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KOROLEVO I: THE MOUSTERIAN COMPLEXES II AND I

SUMMARY — The paper is dedicated to the characteristics of Mousterian complexes II and I in Korolevo I, directly covering the Upper Palaeolithic horizons. In a detailed technical-typological analysis the author provides good grounds for attributing the finds to the Mousterian, mentions possible analogies, tackles problems of historical aspects: division of archaeological cultures, migrations and industrial differentiation of the sites.

KEY WORDS: USSR — Transcarpathia — Late Mousterian — Technology — Typology.

The theory of the early appearance of the Upper Palaeolithic and its overlapping with Mousterian materials in the Middle East has been known for quite a long time. The scholars believed it, agreed with it and accepted it as something extraordinary. Practically none of them cogitated about the phenomenon more deeply, about its possible repetition in other regions, about its frequency on the European Continent. In the meantime the number of factual materials grew: Istállóskő in Hungary, Bacho—Kiro in Bulgaria, sites in the surroundings of Brno in Czechoslovakia yielded outstanding collections with "Mousterian" datings.

The problem of the Szeletian has caught the fancy of prehistorians long ago. But the analysis of these Upper Palaeolithic materials seldom touched upon the problems of the historic significance: the origin, chronological/historical changes in populations and cultures and the causes of the simultaneous appearance of Mousterian and Upper Palaeolithic materials.

In 1979—1980 the Korolevo site in Transcarpathia first yielded Upper Palaeolithic horizons. The character of the assemblages spoke in favour of an early age of these horizons, which has been proved

also with the help of natural sciences. But all this was not so important in the history of the research of this site. The extraordinary character and significance of these finds consisted in something else. Two Upper Palaeolithic horizons in Korolevo were situated between Mousterian horizons. (See paper by V. N. Gladilin in this issue.)

In connection with these facts it seems purposeful to present in this issue, dedicated to the initial stage of the Upper Palaeolithic, the Mousterian complexes covering the Upper Palaeolithic industries in Korolevo.

COMPLEX II

Artifacts belonging to this complex were discovered in a limited section of the Beyvar Hill. The archaeological collection comprises 3 362 finds.

Raw material. The majority of the artifacts are made of andesite (85 %), the rest is made of quartzite (11 %), but also of flint, black slate and obsidian. The surface of andesite artifacts has ashy hue, is covered with scattered and not too deep traces of weathering.

Cores (2%) are diskoid and systemless, proto-prismatic and Levalloisian tortoise cores. Prevail the diskoid core with uni- and bifacial flaking; most frequently they have oval or circular form. Most of them are somewhat oblong. The striking platform is prevailingly at the end of the longer axis of the core. The flake taken from such a core had reduced proportions and a long and broad striking platform, which was then used as back.

The protoprismatic and Levalloisian tortoise-cores are atypical, in most cases they have amorphous outlines.

Débitage (2 259 pcs). They comprise flakes and blades with radial, systemless or parallel contours. Levalloisian flakes are angular in form and are thick in profile.

The technical indices of the complex are: IL — 1.3, index of protoprismatic technique — 22, index of primitive technique — 77, I lam — 6, IF — 35, IFs — 9.

Trimming. Most frequently scalariform and stepped retouch was used, mainly from the dorsal side of the artifact. Bifacial (2%) and partly bifacial (3%) working of the working edge is rare.

One of the characteristic features of the complex is the presence of tools with accommodating elements (60%). Most frequent are the naturally or artificially-backed tools. Naturally-backed tools (46%): wide and long striking platform of the flake, situated parallel or under the angle to the working edge served as back. There are no traces of special trimming. The forming of the back was predetermined by the

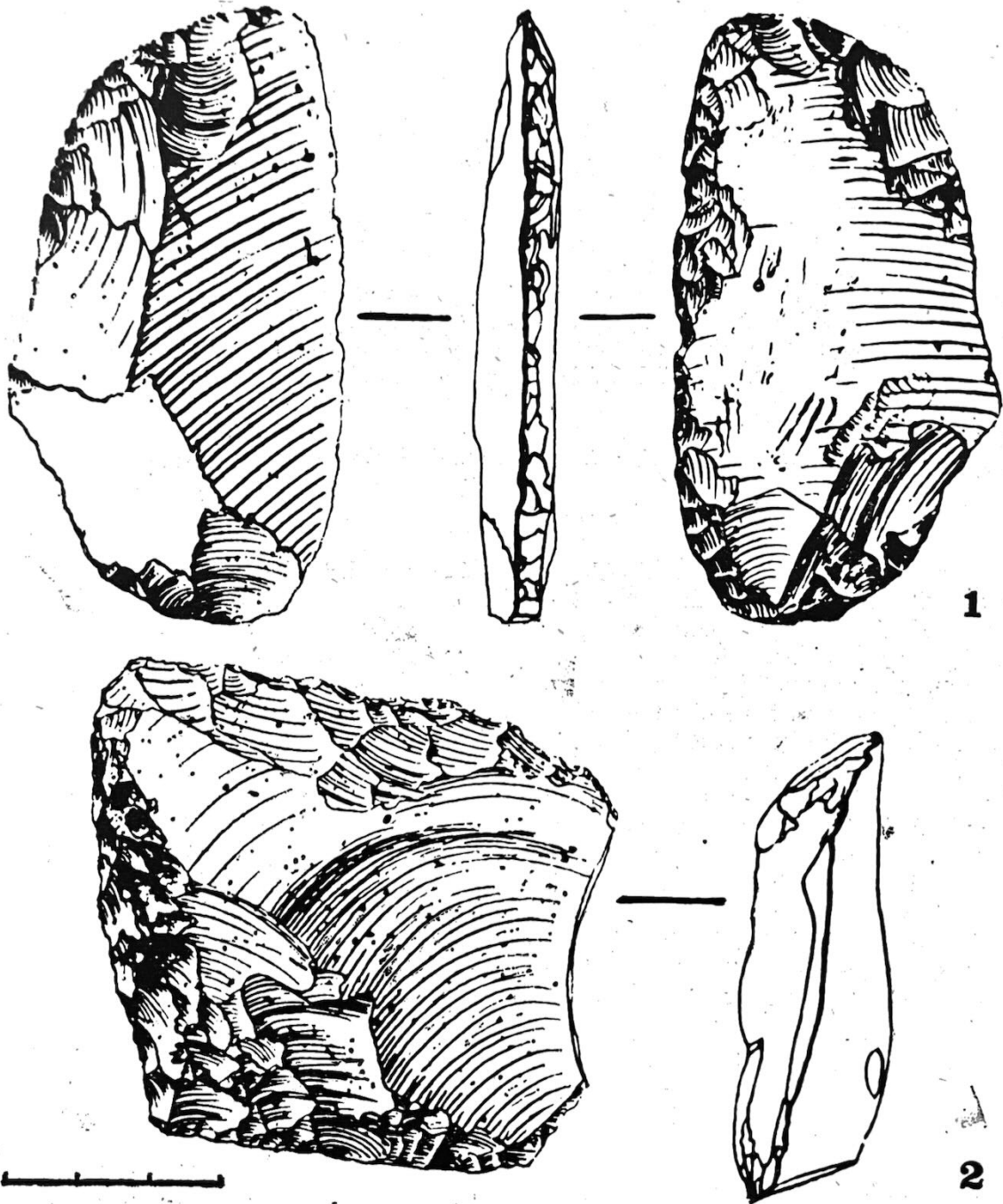


FIGURE 1. *Korolevo I. Tools of complex II.*

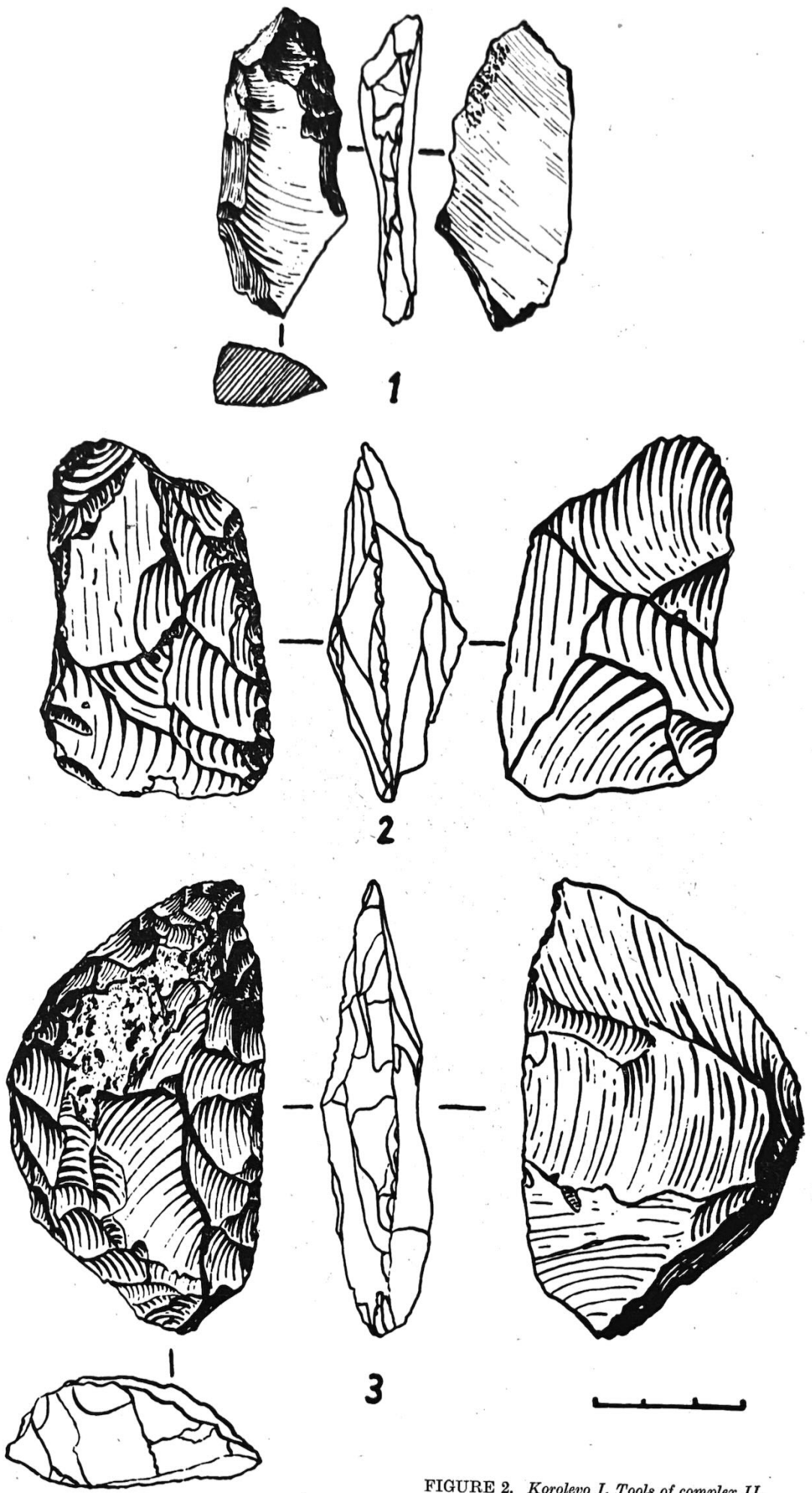


FIGURE 2. *Korolevo I. Tools of complex II.*

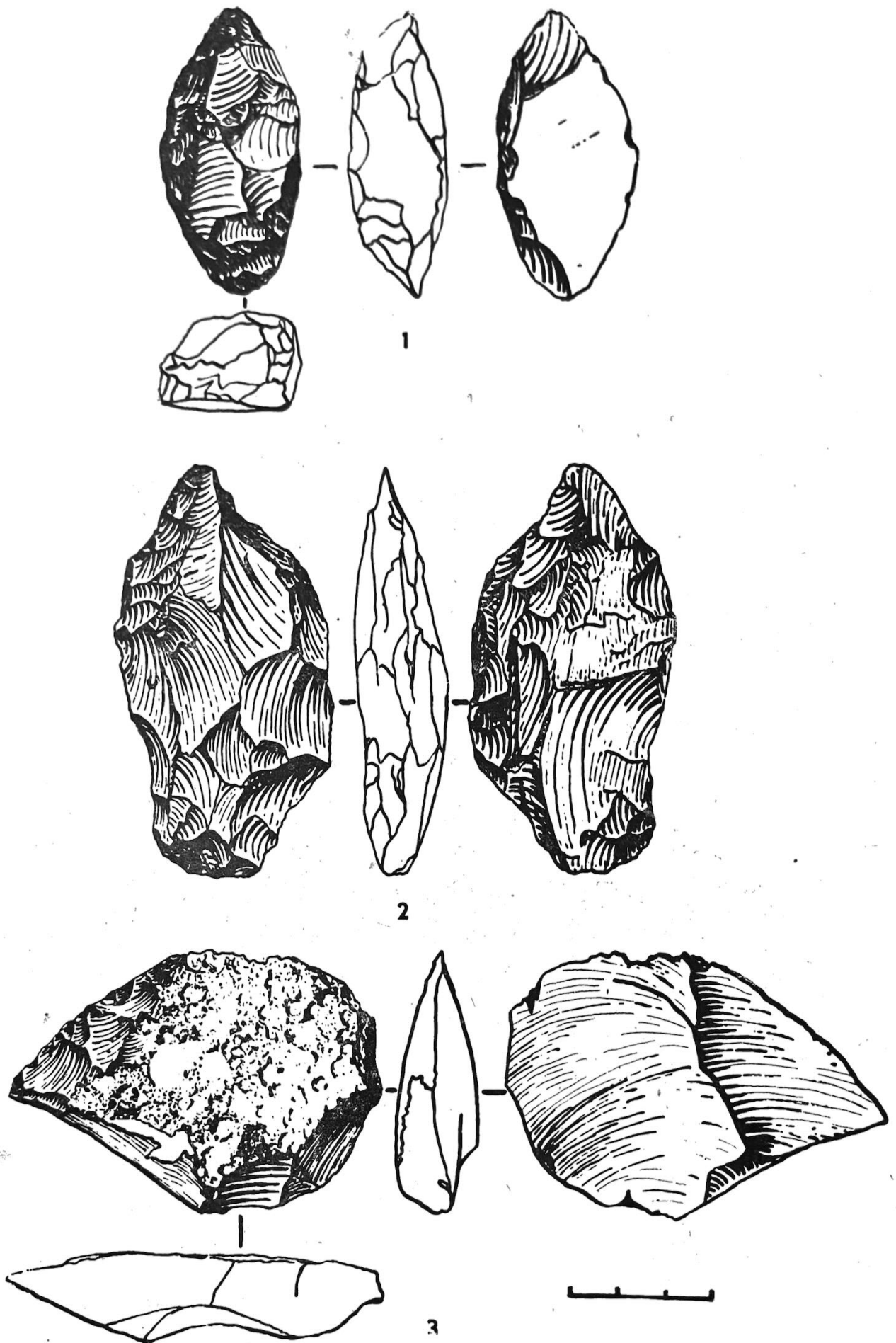


FIGURE 3. *Korolevo I. Tools of complex II*

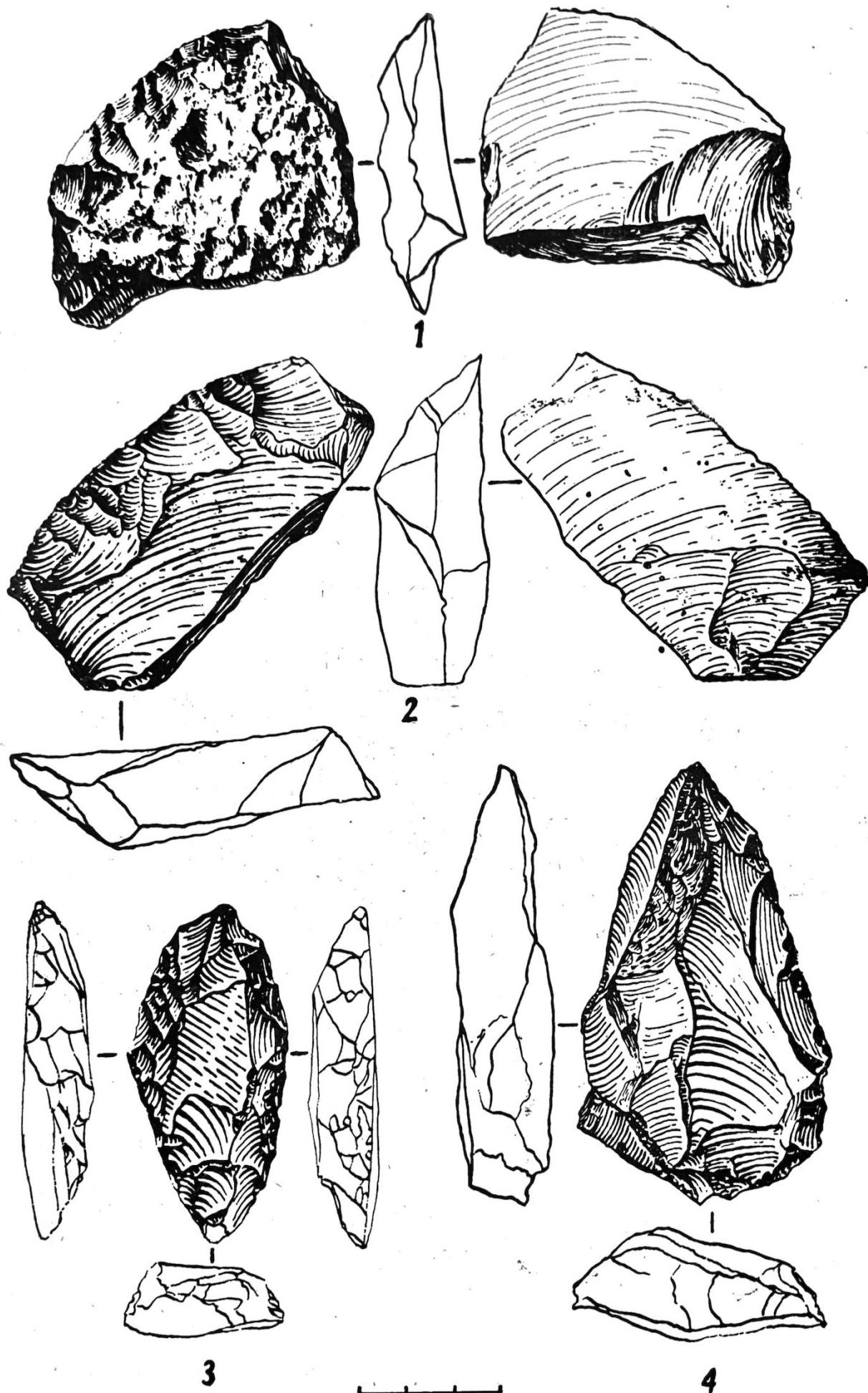


FIGURE 4. *Korolevo I. Tools of complex II.*

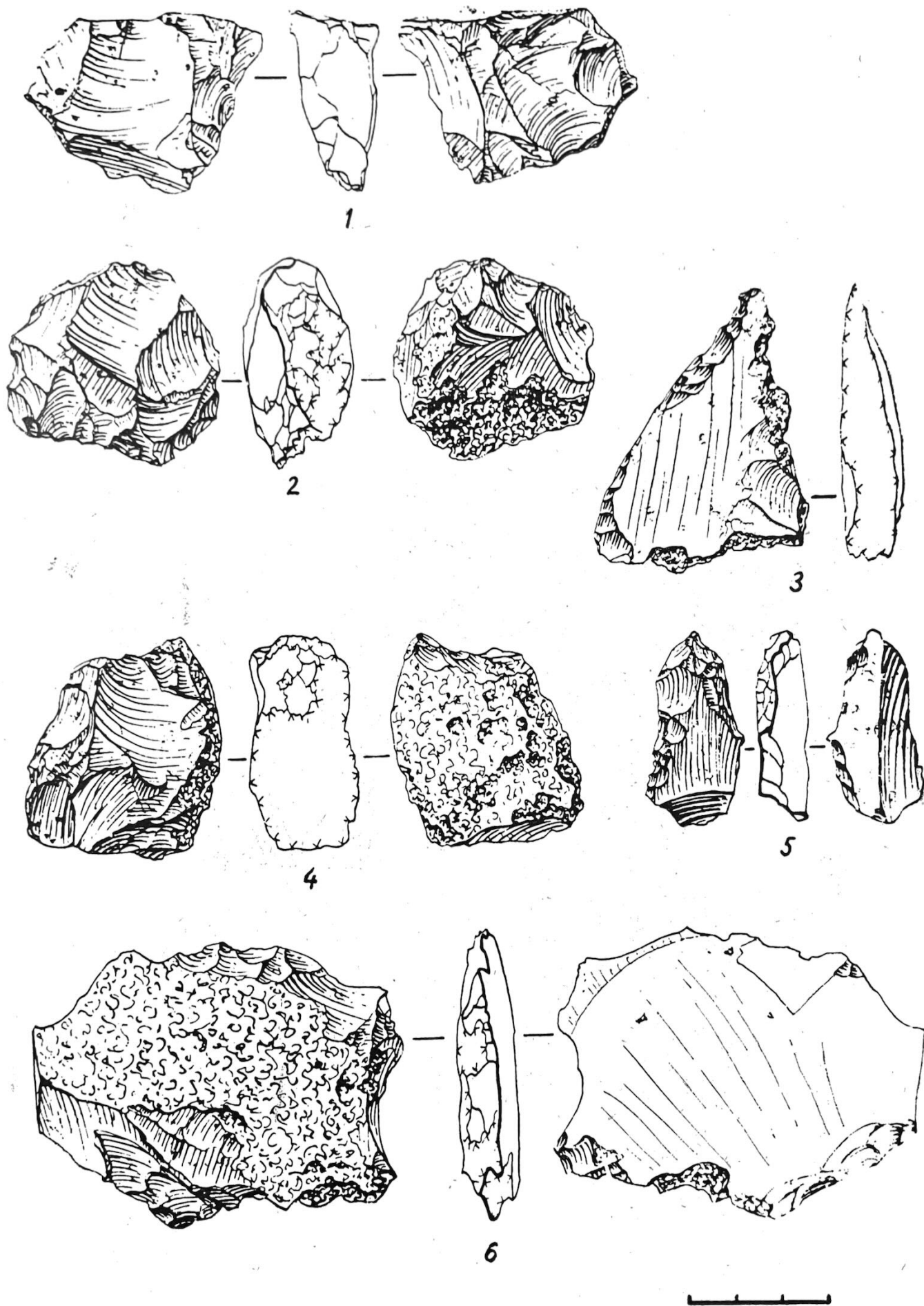


FIGURE 5. *Korolevo I. Cores of complex I.*

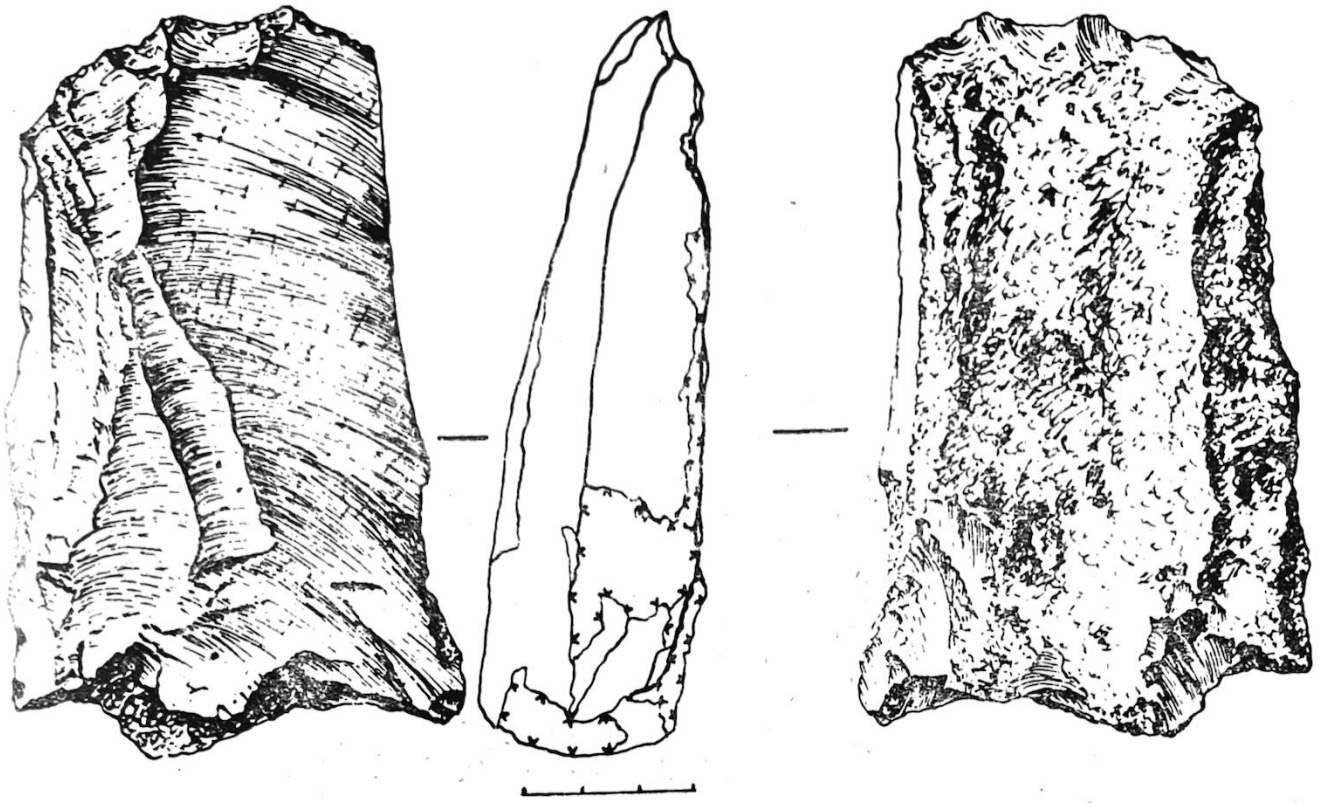


FIGURE 6. *Korolevo I. Cleaver of complex I.*

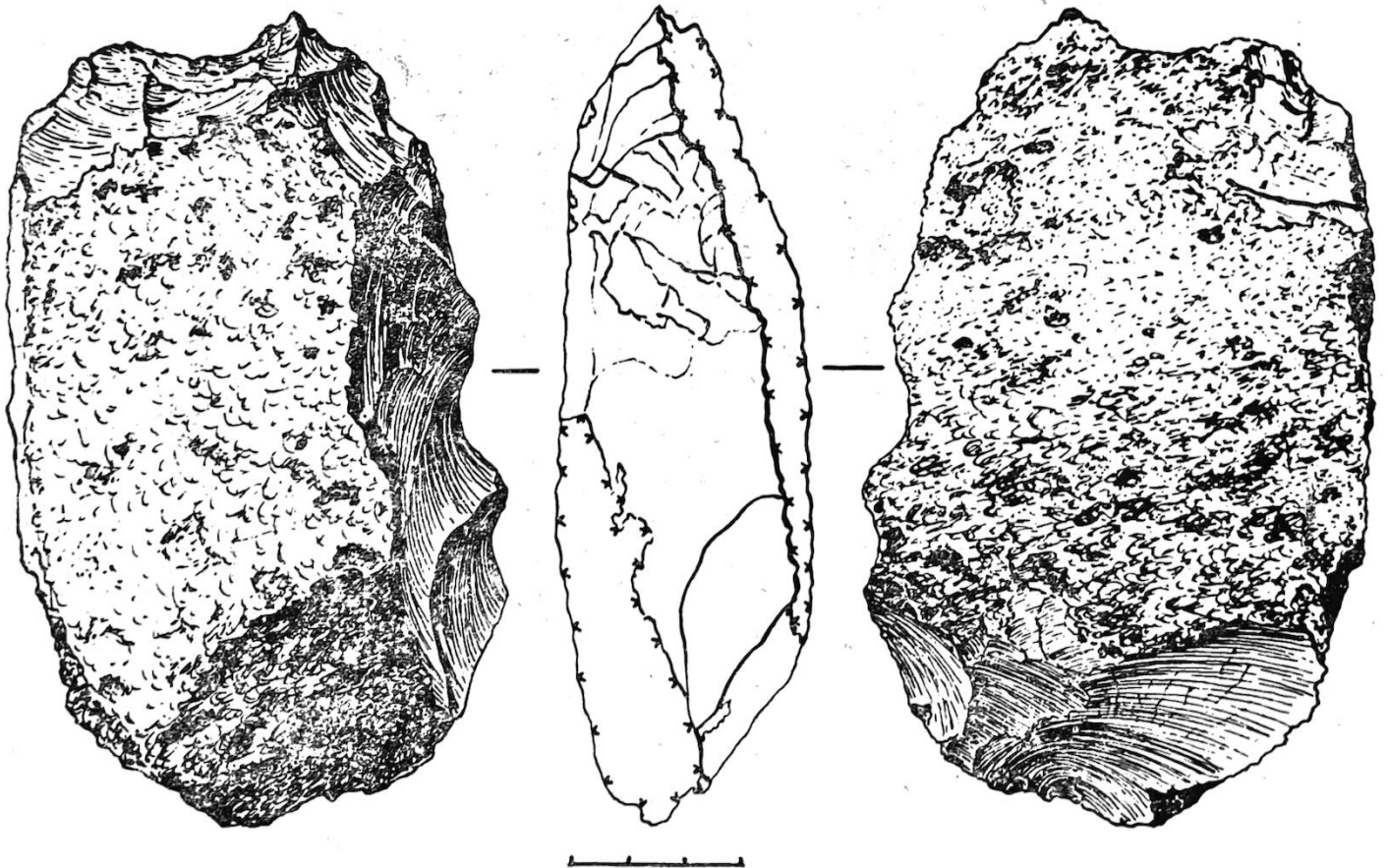


FIGURE 7. *Korolevo I. Chopping-tool on flake of complex I.*

way of primary flaking. Tools with artificial back (14%): in this case the back was specially shaped. Most frequently the striking platform was used for it, fractures on blanks were used less. Several types of shaping the back have been observed: blunting of the sharp edges, preparation of both the striking platform, and also of the flat surfaces of the flakes, for comfortable position of the fingers, etc. There are also artifacts with narrowed basal or rear part, to make easier their fixing to the handle.

Typological characteristics. The mean dimensions of the tools (7%) are above 5 cm.

The classification of the tools has been realized according to the list of types by F. Bordes:

	Pcs.
9. Simple straight side-scrapers	— 4
10. Simple convex side-scrapers	— 45
11. Simple concave side-scrapers	— 8
13. Double straight-convex side-scrapers	— 2
19. Convergent convex side-scrapers	— 1
21. Angular side-scrapers (Fig. 1: 2)	— 15
22. Transversal straight side-scrapers (Fig. 2: 2)	— 11
23. Transversal convex side-scrapers (Fig. 3: 3, Fig. 4: 2)	— 41
24. Transversal concave side-scrapers	— 3

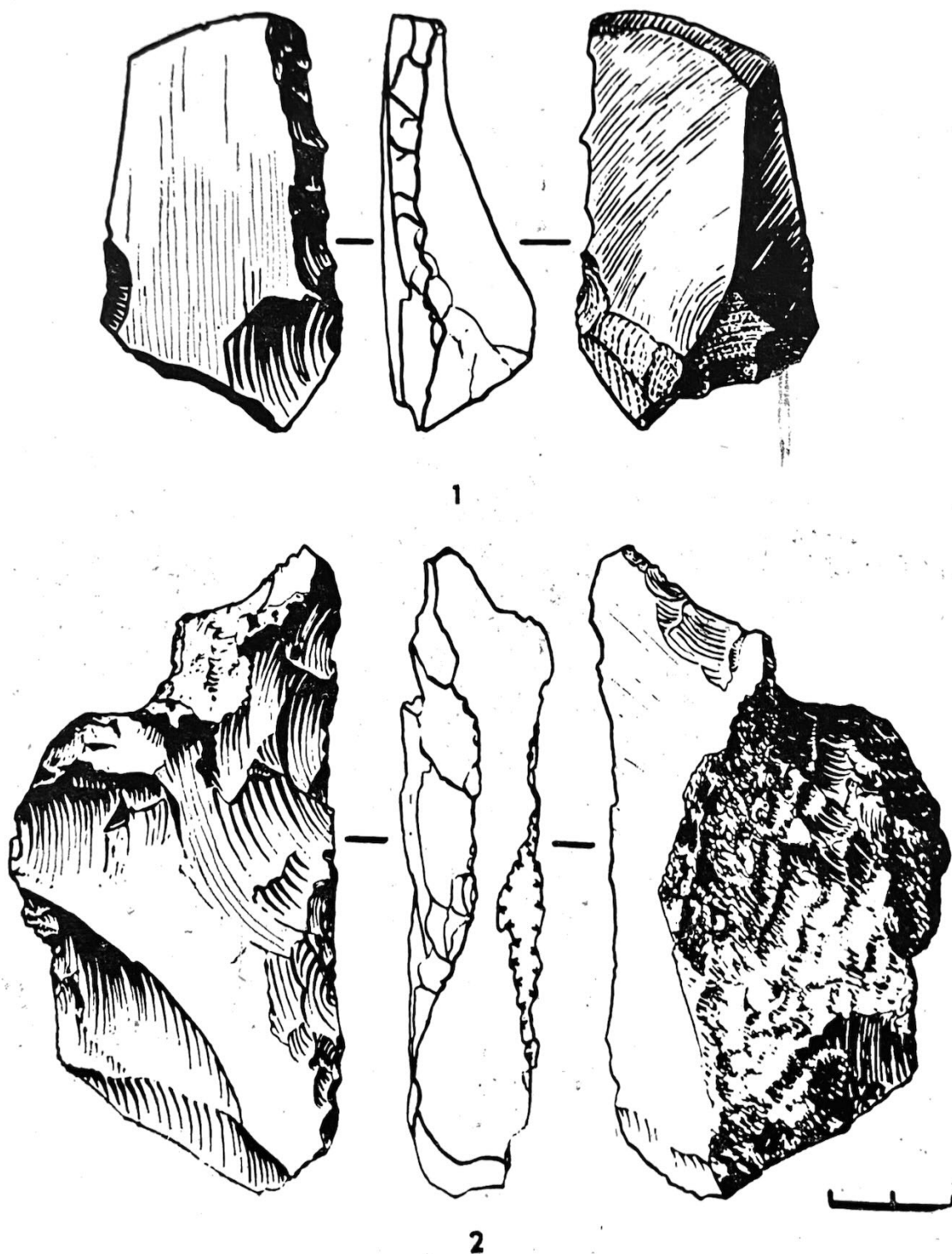


FIGURE 8. *Korolevo I. Tools of complex I.*

25. Ventral side-scrapers	— 6
27. Side-scrapers with thinned back (Fig. 3; 2)	— 5
28. Bifacial and partly bifacial side-scrapers	— 4
30. Typical end-scrapers	— 2
31. Atypical end-scrapers	— 6
33. Burins	— 1
38. Knives with natural back	— 19
39. Raclettes	— 4
42. Notched tools	— 7
43. Denticulated tools (Fig. 2: 1)	— 16
51. Tayacian points	— 2
55. Cleavers	— 1
59. Choppings tools	— 4
60. Choppers	— 2
62. Various tools	
— rezchiks	— 2
— beak-shaped	— 1
— hand-axes	— 2
63. Leaf-shaped tools	— 3

In the collection appear also retouchers (1) and hammer stones (29). The core of the collection is formed by side-scrapers (70%), among which prevail and most significant are the simple and transversal convex and angular ones. They represent stabilized and expressive series and determine the typological character of the collection. Very significant are the Subalyuk side-scrapers (Fig. 4: 4) and the leaf-shaped forms (Fig. 1: 1, Fig. 3: 1, Fig. 4: 3).

The side-scrapers of this complex have a number of general features:

1. Predetermined selection of the blank. Most often massive flakes or raw material fragments with thick profile were used.
2. Character of the blank — the stepped retouch reached far to the dorsal flatness of the flake, and consequently the working edge resulted high.
3. Form of the tool. Prevails the triangular or trapeziform shape.
4. Presence of back, in most cases natural one.

Besides side-scrapers we can find also denticulated tools (7%). Most often they are made on raw material fragments and have angular outlines. Only few artifacts are completed. The index of notched, beak-shaped and denticulated artifacts amounts to 11%.

The Upper Palaeolithic tool types (4%) are not expressive and are atypical.

Nevertheless the technical-typological character of the industry (diskoid technique of primary flaking, prevalence of Mousterian tools, occasional Upper Palaeolithic tools), and also the stratigraphic situation of complex II convincingly documents its Mousterian age.

COMPLEX I

The finds appear everywhere: on the Beyvar and Gostriy Verkh hills, on Korolevo II site, as well as at the foot of the Vinnichki Hill.

The collection consists of 400 artifacts most of them (90%) are of andesite. Extremely rare are other raw materials. The surface of the andesite is almost without weathering and is of dark-grey hue. No weathered corrosion spots appear.

Cores (5) are systemless, protoprismatic and diskoid. The mean dimensions of the blanks are $4.3 \times 5.7 \times 2.5$ cm. The striking platforms and rear parts are often covered with cortex. The negatives of flakes are not too deep, they are of irregular outlines, with frequent fractures and damage. The cores of this complex are all inaccurately worked, have irregular outlines and maximum exploitations. The system of their working is sometimes very difficult to determine. Primary flaking took place mainly with the mixture of diskoid, protoprismatic and systemless techniques. There are no standardized or serial blanks (Fig. 5: 1, 2, 4).

The débitage include flakes and blades with radial, systemless, protoprismatic and Levalloisian tortoise-shaped contours. Frequent are the primary flakes (33%). The mean dimensions of the débitage exceed 5 cm. There are among them also quite large pieces. It is little probable that they might be flaked from the type of cores we have in the collection.

The analysis of the technique of primary flaking reveals that the cores are not characteristic for this industry. The blanks appearing in the collection are quite occasional, they are not products of purposefully developed activities. The entire working process of these people focused on obtaining flakes. In the technique of primary flaking we cannot trace any definite systems of the procedure of shaping the cores. It was not necessary, neither was a determined flake obtained from it. The people needed flake blanks of any dimension, outline or thickness. They were obtained by direct flaking of big andesite blocks, available everywhere in the Korolevo settlement area. This hypothesis has been proved also by the distribution of the finds at the site. They do not form a universal distribution, they appear in small local foci, situated probably near the outcrop of the raw material.

Technical indices of the industry: IL 2, indices of primitive and protoprismatic techniques — 78 and 20 respectively. I lam 8, IF 6, IFs 2. Prevail platforms covered with natural cortex — 63%.

Trimming was realized mainly through marginal retouch. The negligently made large facettes are of varying depth and width. The extensive retouch is of varying, alternating character. The working edge is interrupted and twisting to one and to the other side. We have to underline the negligent and coarse character of the trimming of the tools. Again, we cannot trace any system in the working of the implements. They were mostly obtained by chance, not as a result of purposeful manufacture.

The collection includes artifacts with features of accommodation — 18%: shaping of the back, narrowing of the back or basal part. Similarly as if processing the working edge, the methods of accommodation in this industry do not provided for subdivisions into groups, in other words we lack criteria for checking their elementary classification or systemization. Here again we should mention the coarse and negligent character of the trimming. Indeed, accommodation appeared only sporadically.

Typological characterization. The index of se-

condary trimming is quite high — 11. The mean dimensions of the tools exceed 5 cm.

List of tools drawn in line with F. Bordes' list of types:

10. Side-scrapers, simple convex	— 6
22. Transversal straight side-scrapers	— 2
23. Transversal convex side-scrapers	— 1
24. Transversal concave side-scrapers	— 1
25. Ventral side-scrapers	— 2
28. Bifacial side-scrapers	— 1
Undefinable side-scrapers	— 1
30. Typical end-scrapers	— 1
42. Notched tools	— 3
43. Denticulate tools	— 12
55. Cleavers (Fig. 6)	— 1
61. Chopping-tools	— 1
62. Various tools:	
— chopping-tool on flake (Fig. 7)	— 1
— chisels	— 2
— beak-shaped (Fig. 11: 1)	— 2

The industry is dominated by the denticulated-notched group — 54%. There are among them implements with dorsal denticulation, often also on the ventral side (Fig. 5:6, Fig. 8:1, Fig. 9:1). Notched implements are represented both by Clactonian and also by retouched notches.

Side-scrapers are frequently atypical, of coarse and mostly mediocre working. They represent up to 38% of the collections (Fig. 8:2, Fig. 5:3).

In the assemblage there are two artifacts that could be regarded as chisels. They are made on fragments of raw material, the short working edge is formed by two or more large facettes from both sides (Figs. 11:2, 3, 5).

Upper Palaeolithic types are rare — 3%. There exist some chopping-tools.

The industry is non-Levalloisian, non-blade like, non-facetted — but attributed to denticulated Mousterian. The Mousterian dating of the collection is documented also by the stratigraphic position of the layer, by distinct character of Mousterian tools, and by the absence of Upper Palaeolithic elements: prismatic cores, typical blade tools.

Thus the above described materials have been attributed to the Mousterian period. Here appears a number of questions connected with the genesis of these industries, and their possible analogies.

The complex II of Korolevo I is genetically not connected with the underlying industry of complex II—A, even less with the Levalloisian industries of the II—B, III, IV, IV—A complexes. Distant parallels can be seen in the collections of the lower layer of the Subalyuk Cave in Hungary and in the Bojnice I Cave in Slovakia (Kadič 1940, Prošek, 1952).

Analogies with complex I appear in the Transcarpatian sites situated in the surroundings of the villages Cherna, Novoselitsa and Khizha, within a radius of 10—12 km from Korolevo. We deal here with sites Sorgeid, (see the paper by V. I. Sitliviy in this issue.), Cherna IV, VI, VIII, X, Novoselitsa I, II, Pleshka II.

The are most apparent in the collections of Cherna X. The stratigraphic situation is analogous to Korolevo. The collection contains some 300 artifacts mainly of andesite.

The cores (11%) are diskoid, protoprismatic with one or two platforms and systemless; their mean dimensions are 5.4 × 4.3 × 2.7 cm. Practically all come from the final period of their exploitation. Similarly as in Korolevo I complex, they are often on the dividing line of several flaking technologies. In the group of cores there are four tools, very appropriately called "microcores" (Fig. 10:1—4). They are very small (2.2 × 2.5 × 1.4 cm), having negatives of flakings on both sides. Perhaps they are totally exploited cores or special tools. Similar implements called by V. P. Lyubin "microtools" were found also in the materials of Lisaya Gora in the Caucasus Mountains (Lyubin, 1969).

The technical characteristics of the collection are as follows: IL 3, index of protoprismatic technique 22, index of primitive technique 74, I lam 10, IF 2 IFs 6.

The mean dimensions of tools (21%) exceed 5 cm. Clearly prevail tools of the denticulated-notched group — 52% (Fig. 9:3, 4, Fig. 11:4). The second biggest group of tools are side-scrapers (34%). They are sufficiently polymorphous. Upper Palaeolithic types (4%) are represented by end-scrapers.

The Cherna X industry could be defined as non-Levalloisian, non-blade-like, non-facetted, with a prevalence of denticulated-notched tools.

Fully analogous according to the technical-typological indices are the collections of the other mentioned sites (Figs. 9:2, 10:5, 6).

With the use of the classification worked out by V. N. Gladilin (1976) on the materials of the above-mentioned site we can determine the archaeological cultures. As basis for this serves the territorial concentration, chronological similarity and the same material culture. This culture is called Cherna Culture, according to the most significant site of Cherna X (Soldatenko, 1979, 1980, 1982).

By considering the materials of complex I in Korolevo I and of the Cherna sites, it has been possible to deal in the preliminary level with the differences in the manufacture of tools in these sites. This classification was realized on the basis of four characteristic features: the topography of sites, planigraphy of the finds, relationship of the raw material, technical-typological features of the collections. An analysis of the mentioned features makes it possible to define the sites in the area of Cherna as remains of permanent settlements, complex I from Korolevo I as a workshop site (Kulakovskaya, 1989).

Industries similar to Cherna Culture appear also in Moravia, in the caves Šipka and Čertova díra.

The stratigraphic situation of finds in both caves, and those collected here are identical. The position of the Mousterian layer in the Šipka Cave, in analogy with the stratigraphy in the cave Pod hradem, is dated by K. Valoch to Würm 1/2 (Valoch 1965). Besides that a control excavation on the site has proved that the geological layers containing the cultural finds accumulated evidently in one of the Würmian stadials — in Würm 1 or in Würm 2 (Kukla, 1954, Valoch, 1965, p. 15). It seems more likely that the Šipka industry is related to Würm 1, as its dating

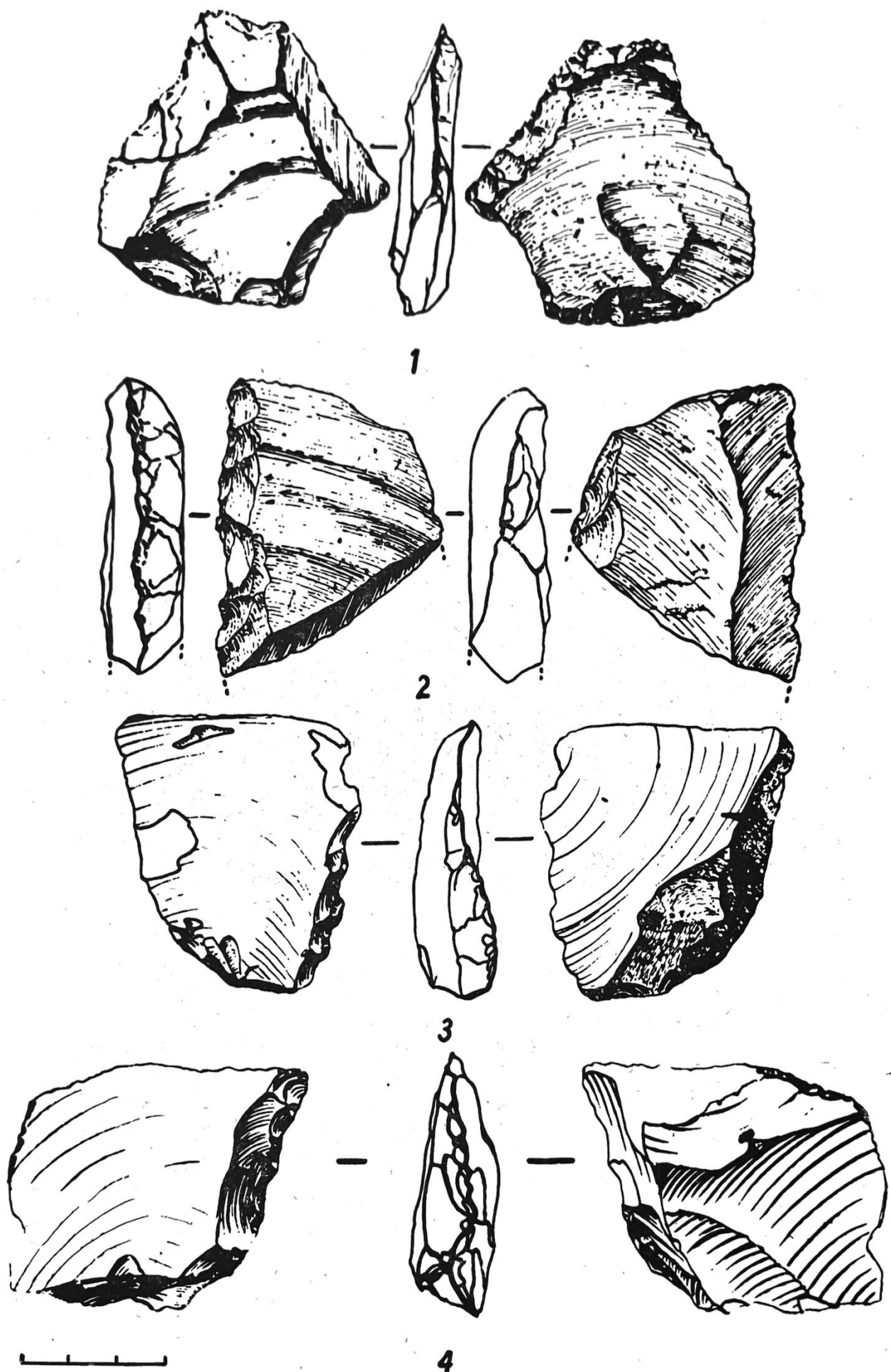


FIGURE 9. 1 Korolevo I, complex I; 2 Cherna VIII; 3, 4 Cherna X. Tools.

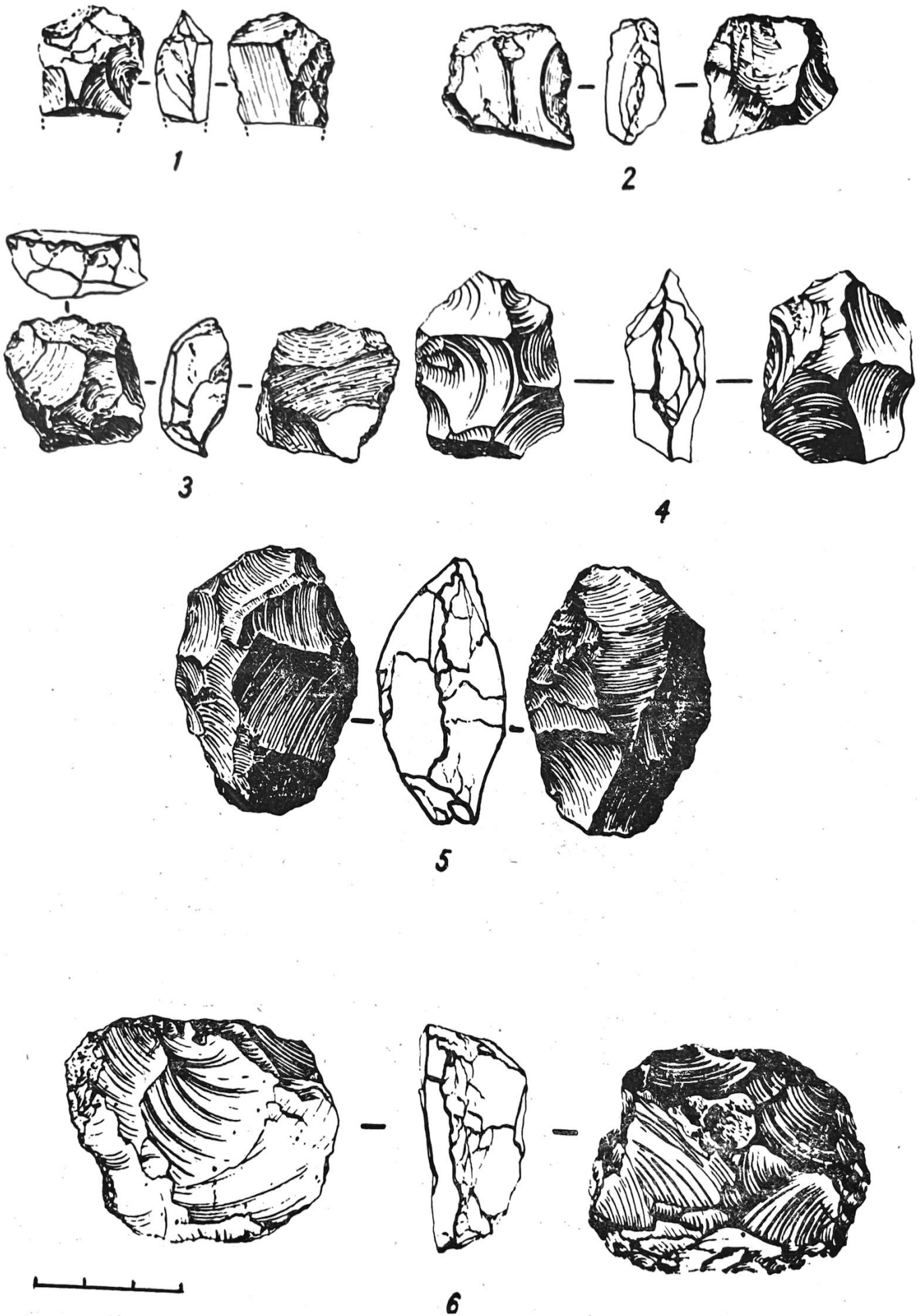


FIGURE 10. 1—4 Cherna X; 5—6 Cherna IV. Cores.

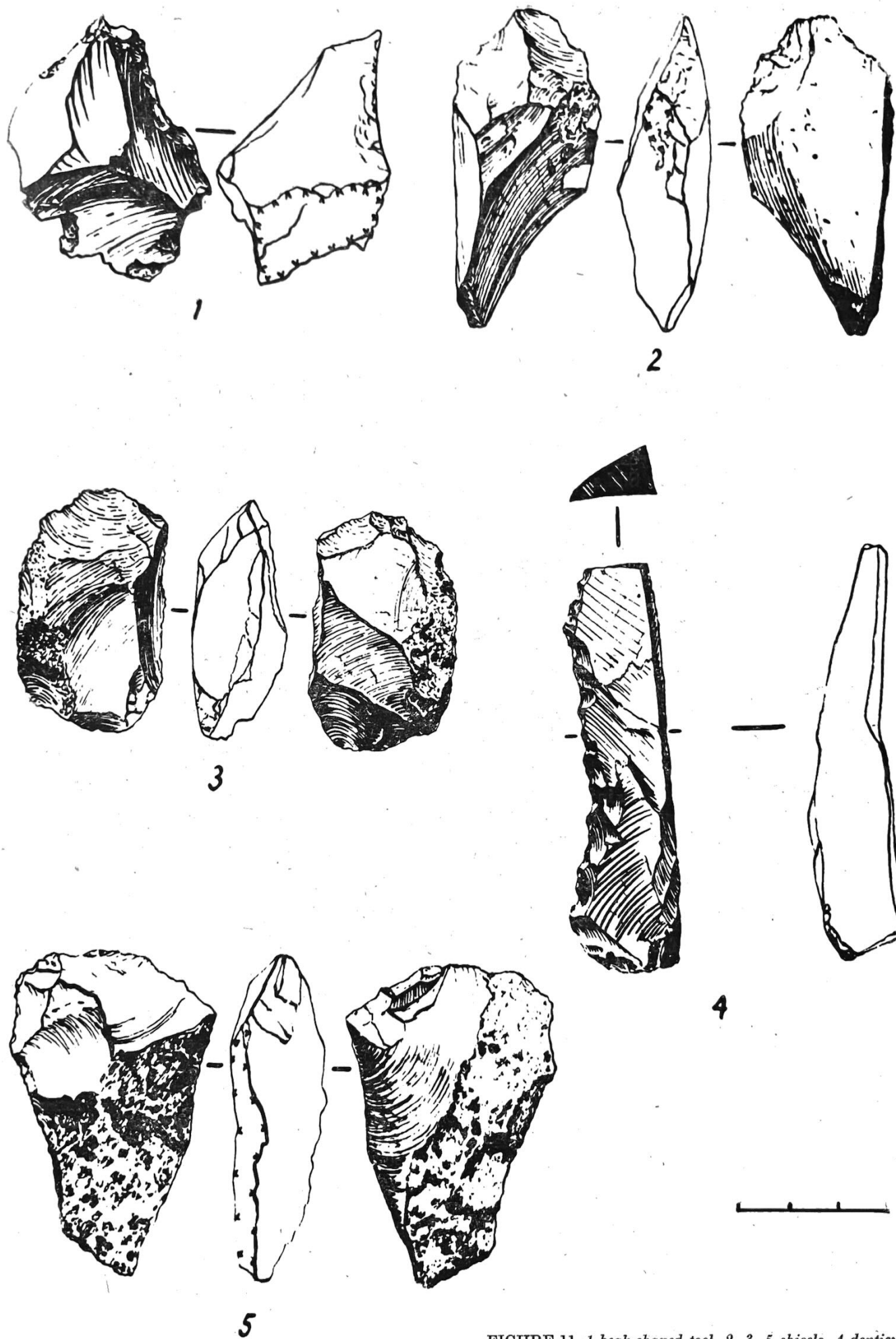


FIGURE 11. 1 beak-shaped tool, 2, 3, 5 chisels, 4 denticulated tool. 1, 2, 5 Korolevo I, complex I, 3, 4 Cherna X.

into Würm 1/2, and even less to Würm 2, does not correspond to the archaeological materials. The archaeological collection of the cave Pod hradem attributed to Würm 1/2 belongs to Upper Palaeolithic, on the contrary to Šipka where appears also a collection of typical Mousterian artifacts.

This archaeological collection looks like non-Levalloisian (0.8 %) non-blade-like (15 %), non-faceted (15 % and 29 %). Characteristic of the cores is systemless flaking, angular forms and irregular outlines. Typical diskoid and protoprismatic cores appear seldom.

Trimming was practised through coarse retouch, often realized alternately, often resulting in blunted working edge.

Typologically the collections from Šipka and Čertova díra were first presented by K. Valoch (1965) as typically Mousterian. Although he already called the attention to the frequently appearing denticulated and notched processing of the working edges, their sinuous shape, negligent and coarse working (Valoch, 1965, p. 84). Some years later, Valoch changed his view, attributing Šipka industry to denticulated Mousterian, emphasizing that the complex sharply differs from the denticulated Mousterian of France. In the collection from the Wildkirchli Cave he saw the distant analogy (Valoch, 1971). It is incorrect to compare the Šipka industry with the Mousterian upper layer of the Subalyuk Cave; the latter is characterized by microlithic tools, numerical prevalence of side-scrapers in the typology (most side-scrapers are bifacial), high percentage of "orange section"-shaped (pebble-slice) scrapers, presence of Tăta scrapers, and by small number of denticulated implements. The Šipka industry lacks all these elements.

On the basis of the above facts it would be fully correct to attribute the Šipka industry to the Cherna Culture, and this is proved also by the technical-typological conformity between the two industries.

K. Valoch regards Šipka material as a special type. "Šipkian is a late phase of Middle Palaeolithic in the group of typical Mousterian, convincingly representing the branch of Mousterian complexes lacking any progressive elements, and not developing any more" (Valoch, 1965, p. 94).

Such a definition is fully in agreement with the characteristics of the Cherna Culture, which is the latest "final chord" of the Transcarpathian Mousterian, existing evidently enclosed by the Upper Palaeolithic groups.

It appears that the relation between Šipka and Cherna Culture is well documented. This relation can be illustrated by similar technical-typological indices, steady proportion of usual types, presence in the Šipka industry of the ventrally retouched denticulated artifacts characterizing the Cherna Culture, further by alternative retouch and by the presence of chisels.

All the above data support the hypothesis that the Šipka industry and finds from Cherna belong to the same archaeological culture. It is represented

by some ten sites in a relatively extensive territory of the Middle Danubian Lowlands and flourished during the first Würmian stadial.

Such a long duration of this culture can be explained in two ways: either by the existence of two territorial groups, one Transcarpathian and the other Moravian, or by the migration of this population. The appearance of complex II in Korolevo I is evidently also connected with migration. The absence of analogous industries in Transcarpathia, the considerably isolated character of complex II within the limits of the Carpathian Basin, however, leaves this question open.

The problem of migrations, and naturally of contacts arising due to migrations in the Mousterian environment still waits for its solution. It is hard to understand the dynamics of this phenomenon. We do not know whether these links were episodes of short duration, or formed part of the norms of mutual contacts of the Palaeolithic groups. All these problems require special research, careful analysis of the corresponding industries, with special regards on their joint features and specific characters distinguishing the diverse cultures.

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