THE MOUSTERIAN COMPLEX SORGEIDY\)

SUMMARY — The paper brings the characteristics of Sorgeidy — a new and most expressive Transcarpathian Paleolithic site with denuded Monesterian.

According to the stratigraphic position of the finds, the morphological, technical-typological characteristics of the stone artifacts of Sorgeidy are directly correlated with the 1\textsuperscript{st} complex of Korolevo covering the horizons of the initial period of the Upper Paleolithic. The Sorgeidy materials document the survival of Monesterian traditions following the appearance of the first complexes of the initial Upper Paleolithic phases at the Korolevo site, demonstrating the development in the Transcarpathian region — the uneven and non-unilinear development of the Palaeolithic industries.

KEY WORDS: USSR — Transcarpathia — Middle Palaeolithic — Denuded Monesterian.

One of the unique features of Korolevo is at the first glance the extraordinary alternation of the Mousterian and Upper Paleolithic industries. This appears in Korolevo repeatedly, at various places, but in a uniform stratigraphic situation: artifacts of the 1\textsuperscript{st} cultural-chronological complex (denoted Monesterian) were situated above the III fossil soil of the regional section (Brizup + Odleradie + Pupperingia!), below this soil was situated a horizon containing industries of the initial stage of Upper Palaeolithic (cultural-chronological complex II Koro leve II, and complex II* and Ia Korolevo I). Any kind of redeposition of the artifacts in all these cases can be ruled out. None the less, Gladin’s view that we have to do here with facts reflecting the uneven development in the Palaeolithic, expressed by the Monesterian and Upper Palaeolithic industries, is far from being accepted by all Soviet scholars of the Palaeolithic. These doubts had their definite foundations. The collection of artifacts from the 1\textsuperscript{st} Korolevo complex (Monesterian) is not numerous, although it contains all the necessary technical-typological characters needed for their attribution to Lower Palaeolithic (See paper by L. B. Belokovska yeva (Soldatenko) in this issue). During explorations in the surrounding of Korolevo collections of artifacts identical with Korolevo complex I have been gathered. They appeared in the same stratigraphic conditions — at the lower part of loam above fossil soil III (Soldatenko, 1953).

Not long ago the author has succeeded to find a rich collection of similar artifacts in the vicinity of Korolevo, at the foot of the hill Sorjeida (Silitiy, 1987). At present it is the most numerous and most significant collection of special importance for the cultural-chronological attribution of Korolevo complex I.
The Soropedy site consists of an elongated 40 m wide terrace running from north to south, sifting down the foot of a hill of the same name and separated from the village of Korolevo by a deep ancient ravine. At a result, archaeological excavations of the whole terrace developed numerous stone artifacts (more than 2 thousand of them) and scattered ceramic fragments that had been brought to the surface.

Archaeological trenches were opened at various places of the site. The following stratigraphy has been found (Fig. 1):

- 0.00–1.00 cm: contemporary soil
- 1.00–0.20 cm: loam-loam, light-brown (analogous to layer 2 of the Korolevo section)
- 0.20–0.00 cm: loam, whitish with small iron and manganese concretions (analogous to layer 3 of the Korolevo)
- 0.00–0.00 cm: brown soil (analogous to III soil of the Korolevo–Krepil–Obdreskiy–Peppeinger)
- 0.00–1.00 cm: upper horizons of dark-brown soil (analogous to layer 7 of the Korolevo) – uppermost layer of the IV fossil soil – Elze-Weitz
- 1.00–0.00 cm: lower horizons of fossil soil (analogous to layer 8 of the Korolevo) – lowermost layer of the IV fossil soil – Elze-Weitz
- 1.00–0.00 cm: westcreek rock crust

In the undisturbed sections of the site we have managed to determine that the ceramics and patinated andesite artifacts and smoke-ovens came from layer 2 and from the upper part of layer 3; patinated andesite implements can be largely attributed to the lower part of layer 3 or even to the dividing line between loam and fossil soil. The isolated artifacts made of quartzite and andesite were discovered in two preserved fossil soils: layers 4 and 8.

The fact that the finds come from different periods can be documented by technical-typological features. The artifacts coming from the upper part of the Soropedy section and several scores of finds that appeared on the surface are knife-like blades, disk-shaped end-scrapers, ground axes and coiled celts. Some of most finds, in view of Professor E.A. Balagurs, are Hallstattian, the rest — Neolithic. Similar finds were discovered in analogous conditions in Korolevo and also in Kokosovo.

Most finds (almost 2 thousand artifacts) collected on the surface are of more archaic features than the previous ones, and have Mousterian character. These finds are identical to those attributed to the lower part of loam layer (layer 3).

In line with the stratigraphic facts and technical-typological characters of the assemblage of the one of the most important chronological guides was the degree of preservation of their surface. The method of relative dating — obsidian or hydration-rind dating relatively later stone age periods of various regions are successful (Bíro, 1962; Hole, Heizer, 1977). This method in its elementary (visually-meteric) form was used in the abundant collections of andesite or obsidian artifacts in various Upper and Lower Palaeolithical Korolevo complexes. Based on stratigraphy, artifact typology, degree of patination and ware and the weathering of volcanic rocks a cultural-chronological scale has been established for the Palaearctic in Transcarpathia, and standard samples have been obtained for various palaeolithical complexes of the region (Gладилин, 1965; Stilivyh, 1985). Numerous surface finds of Soropedy were processed in a similar way, and we obtained a "pure" complex of Mousterian implements — cultural-chronological complex 1, and remains — in smaller quantity — of other two Palaeolithical complexes (the surface of these artifacts has been weathered compared with the main complex).

**Complex 1**

This complex comprises 1992 finds: precoces 9/0,4, cores 10/5,9, postcores (processed cores) 28/4,1, core-shaped fragments 7/0,5, flakes 873/43,8, blades 50/2,5, fragments 153/7,7, waste 845/22,3, tools 318/16.

As raw material local black andesite was used — 99 %, the rest was made of quartzite, flint, obsidian. The surface of the andesite artifacts was covered with transparent grey patina, and with sporadic small moon-shaped porous traces of corrosion.

**Technique.** A significant collection of core-shaped artifacts have been gathered. The different degree of their utilization served as criterion to differentiate the precoces in the initial phase of working (Gладилин, 1976, p. 43), cores, and postcores — maximally worked cores. The latter represent the final stage of utilization of the core on the level of its full exploitation. These artifacts have microlithic parameters — 2–4 cm. The dimensions of the cores and of precoces are medium-sized — few exceed 5 cm.

The technical-typological characteristics of the industry is given by V. N. Gladilin's classification (Glădăilin, 1970).
Among cores prevail primitive ones (63 pcs.); systemless (of cubical and spheric outlines, but also square ones, oval, triangular and amorphous) 39 pcs. (Figs. 2:4, 6, 3:1). radial (clocs 22 pcs.) and radially-\textit{bifacial} (the disk-type cores have mostly oval or square shape 2 pcs. (Fig. 2:1). The share of cores with parallel flaking—protoprotomastic ones—is much smaller (19 pcs.) (Figs. 2:2—3); unidirectional 11, bidirectional 2, transversal 2, bi-transversal 1, and the rest are unidentifiable. The cores of parallel flaking are of flat profile and are of quadrangular shape in their majority; we find also occasional sub-cylindrical cores, reminding of Upper Palaeolithic cores. The collection includes also 4 Levantian cores: 2 tortoise-shaped and 2 Victoria-West (Figs. 2:4). They are atypical and are not characteristic of this complex. The other cores are fragmented — 20 pcs. The pre-cores and cores in their majority are systemless and radial — 7. Significant in the group of post-cores are the so-called “microblades”: radial and radially-bifacial — 9 pcs. (Fig. 2:2—3).

Division of flakes (similar to cores): primitive flakes 542, protoprotomastic 110, Levantian 3, indeterminate 215, primitive blades 20 and protoprotomastic ones 31.

The following technical indices have been obtained:

- Index of protoprotomastic technique, (expressed in % — the share of retouched and non-retouched protoprotomastic flakes with regards to all definable flakes and blades.) — 19.1
- Index of Levantian technique (L.) — 0.3
- 1 lam — 4.5
- 1 Fs — 6.7
- 1 F — 11.3

Length coefficient of the flakes (after Bourgeois) — 97.3
Massivity coefficient of flakes (after N. K. Amsyukin) — 30.7

In general primary flaking was done quite negligently, and consequently most flakes resulted short and of irregular geometrical shapes, and are often fragmented. The technique of primary flaking can be characterized as primitive, non-blade-like, non-Levantian, non-faceted.

Iteography. There are 315 tools (16%). There is no need to add that a great deal of tools with secondary working (more than 100 items) are very difficult to classify. Many of them (28) are bifacial or partly bifacial cores chopped, more frequently they were chopped from one side only. They represent something midway between core-like artifacts and blanks for tools: possibly for side scrapers, knives, denticulated (Figs. 4:1, 2), chisel-like tools. The other group of artifacts represents flakes, more often primitive ones, with shallow and irregular traces of use, in the form of pearly retouch — 45 pcs (Fig. 5:5). The not-too-expressive character of the secondary working and the absence of any accommodation made it impossible to attach them to the group
knives or rechiko. All the above mentioned artifacts, as well as the doubtful or unidentifiable (fragmented ones), have been exempted from the calculations.

The rest of the tools (126 pieces) are typologically evident (Table 1). The proportion of knives, side scrapers, denticulated and notched artifacts in this group is roughly the same.

**Knives (63 pieces)** — simple (with single cutting edge) with convex (19), straight (5), sinuous (2), angular (1) working edge (Figs. 5: 1-4; 6: 1, 3, 6), and more complicated and developed with several cutting edges or with longer working edge: bow-shaped (5), trapeziform (3), basally-arched, double-convex, double-concave, convexly-concave, triangular, oblique-angular, crescent-shaped, semicircular — by one implement of each type (Figs. 4: 3; 6: 4, 5; 7: 1, 2, 4-7). There is retouch both from the dorsal and ventral side, or alternately from the one and the other. Some developed knives have been worked fully or partly from two sides. For accommodation of the tools was used the cortex of the flakes, or artificial back — flake negativs or fractures. In other cases the back was retouched or blunted, or the side opposite to the cutting edge was prepared.

**Side-scrapers (15 pieces).** Prevail simple (single-edge) side-scrapers with convex (9), concave (1), straight (1), sinuous (1) working edges, but there are also sporadic developed types: bow-shaped (3), basally-convex, crescent-shaped (Figs. 7-3), the rest are unidentifiable. The working of the edge and the accommodation parts are analogous to those of the knives.

**Denticulated flakes (54 pieces)** — similarly as the knives denticulated flakes occupy a leading position in the collection. In the group prevail simple, single-edge tools with convex (12), straight (8), sinuous (6), concave (6), angular (1) edge (Figs. 4-5; 6-4; 8: 1, 3-5; 9: 1, 3). The developed denticulated flakes are represented by unique samples: bow-shaped, triangular, oblique-angular, oval (Fig. 4-4), crescent-shaped, laurelin-shaped (Fig. 5-2), circularly sinuous arched. The rest of the tools of this category (9) are fragmented. The shaping of the working edge and of the accommodation parts is analogous to that of side scrapers and knives. The bifacial and partly-bifacial artifacts are rare. Chopping was used quite often. Well perceptible is the slipped character of the secondary working of the denticulate tools. Typical representative of the denticulate artifacts is the convex single edge tool with natural or artificial non-retouched back.

**Notched artifacts** (draw-knives) complement the group of denticulated tools with 11 pieces. Among them: with longitudinal notch (the notch is on the longer side of the blank — 4) (Fig. 4-7), with beak-like projection on the longitudinal side of the flake (Fig. 4-6), and on its terminal part (Fig. 4: 8). The rest of the tools are unidentifiable.

**Chisel-like artifacts** — they represent a clearcut series of 14 items (Fig. 10). They comprise: tools with a single working edge (convex 7, concave 2, straight 1), and with two working edges situated on two opposite narrow sides of a blank — biterninal ones (4 pieces). It cannot escape our attention that the chisel-like artifacts were more often worked from both sides than was the case with knives (7 out of 12 artifacts). The complimentary trimming resulted in thinning or in blunting of the basal part, or in cutting off the longitudinal lateral edges, reminding thus in miniature the working of the rather distinctive cleavers of Korolevo (Fig. 10: 7).

**Tips, points** (in total 5 and 8 pieces.) They are not characterized by repeated features of production or constant form. They are conventionally divided into Tayacian and Monastirian. The first group is characterized by coarse working and amorphous outlines. The finishing of those tools is uneven, dented and has sub-triangular or rhomboid outlines (Figs. 11: 1, 2, 4-6). Sporadically they appear with beak-shaped edges: two of those resmiid of Duruitoarea (Ketran, Anisiyutkin, 1967). Expressive is a Quinacros-point (Fig. 11: 3). More perfect is the second group of artifacts, represented by triangular, oblique-angular, laurelin-shaped, willowedleaved and rhomboid points and tips (Figs. 11: 4; 12: 7, 8). Most of these tools were worked from the ventral side, in the rest of cases — partly from two sides. The tips, as a rule, have sharpened base.

**Small Monastirian end-scrapers** form quite a representative group of tools (9 pieces). They are made on small splinters or scales. Their working edge

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**TABLE 1.** Soroopy, complex 1. List of typologically characteristic tools

<table>
<thead>
<tr>
<th>Type</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choppers</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>Chopping tool</td>
<td>2</td>
<td>2.6</td>
</tr>
<tr>
<td>Axe</td>
<td>2</td>
<td>2.6</td>
</tr>
<tr>
<td>Knives</td>
<td>29</td>
<td>32.2</td>
</tr>
<tr>
<td>Side-scrapers</td>
<td>13</td>
<td>15.2</td>
</tr>
<tr>
<td>Denticulates</td>
<td>5</td>
<td>5.9</td>
</tr>
<tr>
<td>Draw-knives</td>
<td>11</td>
<td>13.0</td>
</tr>
<tr>
<td>Points</td>
<td>9</td>
<td>10.9</td>
</tr>
<tr>
<td>Tips</td>
<td>9</td>
<td>10.9</td>
</tr>
<tr>
<td>Relicts</td>
<td>9</td>
<td>10.9</td>
</tr>
<tr>
<td>Chisel-like implements</td>
<td>14</td>
<td>16.9</td>
</tr>
<tr>
<td>End-scrapers</td>
<td>2</td>
<td>2.4</td>
</tr>
<tr>
<td>Perforators</td>
<td>1</td>
<td>1.2</td>
</tr>
</tbody>
</table>

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**FIGURE 8.** Soroopy, complex 1. Tools.

**FIGURE 9.** Soroopy, complex 1. Tools.
is convex and covered with small, pearly retouch (Figs. 6-7). End-scrapers (5 pcs.), typological, made on flakes (Fig. 6: 2).

The other tools are rare: two choppers on quartzite pebbles (Figs. 12: 1), two concavely chipped axes, one chopping tool, a large flake with traces of chopping (Figs. 12: 2) and a borer.

The Sorgoïy collection of tools is characterized by typical Mousterian forms: side scrapers, knives, and denticulated-notched artifacts, in small number also points and tips. The collection is dominated by denticulated-notched artifacts, and by scrapers, knives, appearing roughly in the same proportion. The most typical are the knives and denticulated tools with a single edge, most frequently convex (simple): dorsal, ventral, alternative, with alternative, natural or artificial non-retouched back (wide flake, possible fracture). The specific character of the complex is given by the various developed, complicated with several edges, knives and denticulated tools—triangular, oblique-angular, oval, crescent-shaped, etc. (often bifacial and partly bifacial) and also characteristic chisel-like implements, Mousterian, small end-scrapers and Tayasovka points.

To the specific character of the industry has contributed also the intentional fragmentation. The share of fragmented implements amounts to 40%. The uniform degree of conservation of both fractured and worked surface of the artifacts well documents that they are of the same age. Such a high proportion of fragmentation has not been recorded in other Korolevo horizons, although the same raw material was used in all of them. It would be more logical to assume that a considerable proportion of the artifacts broke during the course, careless primary and secondary working, and some of the tools were fragmented during their finalizing.

As to its technical-typological characteristics the ist complex of Sorgoïy can be unequivocally identified as Mousterian, belonging to the groups of denticulated industries in its specific manifestation. We can see certain similarities with those finds in the southeast, in Mesina (Moldavia) (the difference consists mainly in the microparameters of the latter), and in the west—with the finds of the so-called "Alpine Mousterian". Direct analogies appear so far only in Transcarpathia—complex I from Korolove, Cherni L., Khm. The individuality of these complexes allow to determine the specific Mousterian Cherni Culture (Sokolovskiy, 1982, Sokolovskaya, 1989). Between Sorgoïy and the finds of Cherni Culture there are resemblances in the stratigraphic position of the finds and also in the degree of their preservation, suggesting that they are contemporaneous. Identical features appear also in their technical and typological indices (Table 2). Some not too important statistical differences between Sorgoïy and other sites of the Cherni Culture can be explained in our view by the incoherence of the compared collections.

Three other sites, yielding analogous finds, have been discovered in the vicinity of Sorgoïy. One of them—Sorgoïy Jär—is stratified. Denticulated artifacts were collected by the authors also in the area of the known early-Acheulian Mousterian site Sokossovo and Malý Rakovets in Transcarpathia. All this proves the widespread extension of the denticulated Mousterian complexes in the Neolithic period in the Vihorlat-Gutín Mountain Range.

At present the Complex I at Sorgoïy is the most expressive and representative of the denticulated Mousterian sites in Transcarpathia. The finds in has yielded are identical with those found in complex I in Korolove, directly covering the complexes of the initial period of the Upper Paleolith. Unfortunately the few andesite and quartzite artifacts in Sorgoïy, laying below the main complex and correlated by the degree of preservation of the andesite surface with finds from complexes I-a, I-II and III of Korolove, they cannot be identified unequivocally either as Mousterian or as artifacts from the initial phase of the Upper Paleolith. But Sorgoïy I complex is nevertheless a further proof of the survival of Mousterian traditions following the appearance of the first complexes of the initial stages of the Upper Paleolith. The known early finds of this phenomenon represent the natural way of development, illustrating the uneven, non-linear development of the Paleolith societies. Thus on the level of the present knowledge the genesis of the Paleolith industries (LATE OSLUH—Acheulian—Mousterian—initial stage of the Upper Paleolith) in the region of the Vihorlat-Gutín Mountain Range culminates in the extraordianrily underdeveloped archaic denticulated Mousterian.