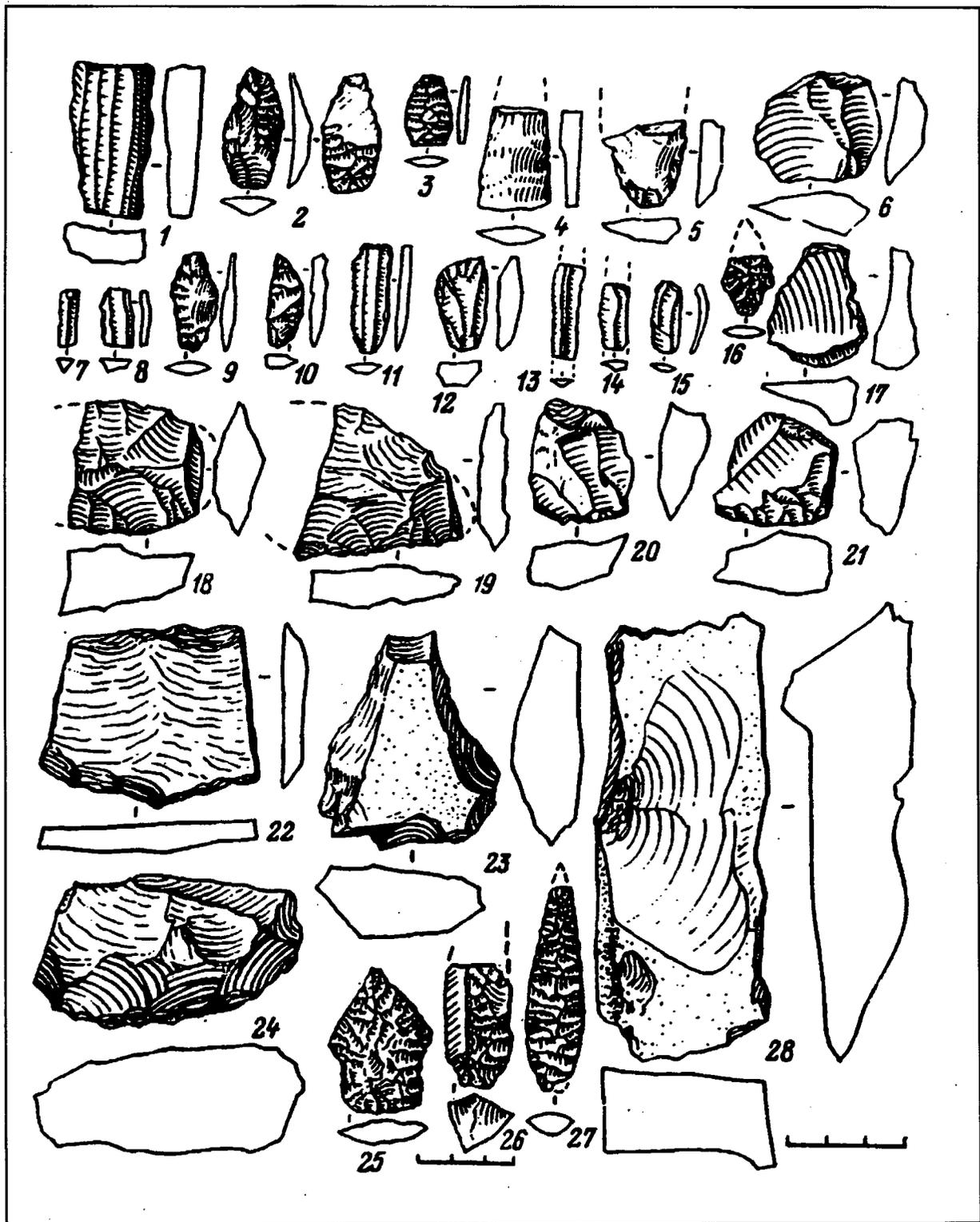


Plate 86. Stone artifacts from the Neolithic Ioni VII site (80), 1979.

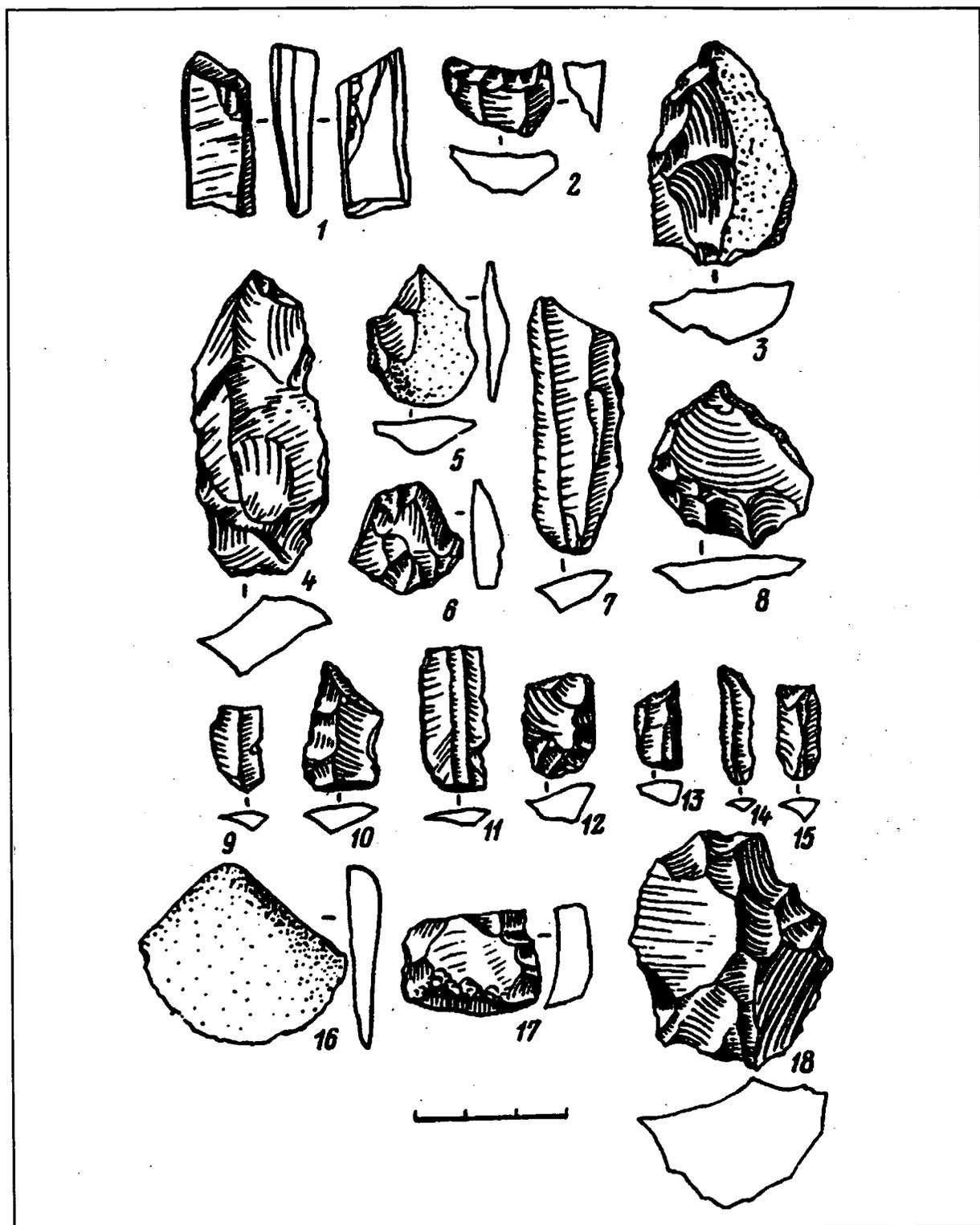


Plate 87. Artifacts of siliceous slate from the Neolithic and late Paleolithic Ioni X site (83), 1981.

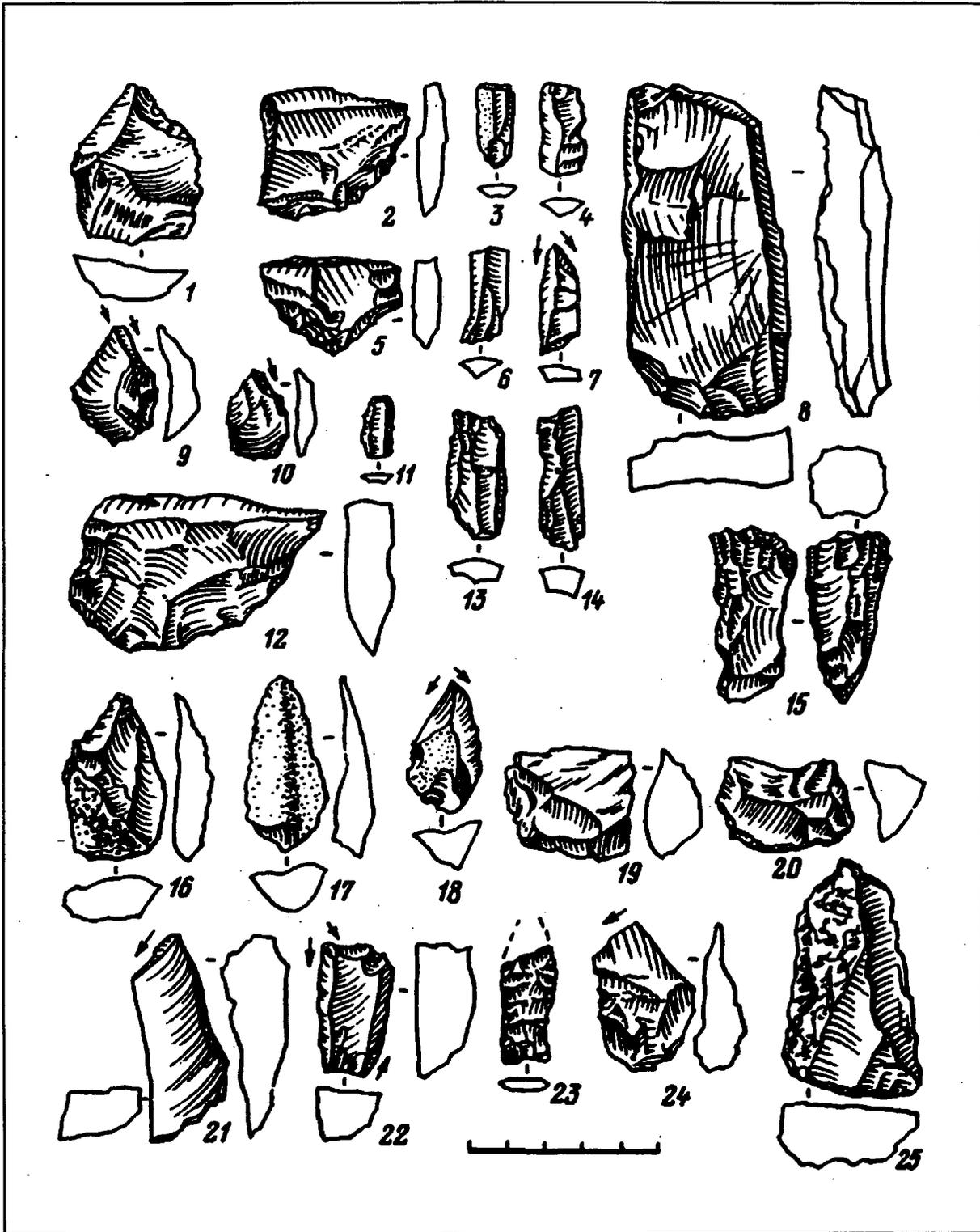


Plate 88. Stone artifacts from the Kus'iuveem III (89) and Kus'iuveem (90) sites, 1984 - respectively: 1-15 and 16-25.

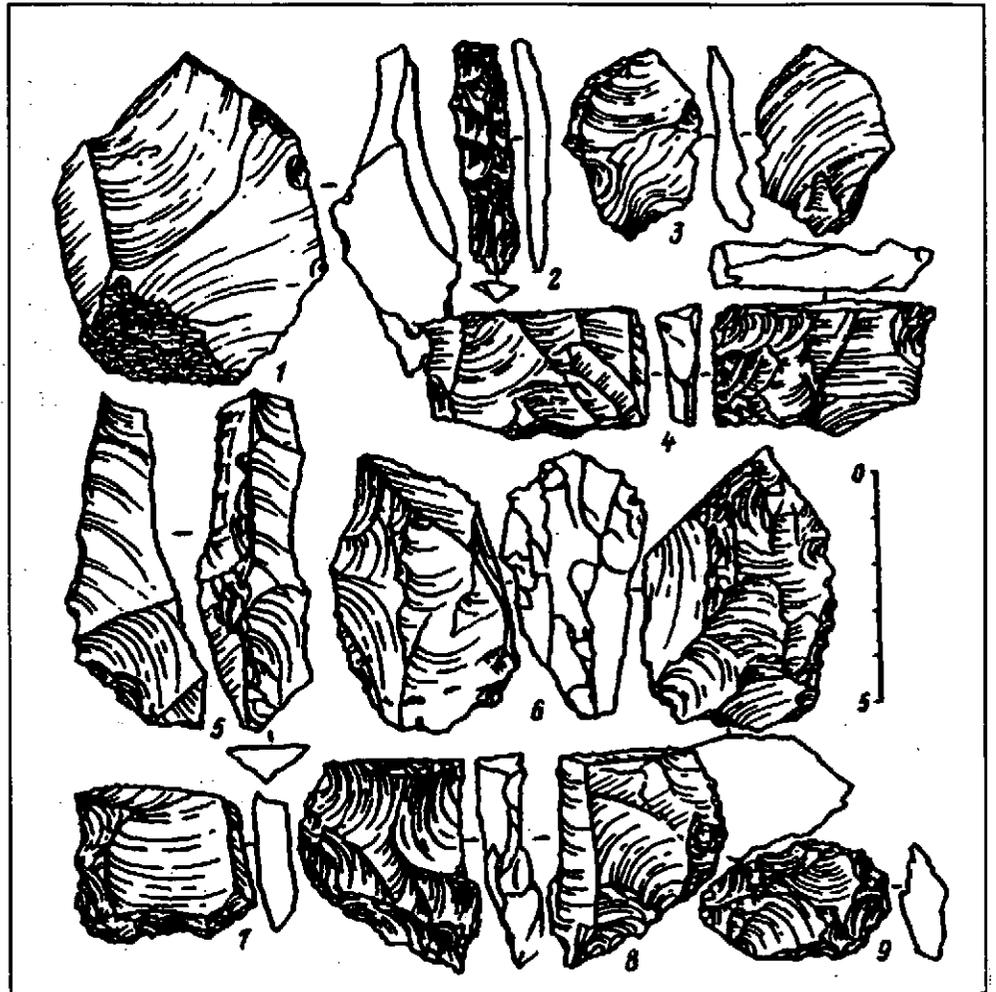


Plate 89. Artifacts of siliceous slate from the Kus'iuveem IV site (90), 1984 (1-4), and Kus'iuveen VB site (91), 1984 (5-9).

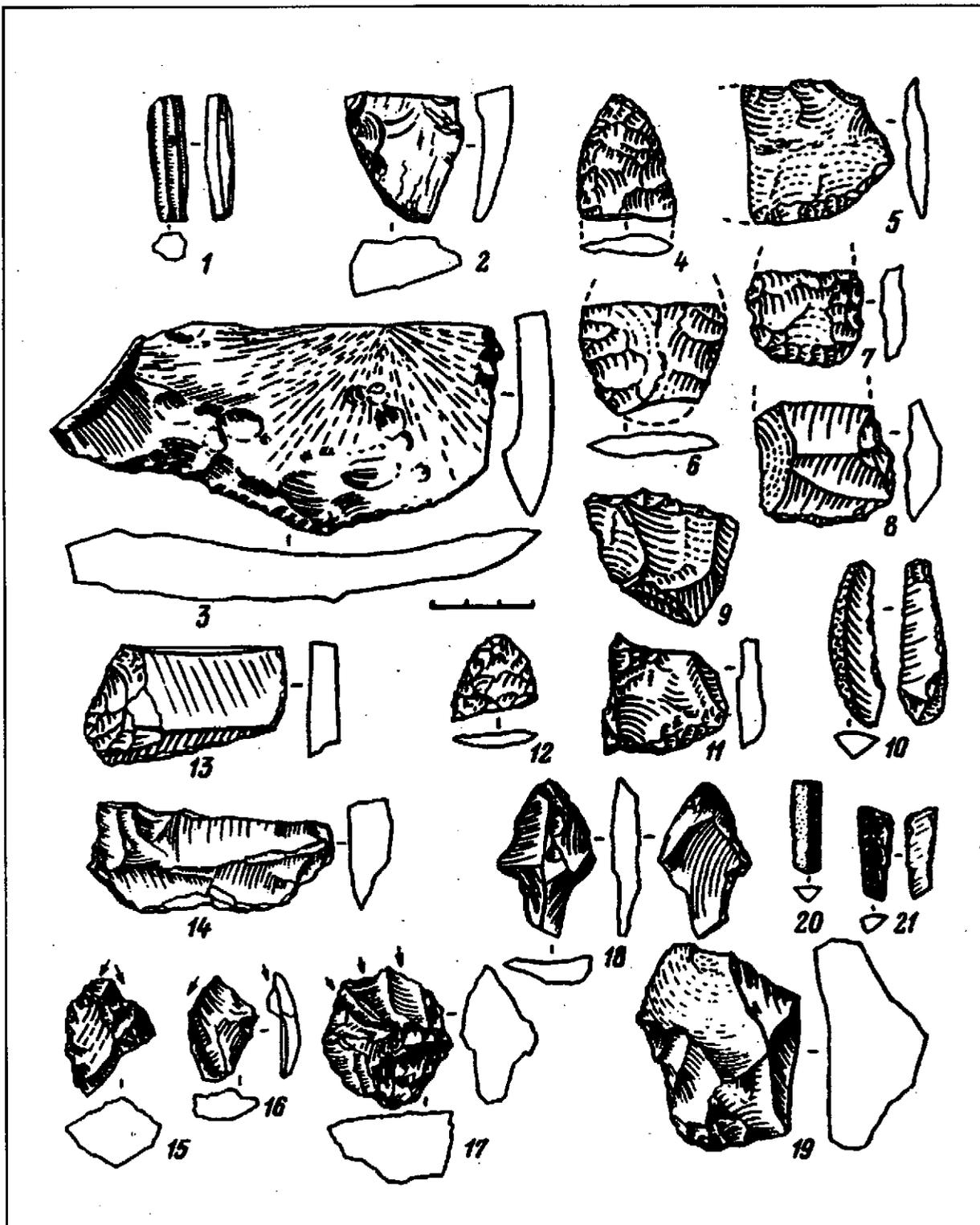


Plate 90. Stone artifacts from the Kus'iuveem VI site (92) - 1-3, Kus'iuveem XIV site (93) - 4-13; Kus'iuveem IX site (99) - 19; Kus'iuveem XI site (95) - 18; Kus'iuveem XIB (95) - 14-17; Kym'ynanonvyvam III (103) - 20 & 21. All 1984.

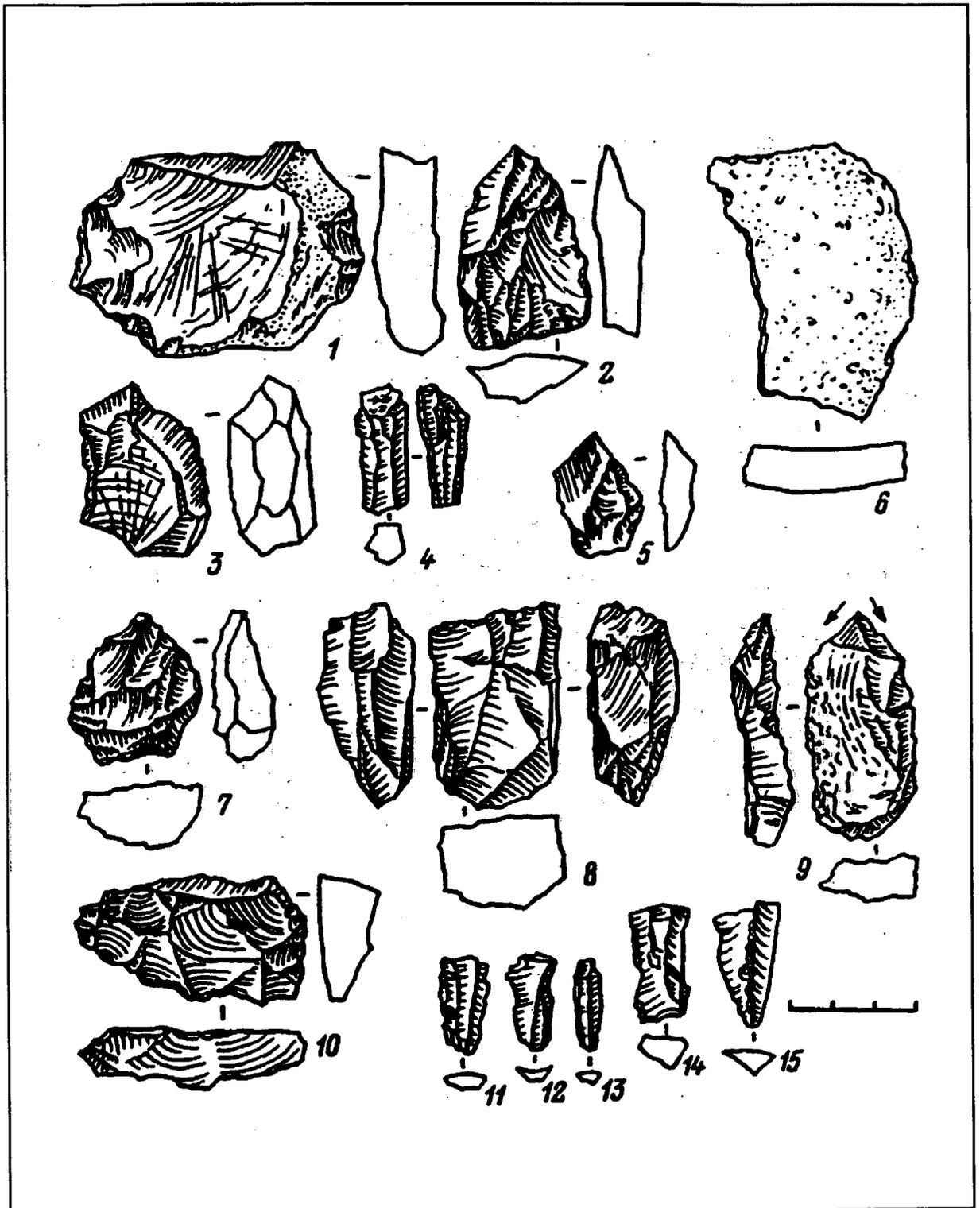


Plate 91. Stone artifacts and fragments of clay vessels from the Kym'nyanonyvnam VI (106) and Kym'nyanonyvnam IX (109) sites, 1984 - respectively: 1-6 and 7-15.

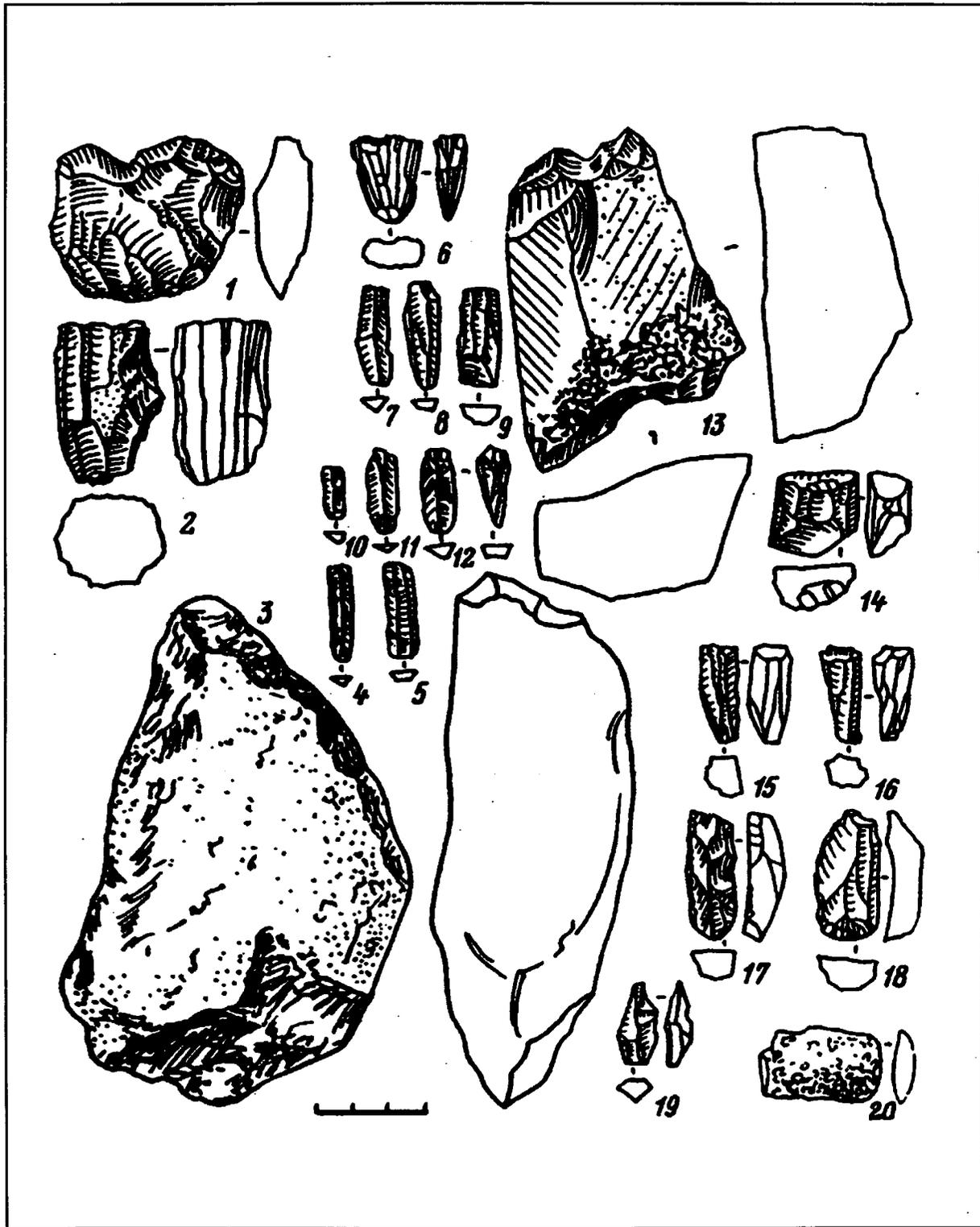


Plate 92. Stone artifacts from the Kym'yanonvyvam XV (115) and XVI (116) sites, 1984 - respectively: 3-5; 1, 2, 6-20. 1-5 from excavation; 6-20 from surface collection.

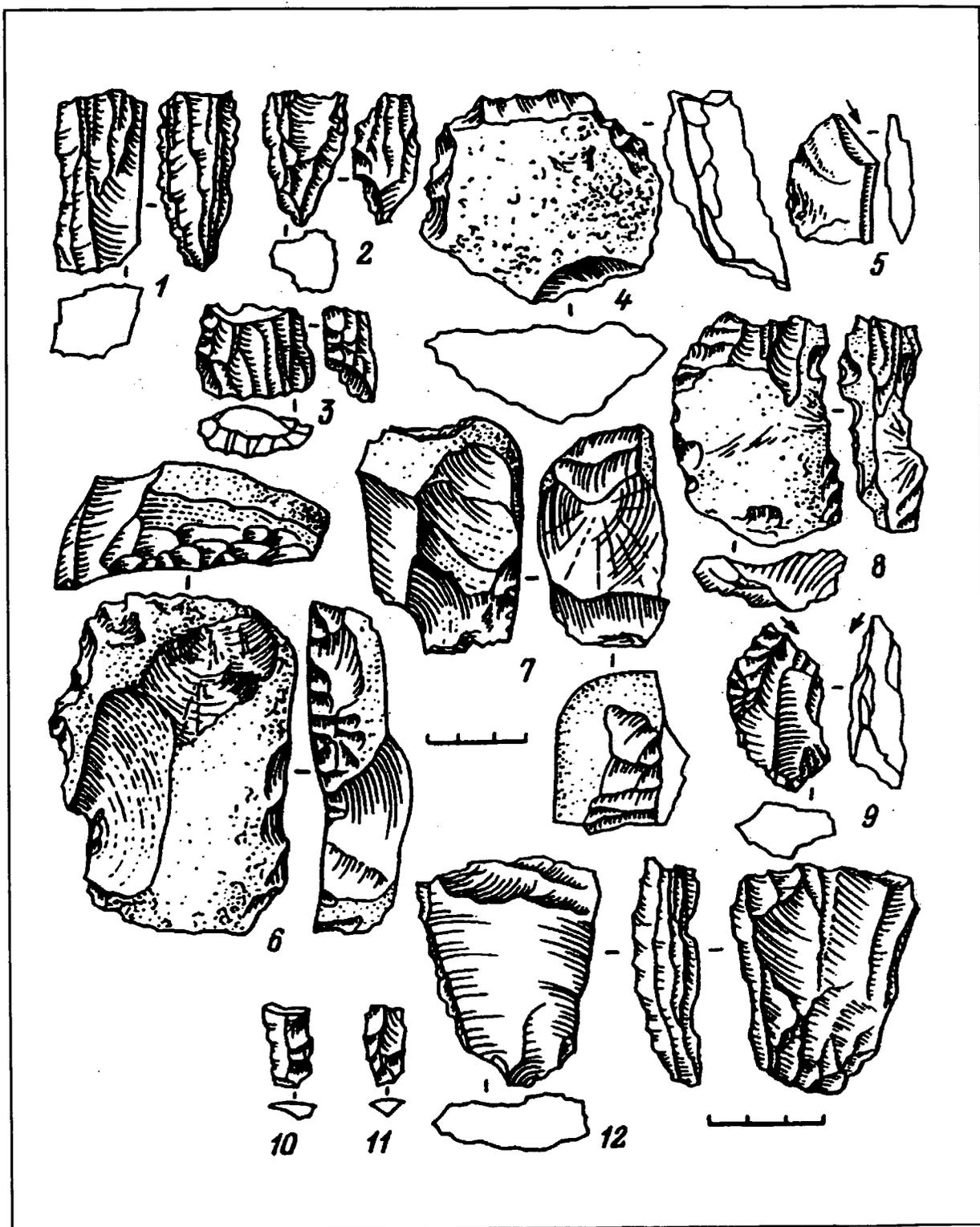


Plate 93. Stone artifacts from the Kym'nyanonvyvam X (110), XIV (114), XVII (117) and XIX (119) and Kus'iuveem X (100) sites - respectively: 6-7; 4; 1-3; 5-8; 9-12 (1984).

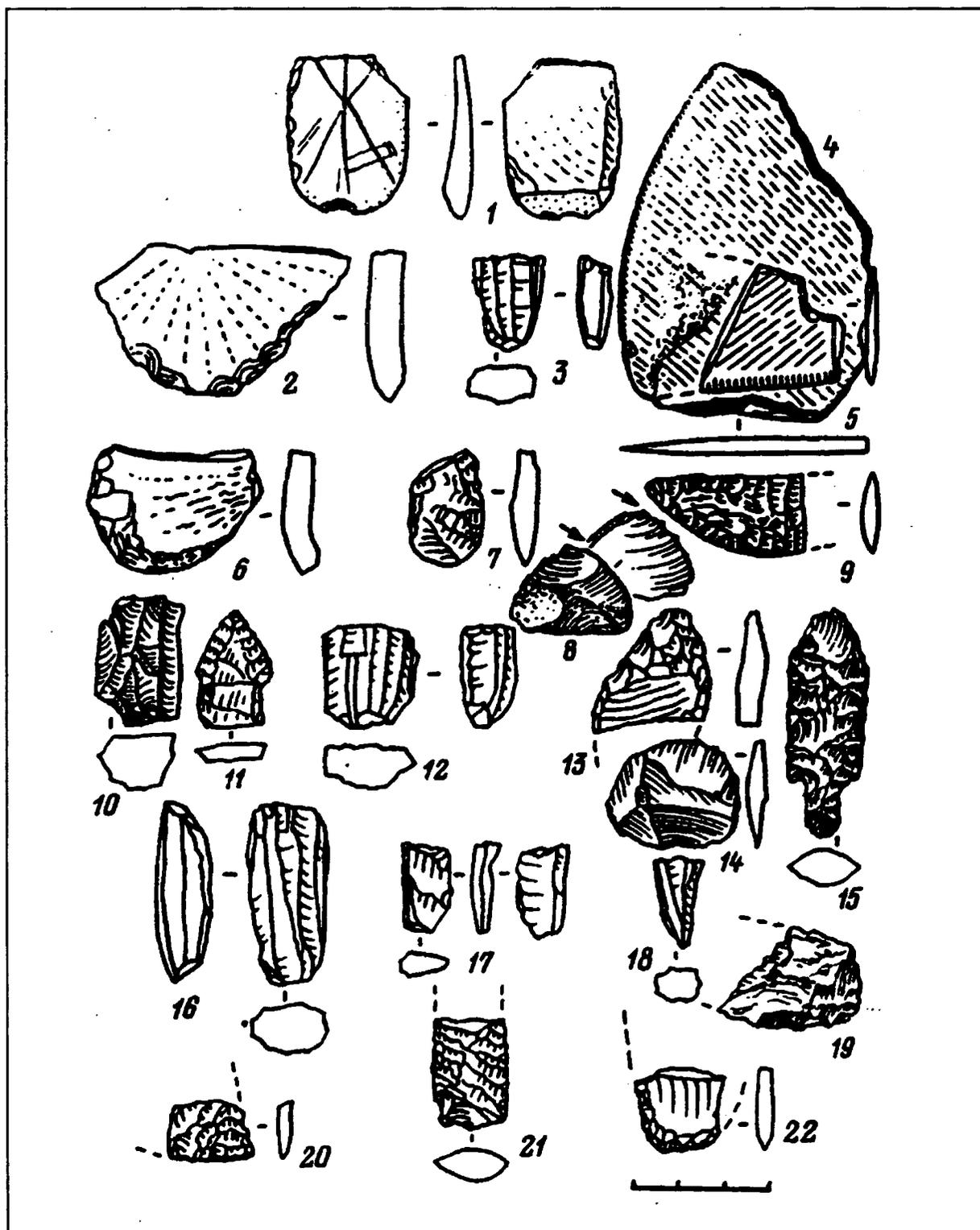


Plate 94. Stone artifacts from the sites of Igel'khveem I (145) - 2; Igel'khveem II (144) - 3; Igel'khveem III (143) - 4 & 10; Igel'khveem IV (142) - 5. Igel'khveem VII (139) - 1; Igel'khveem VIII (138) - 19; Igel'khveem IX (137) - 6 & 7; Igel'khveem X (136) - 11-13; Igel'khveem XV (130) - 9-14; Igel'khveem XX (126) - 15; Igel'khveem XXVI (147) - 8, 16-18, 20-22 (1983).

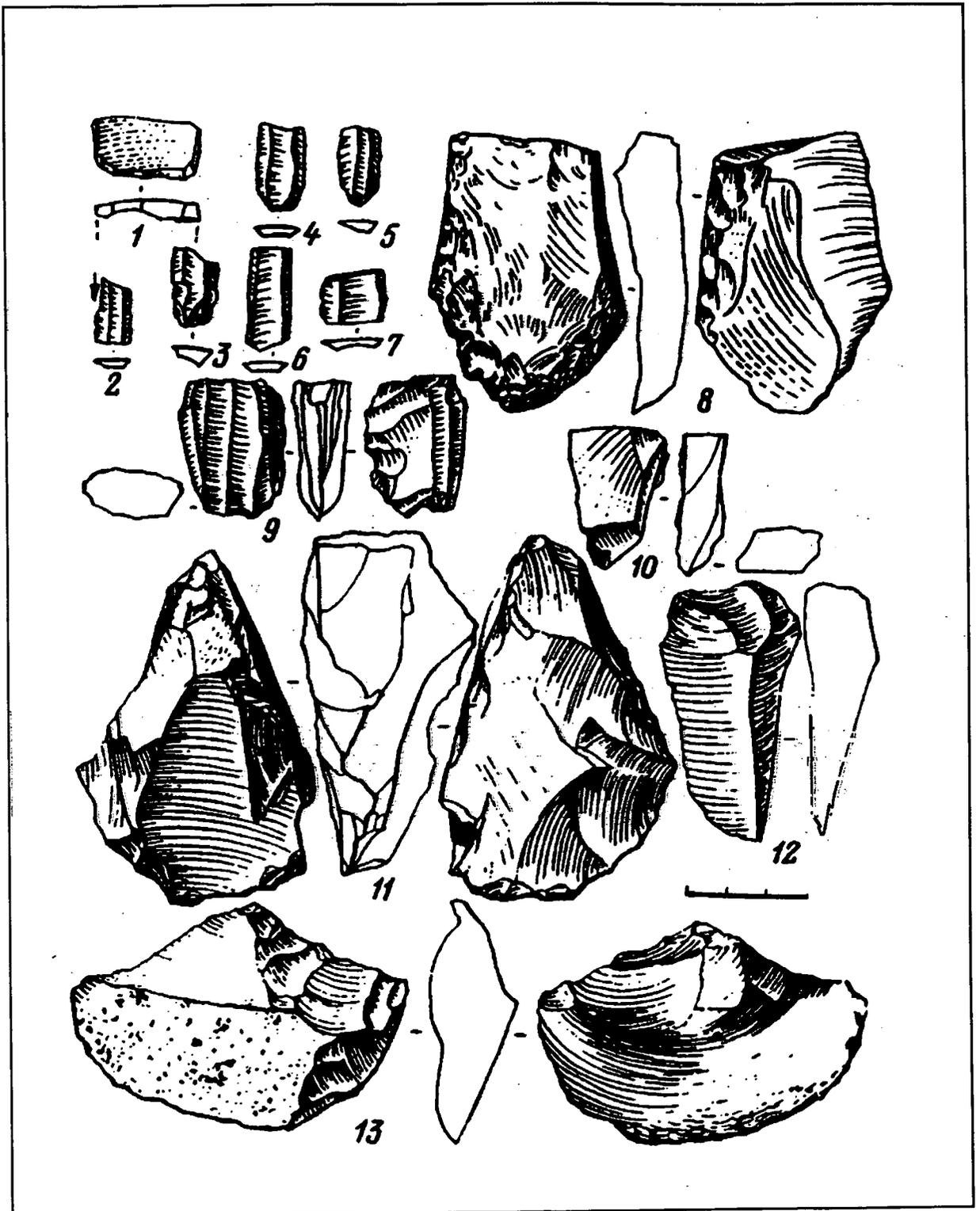


Plate 95. Stone artifacts from the sites of Igel'khveem V (141) - 1-8; Igel'khveem VI (140) - 9 & 10; Igel'khveem X (136), 1983 - 11-13, include: 1 - ski-shaped spall; 9 - core, similar to wedge-shaped.

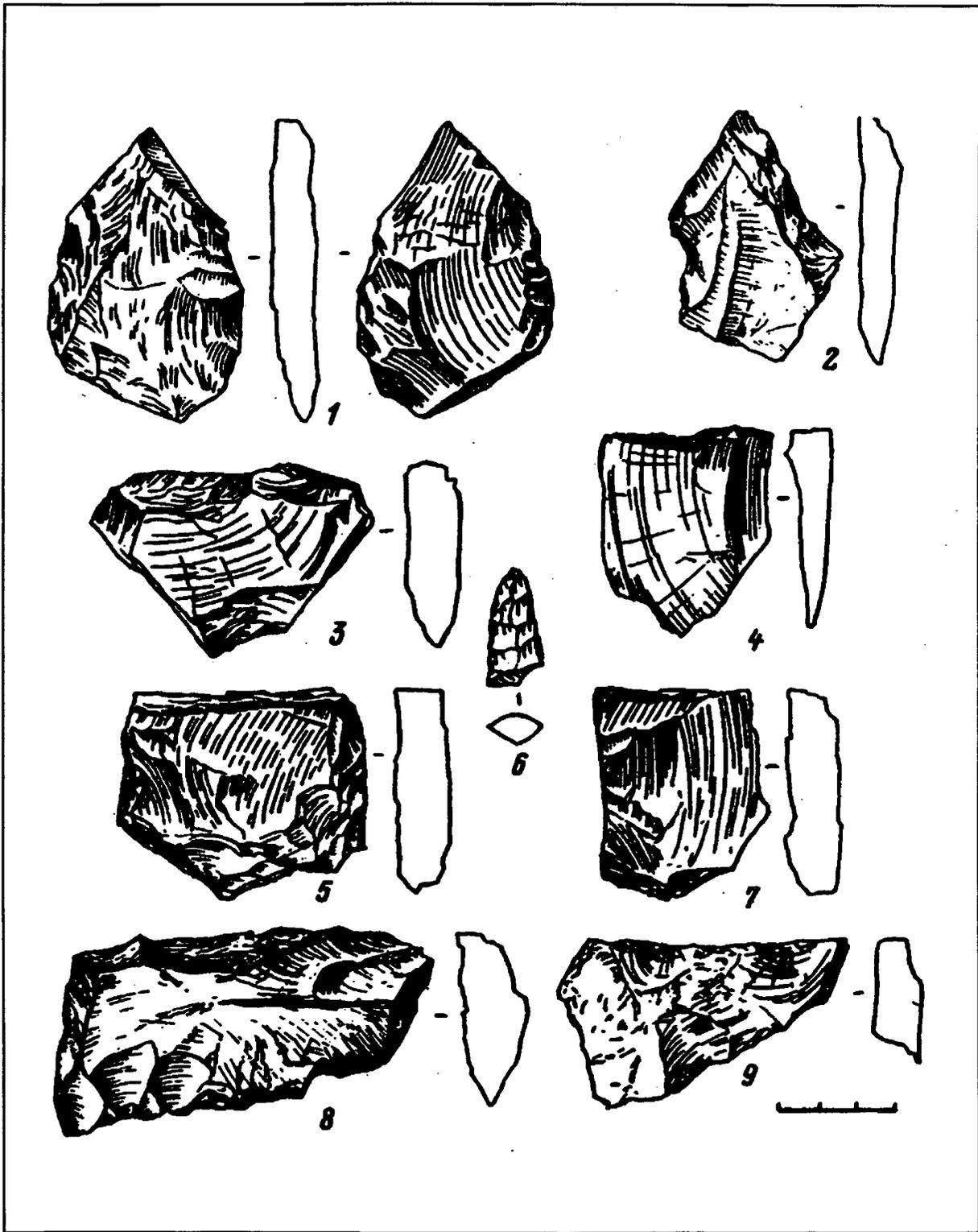


Plate 96. Stone artifacts from the Igel'khveem XVI site (131), 1983.

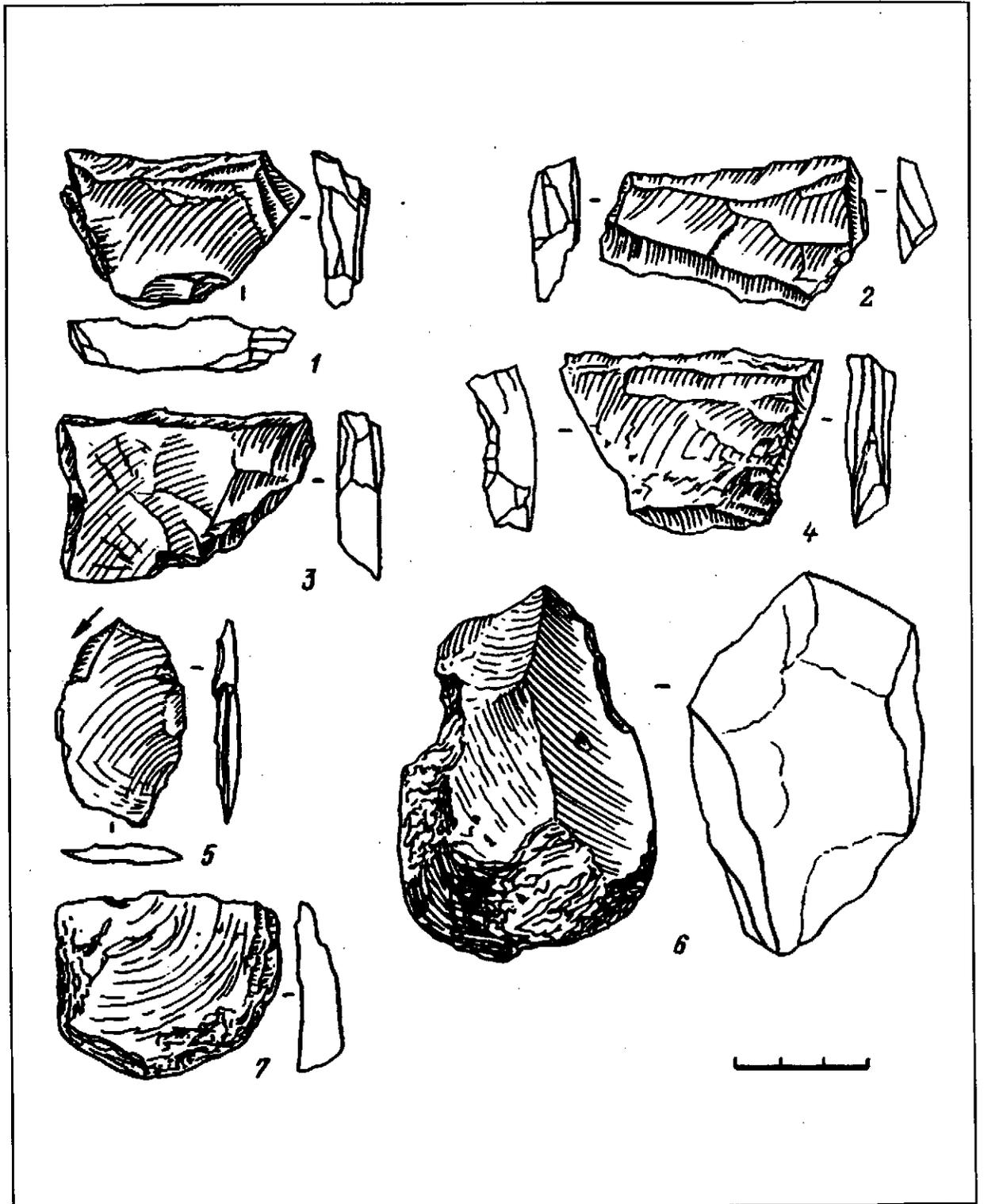


Plate 97. Stone artifacts from the Igel'khveem XVI site (131), 1983.

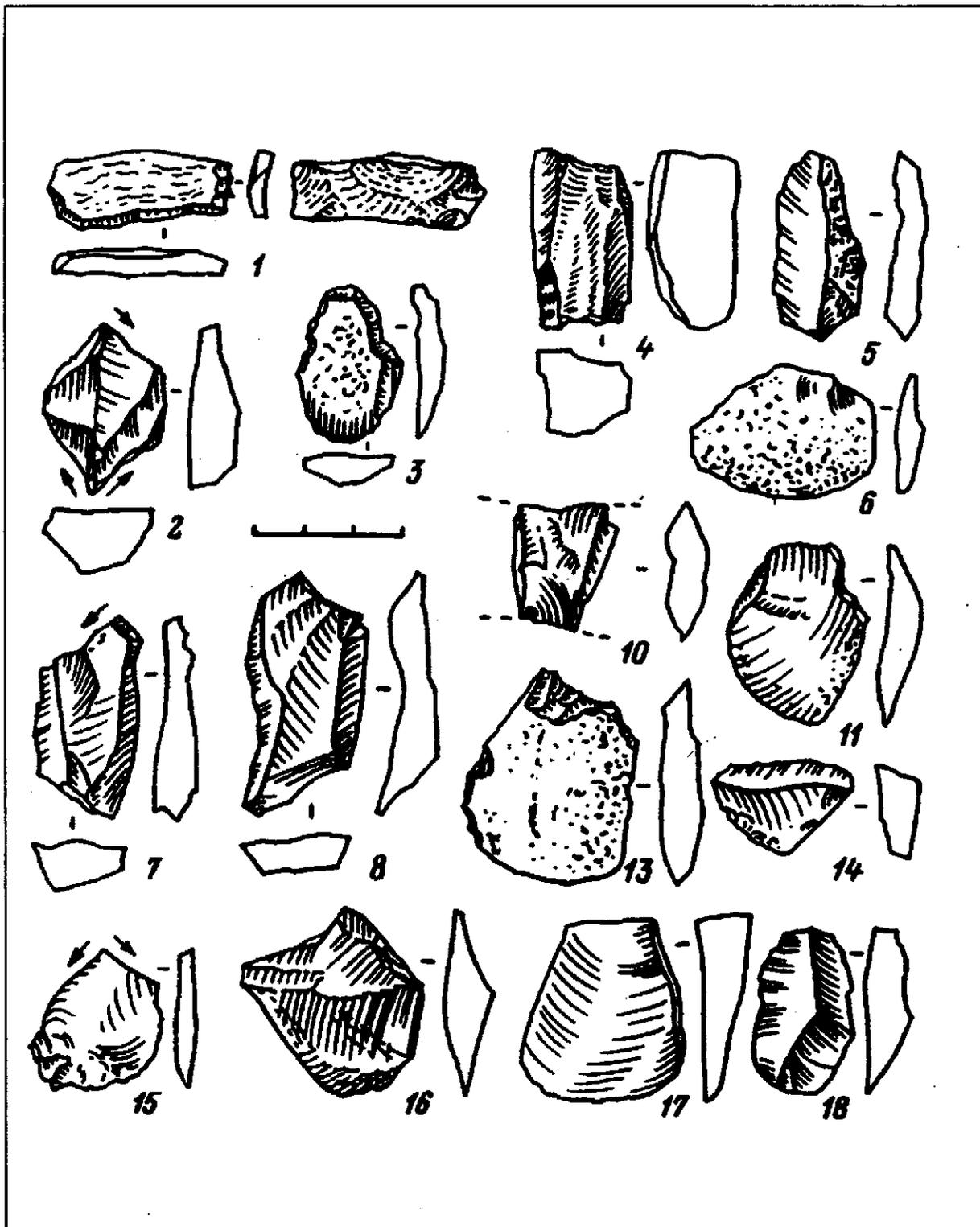


Plate 98. Stone artifacts from the Igel'khveem XXII site (123). Above left - ski-shaped spall from an end core, excavation 1983.

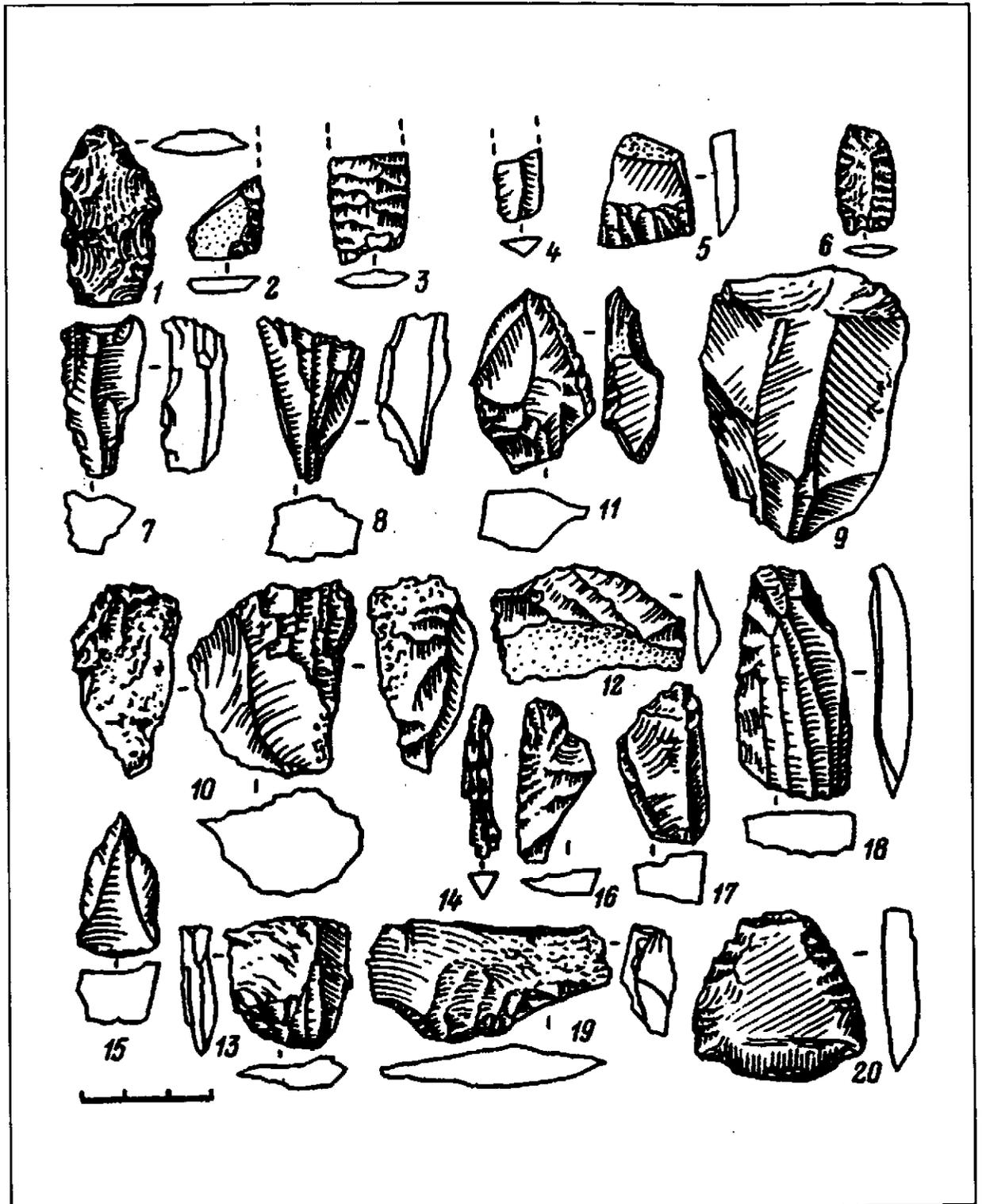


Plate 99. Stone artifacts from the Utaatap II site (158) - 1 & 6; Igel'khveem XVIII (127) - 2-5; Igel'khveem XXIV (146) - 7-12; Igel'khveem XXVII (149) - 13-20.

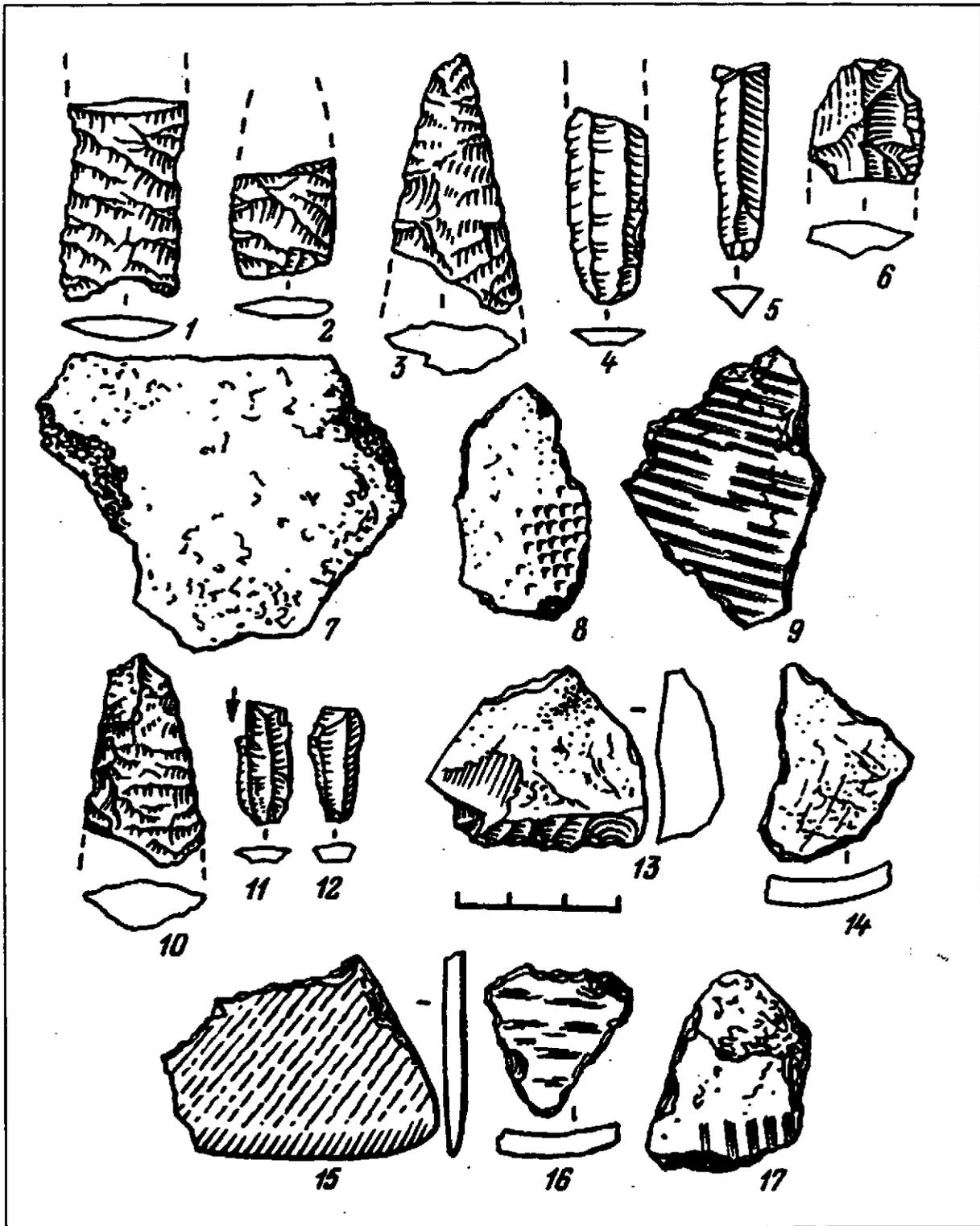


Plate 100. Stone and ceramic artifacts from the Koolen' IIB site (154) and from burial No. 2 (150) - respectively: 1-14 and 15-17 (1980).

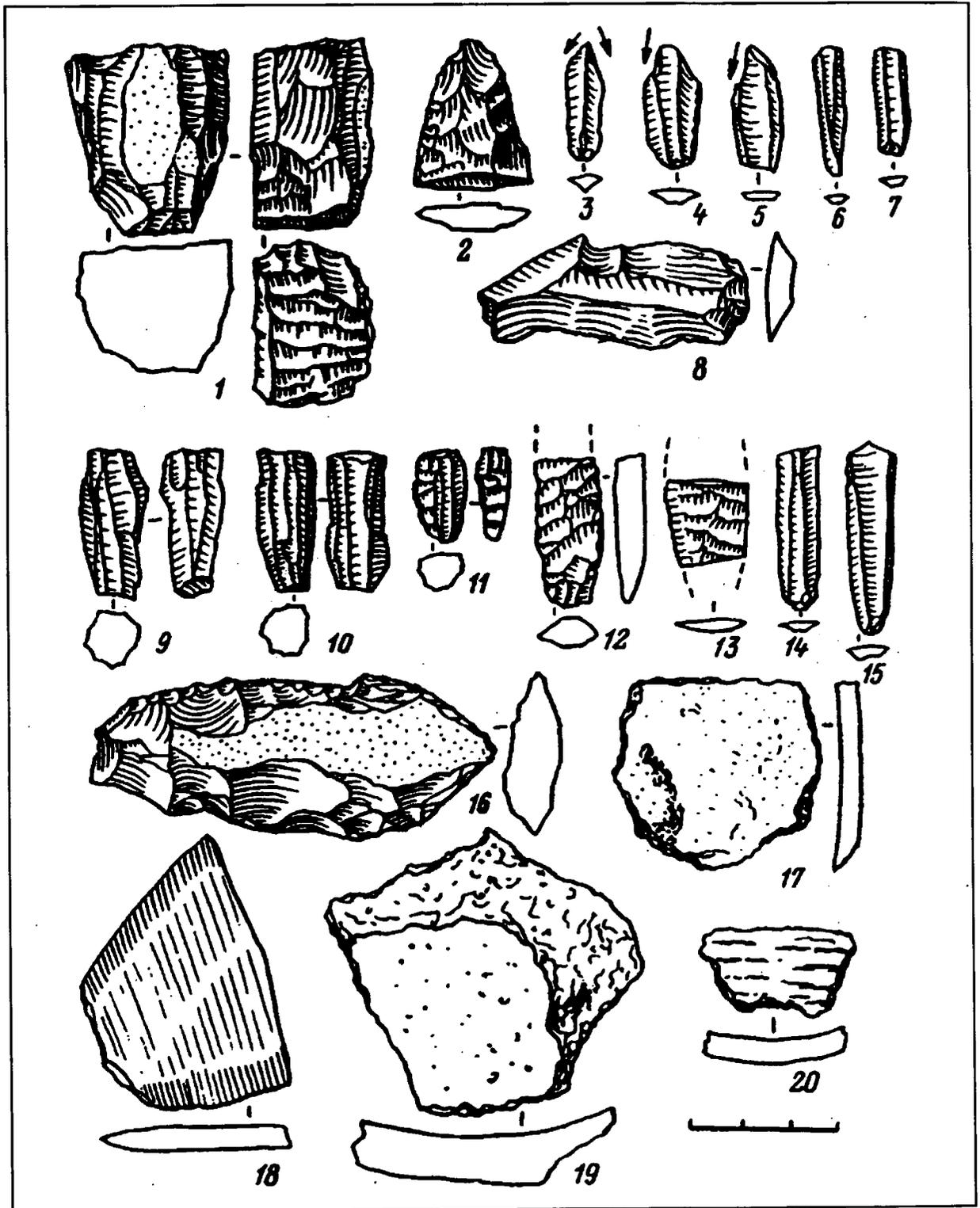


Plate 101. Stone and ceramic artifacts from the Neolithic Koolen' III site (155): above (1-9) - from excavation, below (10-20) - surface collection (1980).

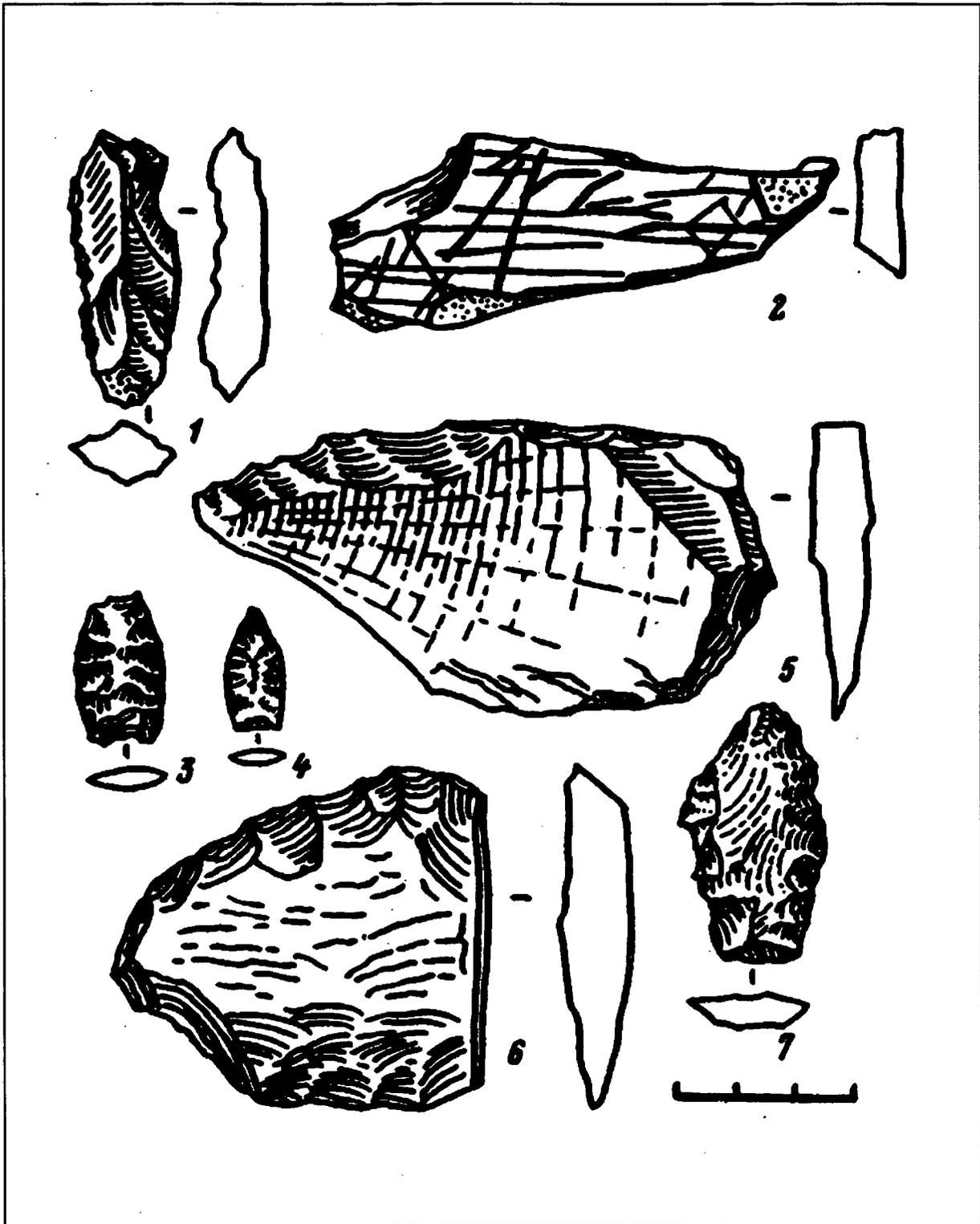


Plate 102. Image of a water fowl on a slate slab and stone tools from the Utaatap I site (158) - 1-4; Utaatap II (159) - 5-7 (1983).

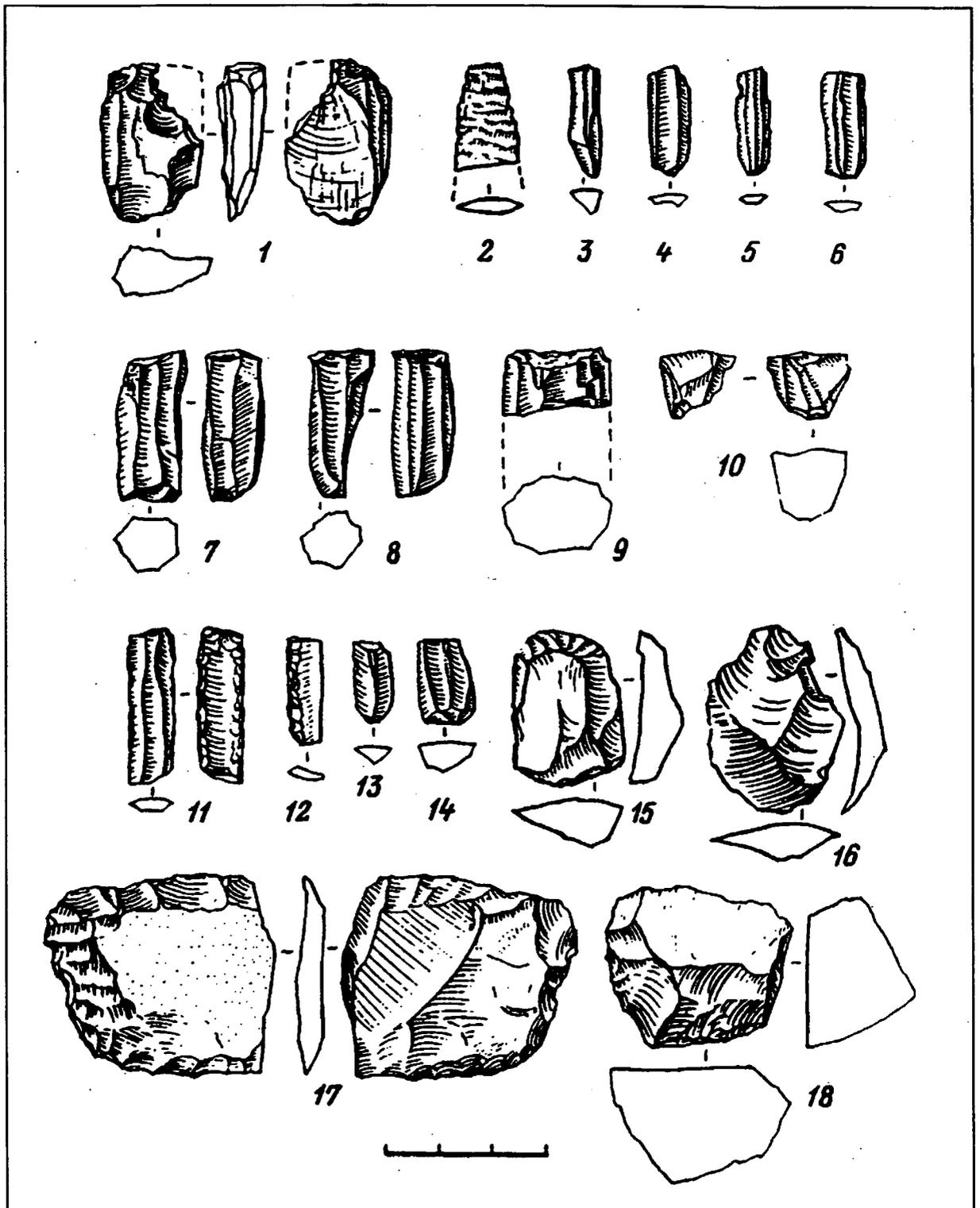


Plate 103. Stone artifacts from the Getlianen I site (162), 1982 (above left - fragment of an artifact of yellow flint, similar to a wedge-shaped core).

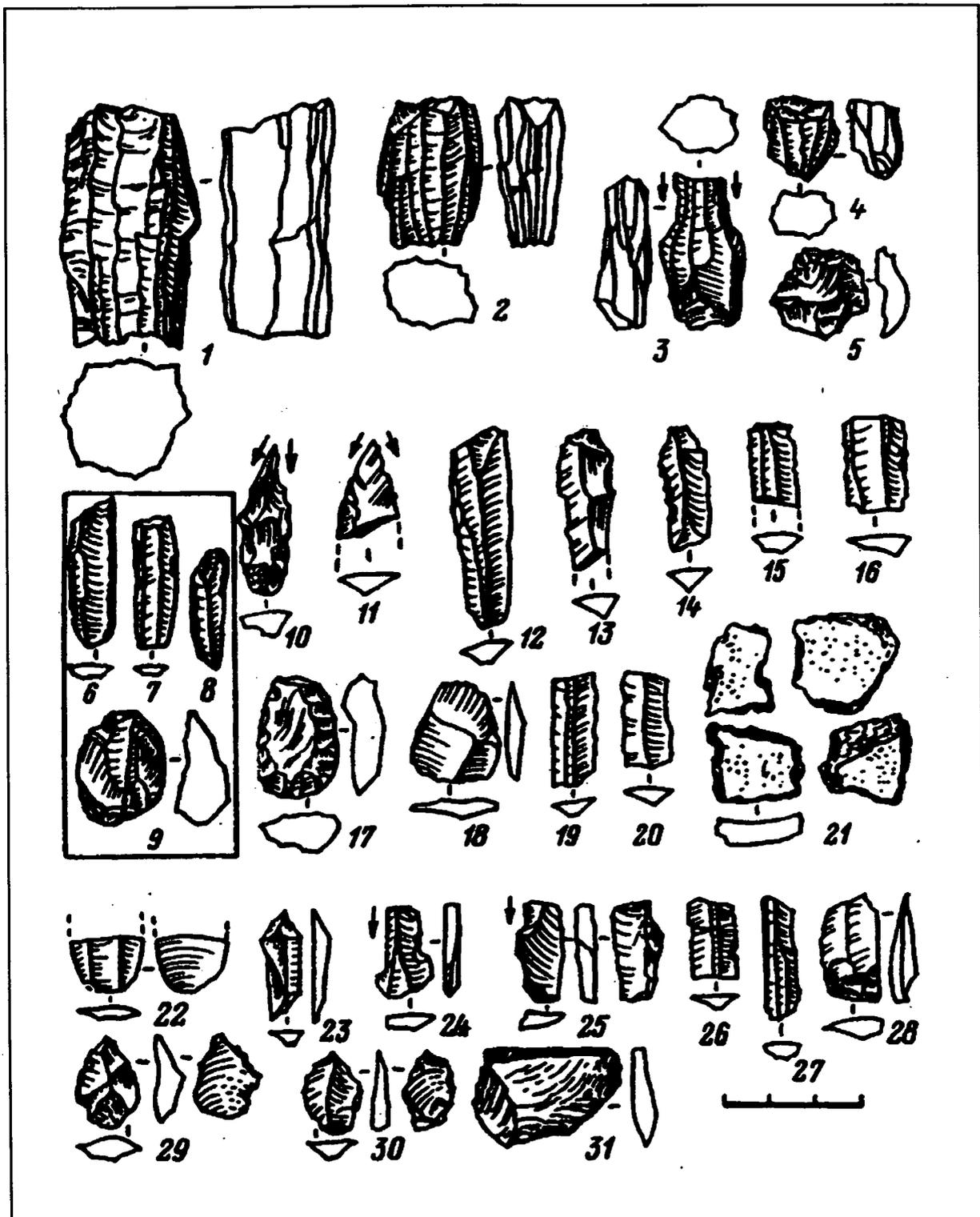


Plate 104. Stone artifacts and fragments of a clay vessel from the Getlianen I site (162), 1983 - 1-5; Ovrazhnyi Creek (171), 1984 - 6-9; Getlianen IV (165), 1982 - 10-21; and Iunei (161), 1982 - 22-31.

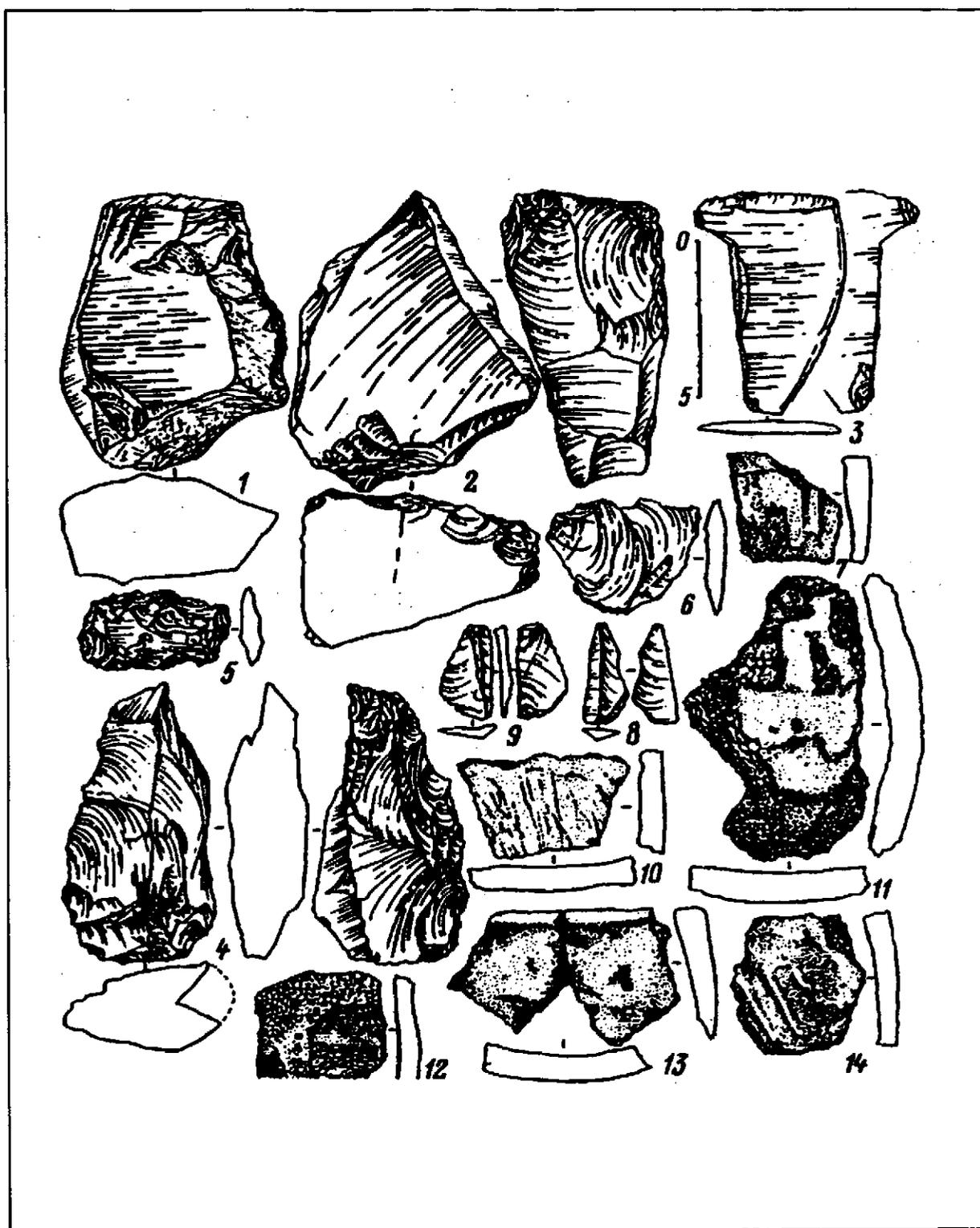


Plate 105. Stone artifacts (1-6, 8, 9) and ceramics (7, 10-14) from the Koolen' III site (155) - 1 & 2; Getlianen spring (160) - 4; Getlianen II (162), 182 - 7. Getlianen III (163), excavation, 1982-5, 11-13; Getlianen III (163), burial, 1982-6, 8-10, 14; Koolen' (150), burial No. 1, 1980-3.

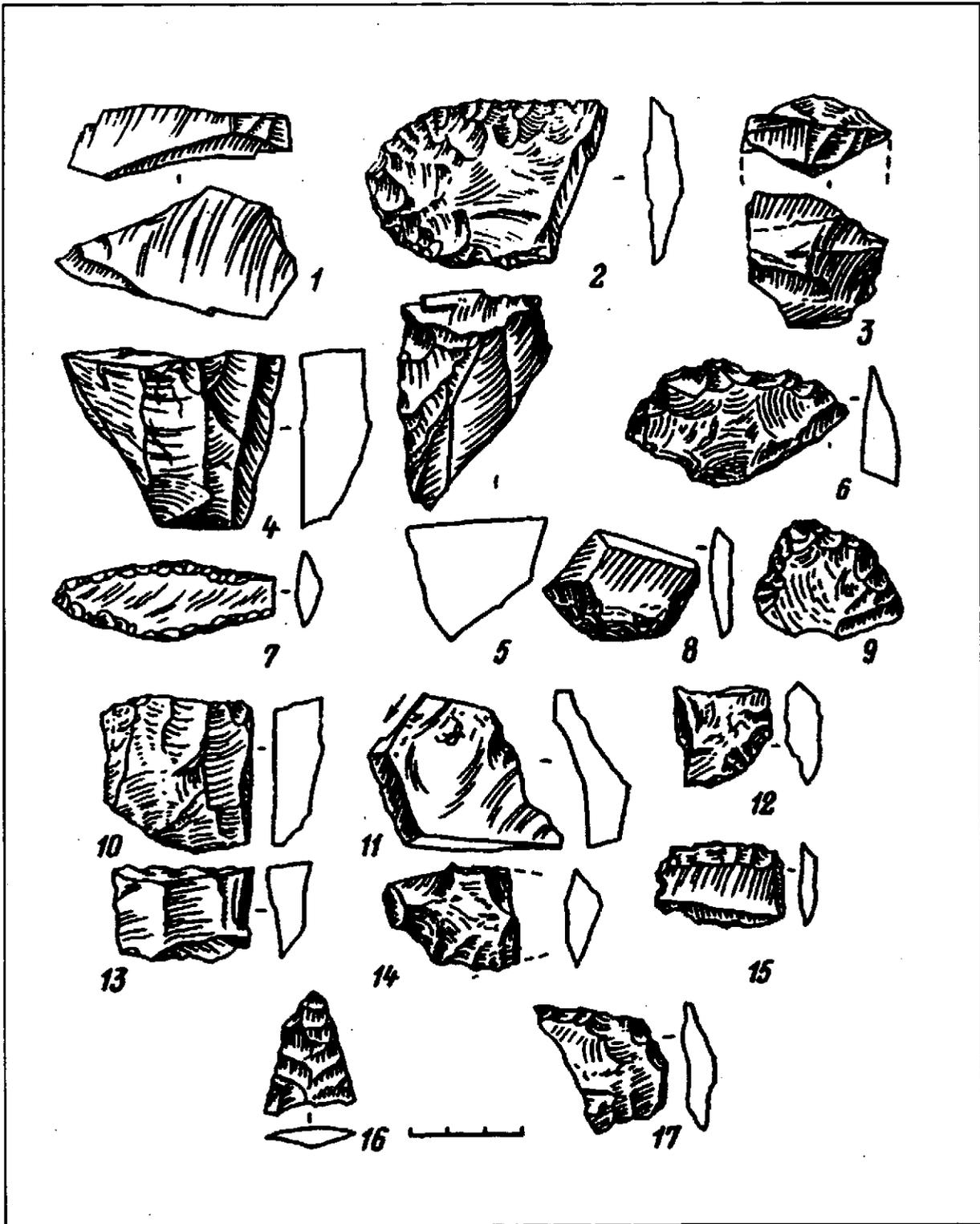


Plate 106. Artifacts of light-gray siliceous slate from the sites of Marich II (167a), IIA (167a), and III (167b) - respectively: 1-9, 10-15, and 16-17 (1983).

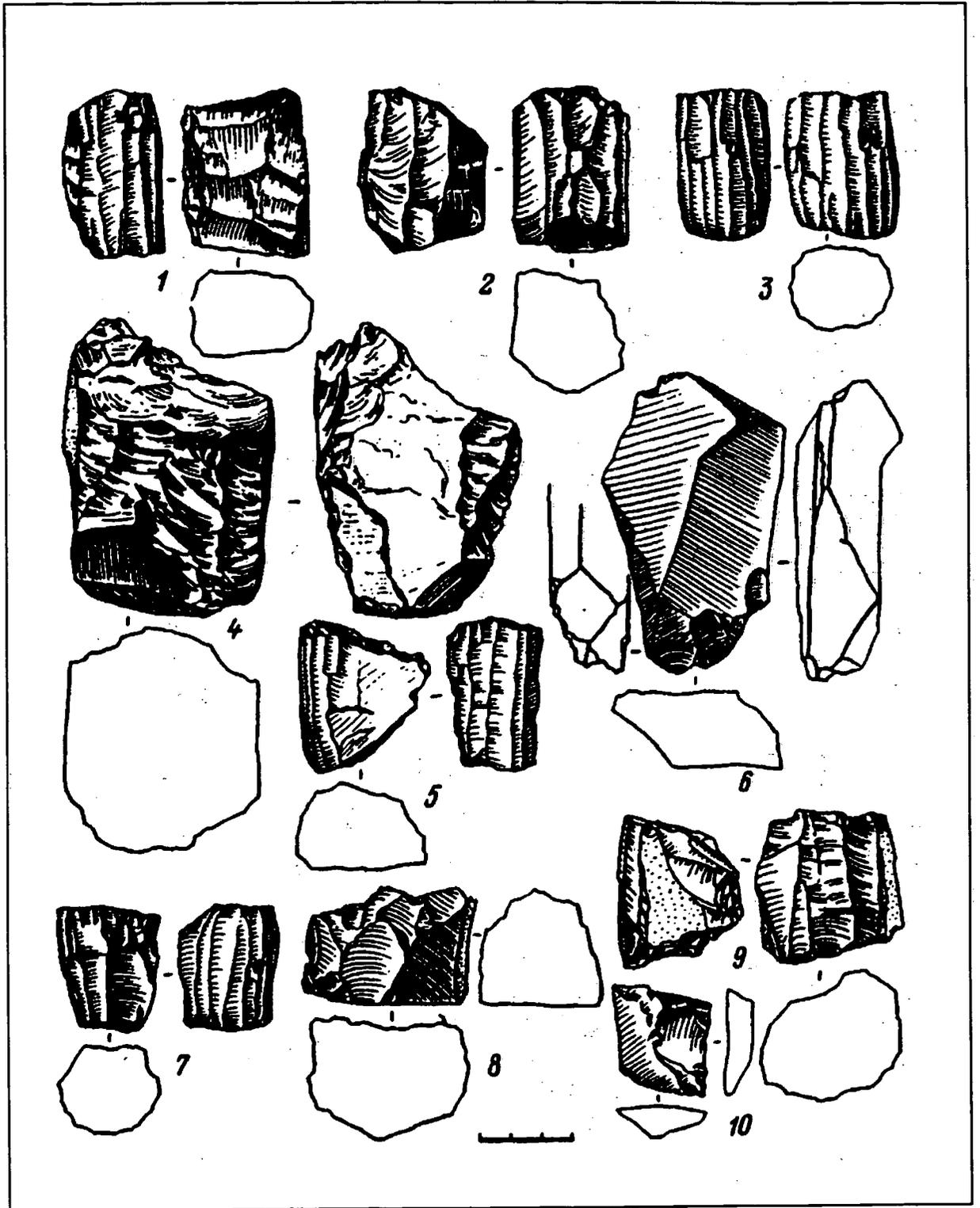


Plate 107. Cores (1-5, 7-9), blank of a tool (6), and a flake (10) of gray flint from the test pit at the lower Ul'khum site (1), 1985.

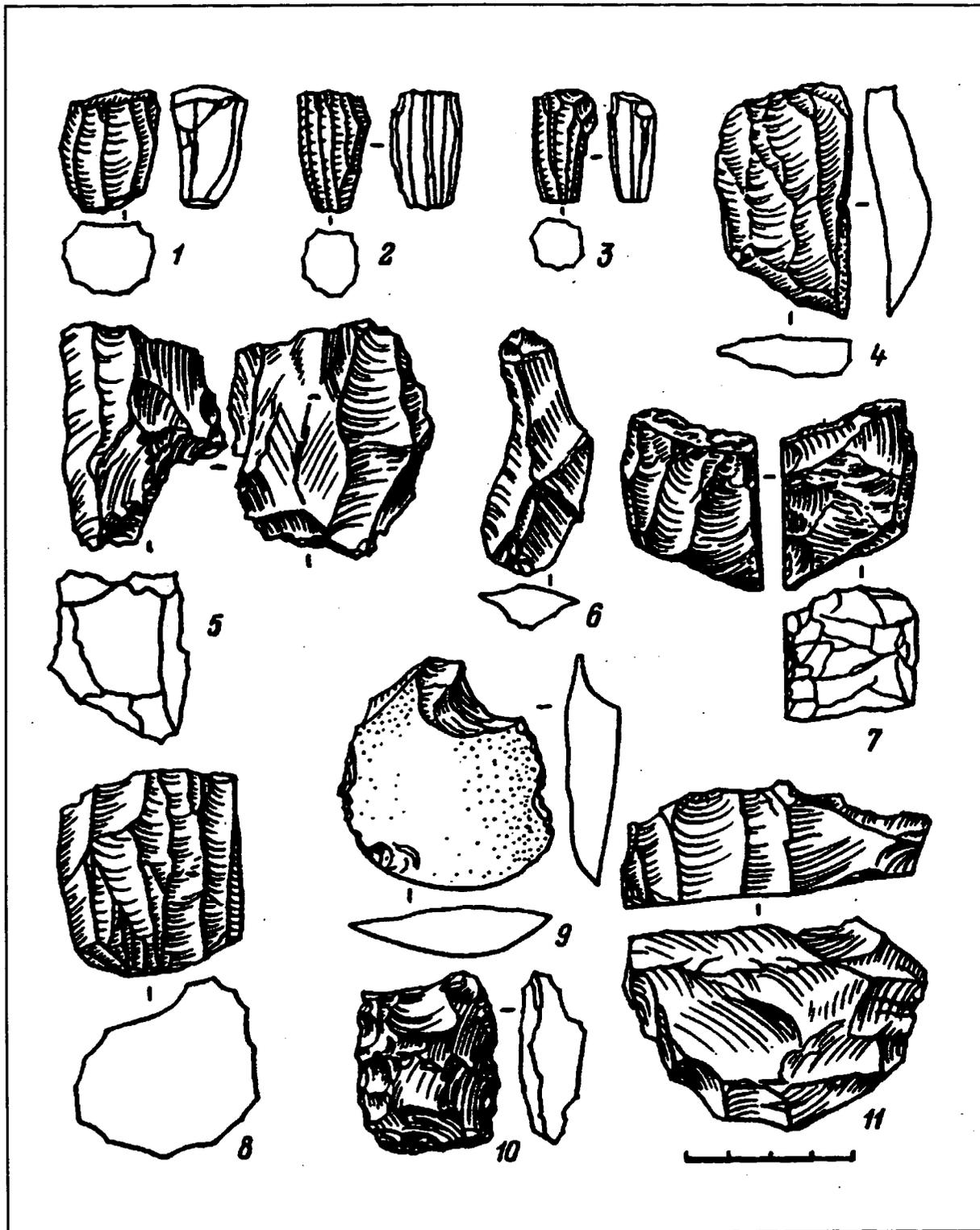


Plate 108. Artifacts of gray flint from the test pit at the lower Ul'khum site (1), 1985: cores - 1-3, 7, 8; core-like tool - 5; transverse spall from a core - 11; scrapers - 9 & 10; flakes - 4 & 6.

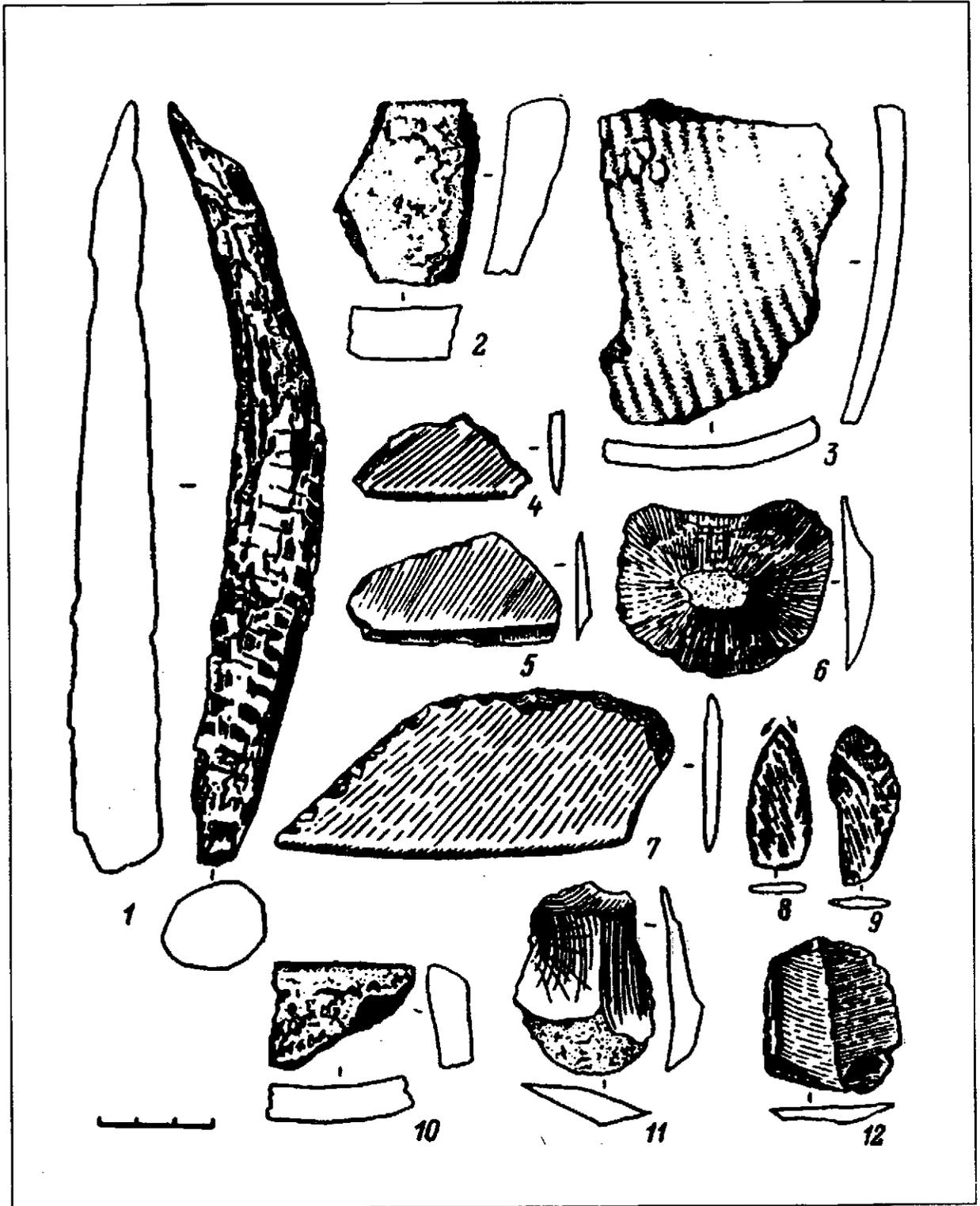


Plate 109. Stone, bone, and ceramic artifacts from the upper layer in the excavation at the lower U'khum site (1), 1985.



## APPENDIX 2

### Archaeological Sites Investigated by the Author on the Eastern Chukchi Peninsula (Index to Map - Figure 2)

#### **Sites on the extreme southeastern Chukchi Peninsula (1-8).<sup>16</sup>**

1. Paleolithic Ul'khum site on the right bank of the Ul'khum River (1981, 1982, 1985, 1986).
2. Stone Age Itkhat IIA and IIB sites on the south shore of Upper Lake Itkhat (1986).
3. Stone Age Itkhat IA, IB, IC, ID, and IE on the south shore of Upper Lake Itkhat (1985, 1986).
4. Early Late Paleolithic site-workshop on Puturak Pass (1985, 1986).
5. Stone Age Tkachen campsite on a right tributary of the Tkachen River (1985).
6. Old Eskimo Karpovka I and II sites (1985).
7. Old Eskimo site on the south shore of Lake Istikheth (1985).
8. Neolithic site on the right bank of the Siniveem (Chiniveem) River (1981).

#### **Sites in the vicinity of Lake Achchen (11-12) and in the Kurupka River basin (9-10, 13-24).**

9. Early cemetery of Chukchi reindeer herders (1982).
10. Neolithic site on the left-bank cape at the mouth of the Val'karvaam River (1981).
11. Shrine location of early maritime hunters (1981).
12. Mesolithic Likvylenveem site (left of the mouth of the river of the same name which empties into Lake Achchen) (1981).
13. Neolithic Kaatap I and II sites on the left bank of the river of the same name (1981).
14. Neolithic Kurupka III site on the left bank of the river of the same name (1982).
15. Neolithic Kurupka II (Izumrudnaia) site near the Mount Izumrudnaia, left of the mouth of Kanelenvaam Creek (1979, 1981).
16. Paleolithic Kurupka I site on the left bank of the Kurupka River at its confluence with the Chaatam'e (1979, 1980, 1981, 1982).
17. Stone Age Kurupka III site (1980).
18. Stone Age Kurupka IV site (1980).
19. Early Chukchi cemetery (1980).
20. Stone Age Kurupka V site (1980).
21. Neolithic Karytkin I site at the confluence of the river of the same name with the Kurupka River (1980).
22. Paleolithic Chaatam'e I site on the left bank of the river of the same name which falls on the right into the Kurupka River (1982).
23. Neolithic Stone Age campsite at the confluence of Mel'nik and Slavutnyi creeks, the latter emptying on the left into the Chaatam'e River (1981).
24. Neolithic Ol'khovka site at the entrance of the creek of the same name into Slavutnyi Creek, which falls into the Chaatam'e River (1981).

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<sup>16</sup>The numbers here and elsewhere in parentheses correspond to the site numbers on the map (Fig. 2).

**Sites in the Ioniveem River valley (25-85), including lakes Tymkrylen (51-52), Naurech'e (53-59), Tynnaia (60-62), Chuvaigythyn (63-71), and Ioni (73-85).**

25. Ioniveem I--Stone Age campsite on the upper reaches of the Ioniveem River (1984).
26. Neolithic Terkemkyn site on the "point" at the confluence of the river of the same name with the Ioniveem River (1982, 1984).
27. Late Neolithic Ioniveem II site near the reindeer base camp of the Sireniki sovkhos (1981, 1982).
28. Late Neolithic Ioniveem III site on the left of the mouth of the first creek below the 2nd base camp (1981).
29. Stone Age Ioniveem IV campsite, right of the mouth of the first creek below the 2nd base camp (1981).
30. Chel'kun VI campsite (1981).
31. Neolithic Chel'kun VIIA site (1981).
32. Chel'kun VIIB campsite (1981).
33. Chel'kun IX campsite (1981).
- 34a. Neolithic Chel'kun X site (1981).
- 34b. Chelkun XI campsite (1981).
- 35a. Early Neolithic and Mesolithic Chel'kun VIIIA site (1982).
- 35b. Neolithic Chelkun VIIIB site (1981, 1982).
36. Stone Age workshop (Ioniveem IV, 1981; Chel'kun XII, 1982).
37. Neolithic Chel'kun I site (1979).
38. Mesolithic (early Late Paleolithic) Chel'kun IV site (1979, 1982).
39. Stone Age Chel'kun II site (1979, 1982, 1984).
40. Stone Age Chel'kun III site (1979, 1982, 1984).
41. Neolithic Chel'kun V site (1979, 1982).
42. Neolithic Nekunveem site on the "point" where the Nekunveem River falls into the Ioniveem River (1979, 1981).
43. Neolithic Ioniveem V site (1981).
44. Ioniveem VI campsite (1981).
45. Stone Age (possibly Paleolithic) Ioniveem VII site (1981).
46. Late Neolithic Ioniveem VIII site (1982).
47. Neolithic Ioniveem IX site (1982).
48. Early Late Paleolithic Ananaiveem I site (1984).
49. Ananaiveem II campsite (1984).
50. Old Chukchi cemetery (1984).
51. Tymkrylen I--Stone Age site on the shore of the lake of the same name (1984).
52. Tymkrylen II campsite (1984).

**Sites on the shores of Lake Naurech'e (53-59).**

53. Stone Age Naurech'e I site (1979).
54. Neolithic Naurech'e II site (1979).
55. Neolithic Naurech'e III site (1979).
56. Neolithic Naurech'e IV site (1979).
57. Neolithic Naurech'e V site (1979, 1981).
58. Neolithic Naurech'e VI site (1979).
59. Neolithic Naurech'e VII site (1981).

**Sites on Lake Tynnaia (60-62).**

60. Tynnaia I (Neolithic) site (1981).
61. Tynnaia II (1981).
62. Tynnaia III (1981).

**Sites on Lake Chuvaigytkhyn (63-71).**

63. Neolithic Chuvaigytkhyn IX site 1 km southeast of Lake Chuvaigytkhyn on an outlet stream which falls into a lake to the south (1981).
64. Chuvaigytkhyn I site (1979).
65. Mixed Neolithic Chuvaigytkhyn IIA and IIB sites (1979, 1981).
66. Neolithic Chuvaigytkhyn site III (1979).
67. Late Neolithic Chuvaigytkhyn IV site (1979).
68. Late Neolithic Chuvaigytkhyn V site (1979, 1981).
69. Neolithic Chuvaigytkhyn VI site (1981).
70. Neolithic Chuvaigytkhyn VII site (1981).
71. Neolithic Chuvaigytkhyn VIII site (1981).
72. Ioniveem X site (1981).
- 72a. Ioniveem XI Chuvaigytkhyn-skala (1981)

**Sites on Lake Ioni (73-85).**

73. Neolithic Ioni IA site (1979).
74. Neolithic Ioni IB site (1979).
75. Late Neolithic Ioni II site (1979).
76. Ioni III site (1979). Found by Katenin.
77. Neolithic Ioni IV site (1979).
78. Ioni V site (1979).
79. Ioni VI site (1979).
80. Neolithic Ioni VII site (1979).
81. Late Neolithic Ioni VIII site (1979, 1981).
82. Ioni IX site (1981).
83. Ioni X site (2.5 km north of the lake), possibly Late Paleolithic (1981).
84. Ioni XI campsite (1981).
- 85a. Neolithic Ioni XII site (1981).
- 85b. Ioni XIII campsite (1981).
86. Old Chukchi graves (*paliakvyny*) at the source of the Kainytynrel'khvaam River, on the slope of the hill (1984).

**Sites in the Kus'iuveem River valley (87-100).**

87. Stone Age Kus'iuveem I campsite (1984).
88. Stone Age Kus'iuveem II site (1984).
89. Kus'iuveem III--Neolithic site (1984).
90. Kus'iuveem IV--diachronic campsites: Neolithic and probably Paleolithic (1984).
91. Kus'iuveem V--diachronic Neolithic campsites (1984).
92. Kus'iuveem VI--Stone Age workshop (1984).
93. Kus'iuveem XIV--Stone Age site (1984).
94. Kus'iuveem XIII--Stone Age site (1984).
95. Kus'iuveem XI--Stone Age site (1984).

96. Kus'iuveem XII--Stone Age site (1984).
97. Kus'iuveem VII--Stone Age site (1984).
98. Kus'iuveem VIII--Stone Age campsite (1984).
99. Kus'iuveem IX--Stone Age site, possibly Paleolithic (1984).
100. Kus'iuveem X--Stone Age site (1984).

**Sites in the Kym`ynanonvyvaam River valley (101-122).**

101. Kym`ynanonvyvaam I--Stone Age campsite (1984).
102. Kym`ynanonvyvaam II--Stone Age campsite (1984).
103. Kym`ynanonvyvaam III--Stone Age campsite (1984).
104. Kym`ynanonvyvaam IV--Stone Age campsite (1984).
105. Kym`ynanonvyvaam V--Stone Age site (1984).
106. Kym`ynanonvyvaam VI--Stone Age site (1984).
107. Late Paleolithic Kym`ynanonvyvaam VII site (1984).
108. Late Paleolithic Kym`ynanonvyvaam VIII site (1984).
109. Kym`ynanonvyvaam IX--Stone Age site (1984).
110. Kym`ynanonvyvaam X--Stone Age campsite (1984).
111. Kym`ynanonvyvaam XI--Stone Age site, possibly Late Paleolithic (1984).
112. Kym`ynanonvyvaam XII--Stone Age campsite (1984).
113. Kym`ynanonvyvaam XIII--Stone Age site, possibly Paleolithic (1984).
114. Late Paleolithic Kym`ynanonvyvaam XIV site (1984).
115. Kym`ynanonvyvaam XV--Neolithic site (1984).
116. Late Neolithic Kym`ynanonvyvaam XVI site (1984).
117. Neolithic Kym`ynanonvyvaam XVII site (1984).
118. Kym`ynanonvyvaam XVIII--possibly a Stone Age campsite (1984).
119. Kym`ynanonvyvaam XIX--Stone Age site (1984).
120. Kym`ynanonvyvaam XX--Stone Age site (1984).
121. Kym`ynanonvyvaam XXIA--Stone Age Campsite (1984).
122. Kym`ynanonvyvaam XXIB--Stone Age Campsite (1984).

**Sites in the Igel'khveem River valley (123-149).**

123. Late Paleolithic (?) Igel'khveem XXII site on the shore of a lake which is joined by a channel from the Igel'khveem River in its upper reaches (1983).
124. Igel'khveem XXIII--Stone Age campsite (1983).
125. Igel'khveem XXI--Stone Age campsite (1983).
126. Igel'khveem XX--Stone Age campsite (1983).
127. Igel'khveem XVIII--Stone Age site (1983).
128. Igel'khveem XIX--Stone Age campsite (1983).
129. Igel'khveem XVII--Stone Age campsite (1983).
130. Igel'khveem XV--Stone Age campsite (1983).
131. Igel'khveem XVI site--possibly Paleolithic (1983).
132. Igel'khveem XIV--Stone Age site, late (1983).
133. Igel'khveem XIII--Stone Age site (1983).
134. Igel'khveem XII--Stone Age campsite (1983).
135. Igel'khveem XI--Stone Age site, possibly Late Neolithic (1983).
136. Igel'khveem X--Stone Age site (1983).
137. Igel'khveem IX--Stone Age site, possibly Late Paleolithic (1983).
138. Igel'khveem VIII--Stone Age site (1983).

139. Igel'khveem VII--Stone Age campsite (1983).
140. Igel'khveem VI site--possibly Late Paleolithic (1983).
141. Igel'khveem V site--possibly Late Paleolithic (1983).
142. Igel'khveem IV--Stone Age campsite (1983).
143. Igel'khveem III--campsite of Neolithic times (1983).
144. Igel'khveem II--Neolithic campsite (1983).
145. Igel'khveem I--Stone Age campsite (1983).
146. Neolithic Igel'khveem XXIV (Naulyngytgyn I) site on the south side of Lake Naulyngytgyn (1983).
147. Stone Age Igel'khveem XXV (Naulyngytgyn II) site on the north side of Lake Naulyngytgyn (1983).
148. Stone Age Igel'khveem XXVI (Naulyngytgyn III) site on north side of lake (1983).
149. Igel'khveem XXVII--Neolithic campsite and old Chukchi cemetery (1983).

#### Sites around Lake Koolen' (150-155).

150. Early cemetery on the northeast side of the lake, in a saddle between hills (1980).
151. Early cemetery on the northeast side of the lake, on the eastern slope of a coastal hill (1980).
152. Koolen' I--Late Neolithic site to the right of the mouth of the Koolen'veem River (180).
153. Koolen' IV--Neolithic site at the eastern corner (*kultuka*) of the lake (1980).
154. Koolen'IIA and IIB--Late Neolithic sites to the right of the mouth of a creek (1980).
155. Koolen' III--Early Neolithic stratified (two-layer) site on the left of the mouth of the same creek (1980).
156. Cemetery 3 km to the southwest of Lavrentiia village (1980).
157. Ritual (burial) stone figure of whale-like form on the north shore of Mechigmen Bay (1979).

#### Sites in the Utaatap River valley (158-159).

158. Stone Age Utaatap I site (1983).
159. Stone Age Utaatap II site (1983).

#### Sites in the Getlianen River valley (160-165, 171).

160. Stone Age site on the upper reaches of the Getlianen River, on its left bank (1982).
161. Neolithic Iunei site at the mouth of the stream of the same name (1982).
162. Early Neolithic Getlianen I site (1982, 1983, 1984).
163. Getlianen II Remnant Neolithic site (1982).
164. Getlianen III Remnant Neolithic site and cemetery (1982).
165. Late Neolithic Getlianen IV site together with cemetery (1982).
- 165a. Neolithic campsite at the mouth of Ovrazhnyi Creek (1984).
171. Campsite on Ovrazhnyi Creek.

#### Sites in the Marich River valley (166-170).

166. Marich I--Stone Age campsite, possibly Paleolithic (1983).
- 167a. Marich II--Stone Age site, possibly Paleolithic (1983).
- 167b. Marich III--Stone Age site (1983).
- 167c. Marich IV--Stone Age site (1983).
168. Ritual (burial?) stone figure 2 km from the Marich River opposite the pass to Penkichnei Bay (1984).
169. Marich V--large cemetery of early Chukchi *paliakvyny* (1983).
170. Neolithic campsite on the right bank of the Marich River, opposite the mouth of its left-bank tributary, the Etliapetl' (1982).

**Early sites and cemeteries of sea mammal hunters on the coast of the Chukchi Peninsula<sup>17</sup>**

- 171a. Sireniki.
172. Ytygran Island--Whale Alley.
173. Arakamchechen Island.
- 174-175. Yandogai.
- 176-177. Nuniamo.
178. Cape Chini--cemetery.
179. Cape Chini--Old Bering Sea settlement.
180. First Enmynytynskii cemetery.
181. Second Enmynytynskii cemetery.
182. Third Enmynytynskii cemetery.
183. Ekven--Old Bering Sea settlement.
184. Ekven--cemetery.
185. Senlun--fortified place.
- 186-187. Uelen--cemetery and early settlement.
188. Inchoun--settlement.
189. Inchoun--cemetery.
190. Uten--settlement.
191. Uten--cemetery.
192. Chettun.
193. Ekichuverveem.
194. Chegitun--settlement.
195. Chegitun--I and II cemeteries.
196. Chegitun--III cemetery.
197. Second creek.
198. Seshan--settlement and cemetery.
199. Ikolivrunveem--settlement and cemetery.
200. Kenishkhun.
201. Enurmino--two early settlements and cemetery.
202. Neshkan.
203. Cape Dzhenretlen--two early settlements near the cape.
204. Cape Dzhenretlen--early settlement.
205. Beliaka Spit.
206. Anaian.

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<sup>17</sup>Karpovka I and II (6), Istikhet (7), and Achchen (11) are also assigned to the maritime sites.