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ON THE ORIGINS OF EARLY UPPER PALEOLITHIC INDUSTRIES WITH LEAF POINTS IN THE CARPATHO-BALKAN REGION

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In the 1960ies and early 1970ies Palaeolithic archaeologist saw a synchronic transition from the Mousterian to the Upper Palaeolithic in both Europe and the Near East. The appearance of the earliest Upper Palaeolithic sites was dated to between 38,000 and 33,000 BP, a time interval represented by the mid-Wurm Hengelo/Podhradem interstadial and the subsequent Wurm stadial (e.g. Valoch 1968). In the rest of the inhabited Old World, Upper Palaeolithic industries were either absent or made their appearance considerably later in time, between 35,000 – 15,000 BP.

Now we realize that the appearance of the Upper Palaeolithic in Europe is far more complex and that the data on hand permit us to examine this process in a new way. This information, first and foremost, comes from the excavations at Korolevo (Soviet Carpathian region). Gladilin's excavations of this multi-layered Acheulean and Mousterian locality in 1978–1980 opened up two Upper Palaeolithic industries: complex Ia at Korolevo I and complex II at Korolevo II (Gladilin 1980; 1982; 1985). They were found at different levels in the loess-loam which separates the two upper relict soils at Korolevo (the Upper Palaeolithic complex of Korolevo II is somewhat older than at Korolevo I) and were stratified between Mousterian complexes. Their dating is relative to the ages of the two upper Korolevo relict soils (III and IV). Morphology, litho-mineralogy,, paleopedology,, palynology, paleomagnetic and thermoluminescence data all assign the IV soil to the Riss-Wurm and, possibly, the Amersfoosd, while the II soil dates to the Brorup and Odderade (Adamenko and Grodetskaya 1987; Adamenko et al. 1989). Thus the Upper Palaeolithic complexes found between these soils must date to a pre-Brorup Wurm I stadial and be over 65,000 years in age. Extant radiocarbon dates for these layers, 38,500 ± 1000 (GIN 2774) for Korolevo II and 25,700 ± 400 (GIN 2773) for Korolevo I, are in discordance with such an old date (Sulerzhitsky *et al.* 1984). Given the sum total of the data, we must clearly consider radiocarbon dates as erroneous. They are considerably younger as a result of a number of factors including the unreliability of this method to date material over 40,000 years in age, the contamination of the samples by modern root fragments which are indistinguishable for true ancient charcoal (the Upper Palaeolithic horizons of Korolevo I and II did not contain clear hearths), and finally, the fact the analyzed samples from layer I–a at Korolevo I were probably contaminated by intrusive Halstatian urn burials containing cremated human remains. For these reasons we consider biostratigraphic dating which assigns these layers to an early Wurm stadial preceding the Brorup as the most raliable.

Both Upper Palaeolithic complexes at Korolevo show the same uniform parallel method of blade production which always began with the creation of a ribbed surface and the removal of lame àcrête. The lamellar index at

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Korolevo II is 34.8 % and 40.5 % at Korolevo I. The wide and narrow faceting index at Korolevo II is 27.4 % and 8% respectively at 18.3 % and 3.1 % at Korolevo II. Levalloise, radial, and amorphous cores are absent. The industry at Korolevo II retains only one early Palaeolithic Levalloise tradition – constant reshaping of the striking platforms during blade removal. The tool assemblages from these sites are different, however. Tools from the older Korolevo II inventory create an ambigous impression – the Mousterian component is still fairly large (23.88 %), consisting primarily of side scrapers. At the same time the inventory is dominated by Upper Palaeolithic forms (39.55 %) represented most clearly by points and blade knives while the end scrapers, burins, and piercers still retain a fairly archaic form. The "neutral" tools-notches and denticulates (15.6 %) and bifacial points (20.9 %), give this inventory its characteristic profile (Fig. 1–3). Thus, while technically the Korolevo II industry is a typically Upper Palaeolithic one, the tools themselves still retain many Mousterian traditions. Together these data point to the transitional nature of this inventory which represents the very begining of the Upper Palaeolithic.

The tools from the later Upper Palaeolithic complex of Korolevo I show a greater dominance of Upper Palaeolithic tool types (63.29 %). Here end scrapers (46.83 %) dominate here. The Mousterian tools, although still numerous (25.32 %), in contrast to Korolevo II, are primarily represented by atypical forms, especially evident among side scrapers. Notched and denticulate pieces ("neutral" tools) are present in small proportion (11.39 %). Thus both technologically and typologically the Korolevo I industry is a fully Upper Paleolithic one and, from complex II at Korolevo II to complex 1a at Korolevo I, shows the evolution of a single Upper Palaaeolithic culture which loses its bifacial points through time.

During the pre-Brorup Wurm I stadial at Korolevo we can monitor a unique case of the existance and development of a single Upper Palaeolithic tradition within conglomeratee of Mousterian complexes.

Until now this phenomenon of an unusually early co-existance of technologically and typologically Upper Palaeolithic complexes and their interstratification with early Palaeolithic ones was documented only in the Near East – the "pre-Aurignacian" (Garrod and Bate, 1937; Rust 1950; Garrod and Kirkbride 1961; Garrod 1970). Too often these data, because of their uniqueness, have been ignored in our evolutionary schemes. With the discovery of Korolevo inventories we can no longer see the Korolevo "Upper Palaeolithic phenonomenon" and the "Pre-Aurignacian" of the Near East as some sort of unique early Wurm "islands" in the global "sea" of Mousterian complexes. Extensive fieldwork done in the 1970ies and 1980ies together with a reconsideration of previously known materials is showing the existance of these early, pre- Hengelo/Podhradem, Upper Palaeolithic industries in Bulgaria, Czechoslovakia, and Hungary. They include Brno-Bohunice (Valoch 1976a; 1982), Stranska Skala III and IIIa – lower level (Svoboda 1987; 1988), Vedrovice II and Kuparovice I (Valoch 1976b; Oliva 1980), Ivanovce (Prosek 1953; Barta 1980); Bacho Kiro – complex 11 (Kozlowski 1979; 1982), Samuilica II – complex 5–6 (?) (Kozlowski 1975; Sirakov 1983); Szeleta – lower complex (Vertes 1964), and Istallosko (Vertes 1955). All of these early Wurm sites are located within the confines of the Carpathian basin and the Balkans – thus being regionally restricted to the Carpatho-Balkan region of south-eastern Central Europe. The large number of these sites here, and their absence from both Western and Eastern Europe, indicates that this region was a center of Upper Palaeolithic development and is thus a strategic region for examining various theoretical issues dealing with the origins of Upper Palaeolithic industries.

Biostratigraphic dating together with techno-typological analysis of these early Upper Palaeolithic industries permit us to outline three stages in the development of the early Upper Paleolithic here (Gladilin and Demidenko 1986). The first stage is technologically characterized by the removal of parallel blades which, in a few cases such as Brno-Bohunice and Samuilica II, is augmented by Levalloise elements. Typologically this stage features many types transitional between the Mousterian and Upper Palaeolithic – all of this expressed in the presence of numerous

Upper Palaeolithic forms together with the strong presence of Mousterian tool types (Korolevo II, Brno-Bohunice, Szeleta, Samuilica II (?).

The second stage also features the removal of parallel blades. The Levalloise presence still persists in some complexes such as Stranska Skala III and IIIa: Tool types are dominated by Upper Palaeolithic forms (end scrapers, retouched blades, and points on blades) but contain few, usually atypical, burins. Mousterian tools are in the minority. Examples of this stage can be found at Korolevo I, Stranska Skala III and IIIa, Bacho Kiro, and Istallosko.

The third stage continues the production of parallel blades. The Levallois technique is absent. Upper Palaeolithic tool types are numerous and widespread, Mousterian ones few in number, and most inventories are dominated by various types of burins (e.g. Vedrovice II, Kuparovice I).

The developmental scheme presented above first and foremost attemps to delimit the development of various industries at the initial stages of the Upper Palaeolithic. In it we hypothesize that Upper Palaeolithic technology and typology must pass through a number of formative stages in their development and that these, depending on the local cultural traditions present, will necessarily be somewhat different in the different areas. The delimiting of these stages permit us to concretely outline the genetic roots of these Upper Palaeolithic complexes, as well as to determine their role in the evolution of the different Upper Palaeolithic cultural traditions. For example, the techno-typological traits of industries in the first stage of development (Korolevo II, Brno-Bohunice, Szeleta, Samuilica II (?)) point to their direct evolution from Mousterian complexes. The profile of the industry from complex 11 at Bacho Kiro, on the other hand, suggests the existance of an earlier, as yet unknown, stage of Upper Palaeolithic development here. We should underscore that we do not assume that this early stage of Upper Palaeolithic development had to have occurred at the same time everywhere. Some regions were undergoing the second and third stages of development while other were in the first stage. The co-existance in one and the same region at the same time of industries representing these various stages of development probably reflects various migrations of Upper Palaeolithic groups.

This stadial periodization of early Wurm Upper Palaeolithic sites in the Carpatho-Balkan region permits us also to consider their origins.

Three technico-typological traits characterize the oldest of these stage I industries (Korolevo II, Brno-Bohunice, Szeleta, Samuilica II (?)).

- the production of parallel sided blades
- elements of the Levalloise technique
- the presence of bifacial leaf points in the inventories.

The Korolevo I inventory, with its genetic ties to the Mousterian and Acheulian industries, at present most fully reflect the development of Palaeolithic inventories in the Carpatho-Balkan basin. Here, from Gunz to Riss-Wurm (complexes VIII – III), we can trace the origin and evolution of the tortoise Levalloise into the pointed Levalloise (complex II–b, dating to the Amersfoort (?)) which features also the development of the parallel technique of blade removal (blade index to 30 %). This autochtonous entity, evolving from the Lower to the Middle Palaeolithic, contains leaf points only in the Late Acheulean complexes (V–a and V, dating to Riss II–III). These evolve out of elongated hand axes present in complexes VI–Vb (Mindel–Riss I–II). The making of leaf points does not continue in the Mousterian complexes of Korolevo I and because of this, tempting though it may be, we cannot associate them with the oldest Upper Palaeolithic sites in the region. In addition to this, the general stratigraphic column at Korolevo shows that the final stage of development of the local Levallois tradition in Korolevo I (complex II–b) is separa-

ted from the Upper Palaeolithic complex of Korolevo II by a foreign "Eastern Micoquian" industry of complex IIa at Korolevo I (Fig. 4).

Because of this, and in spite of superficial unlikelihood, the scenario which sees the origins of the oldest Upper Palaeolithic sites of the Carpatho-Balkan basin in the Korolevo complexes Va and V (with their well developed, for late Acheulean, Levallois and parallel core techniques), becomes most parsimonious. Admittedly there is a chronological hiatus between them – from Riss II–III all the way to Wurm I. This hiatus, however, suggests the existence of intermediate Mousterian stages. Given the present stage of our knowledge about the Palaeolithic of this region, such an intermediate stage may be represented at Kikkonopilos (end of Riss-Wurm-begining of Wurm) which features the listed typo-technological traits but in their more developed forms (Dakaris, Higgs and Hey 1964). This, in turn,suggests, the existence of another heartland of development for late Acheulean and Mousterian industries in the Balkans, one which while bearing cultural similarity to Korolevo, did not witness the abandonement of leaf points. Thus we suggest that, at present, Kokkinopilos should be seen as the sub-base for early Wurm sites with leaf points belonging to the first stage of development of the Upper Palaeolithic. Most likely it is this (or similar) Mousterian industry which gave rise, via the principle of "branching evolution", to similar but not culturally identical early Upper Palaeolithic complexes of the Carpatho-Balkan region. One of these evolutionary paths led to the II complex of Korolevo II and lower complex from Szeleta – characterized by the abandonement of Levallois points but presence of leaf points. The second evolutionary direction is seen at such sites as Brno-Bohunice and complexes 5–6 at Samuilica II which contain both Levalloise and leaf points.

The further evolution of early Upper Palaeolithic complexes during the early Wurm in this region is not so unilineal. Breaks can be observed in the general stratigraphic column at Korolevo where Upper Palaeolithic layers are covered by Mousterian layers (Korolevo I – complexes IIa, II, and I). This break, however, should not be interpreted as a natural break in evolution. Today we do not know sites where a continous evolutionary process is represented, one not complicated by incursion of allien cultural complexes. The changes in climate and fauna during the early Wurm inevitably did lead to both migrations and demographic shifts of human populations. In moving to new places Palaeolithic groups retained and developed their lithic traditions. Once these groups increased in size and then either returned to their former home areas or colonized new ones. These processes lead to what appears to be the mosaic nature of early Upper Palaeolithic industries in the south-eastern Central Europe. In reality the record on hand demonstarted "branching evolution".

We suggest that the fate of early Wurm industries with leaf points should be considered from such a vantage point. Currently we are delimiting a few directions in this evolution (Figure 5).
Direction 1 Complex II at Korolevo II – complex Ia at Korolevo I
Direction 2 Brno-Bohunice – Stranska Skala III and IIIa – lower level – Stranska Skala IIIa – upper complex
Direction 3 Samuilica II – complexes 5–6 (?) – Bacho Kiro complex 11.

These three evolutionary trajectories for going from the Mousterian to the Upper Palaeolithic in the Carpatho-Balkan region in general possibly reflect the origins of three independent early Upper Palaeolithic cultures within a single ethnocultural region.

Thus, the materials from the Carpatho-Balkan region reveal the transformation of Middle Palaeolithic Levalloise industries with leaf points into Upper Palaeolithic ones during the begining of the Wurm. This specific transformations from the Lower to the Upper Palaeolithic, which was just one of many possible ways, can be termed the Levalloise one.

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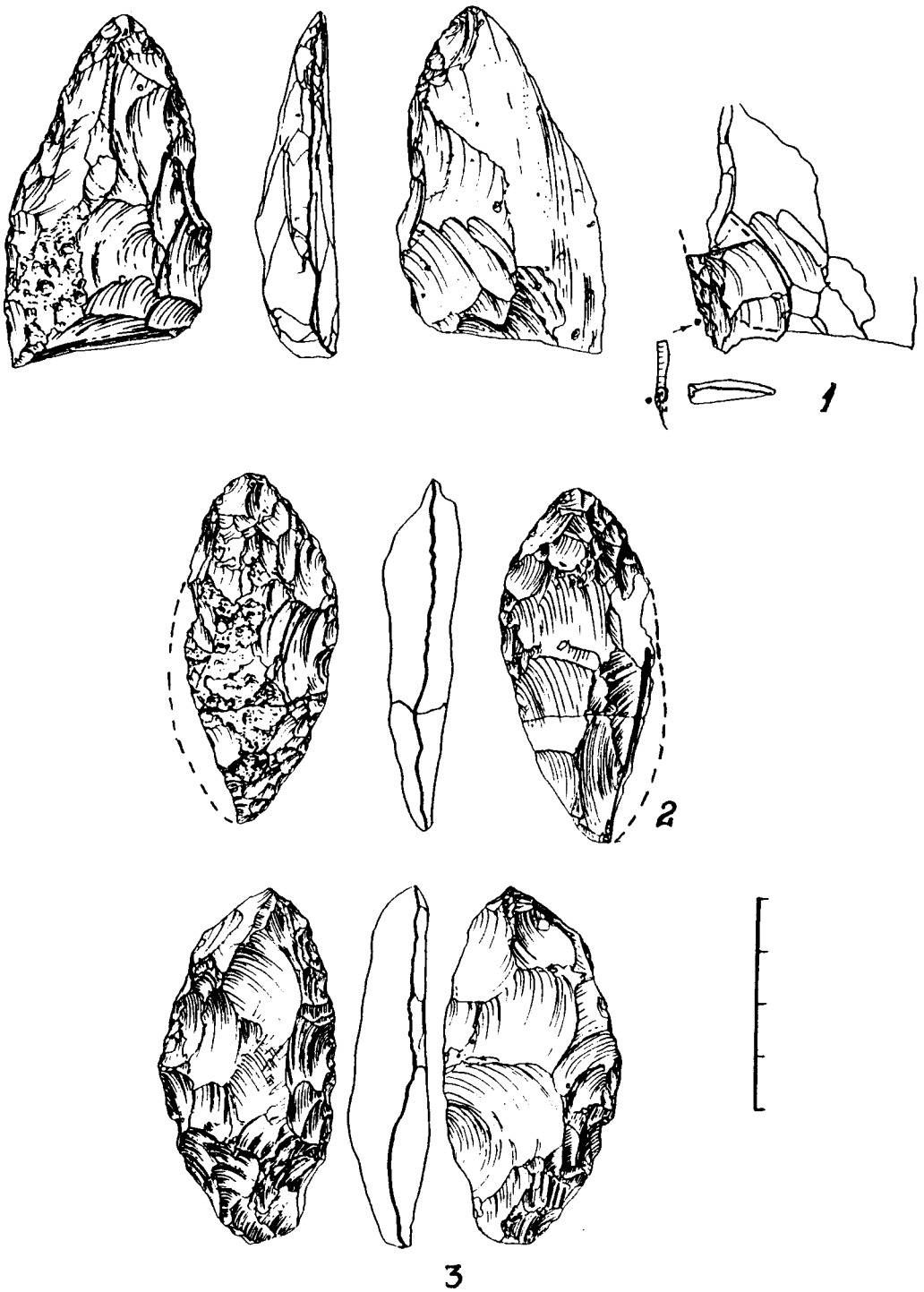

Fig. 1 Leaf points from Upper Palaeolithic complex of Korolevo II

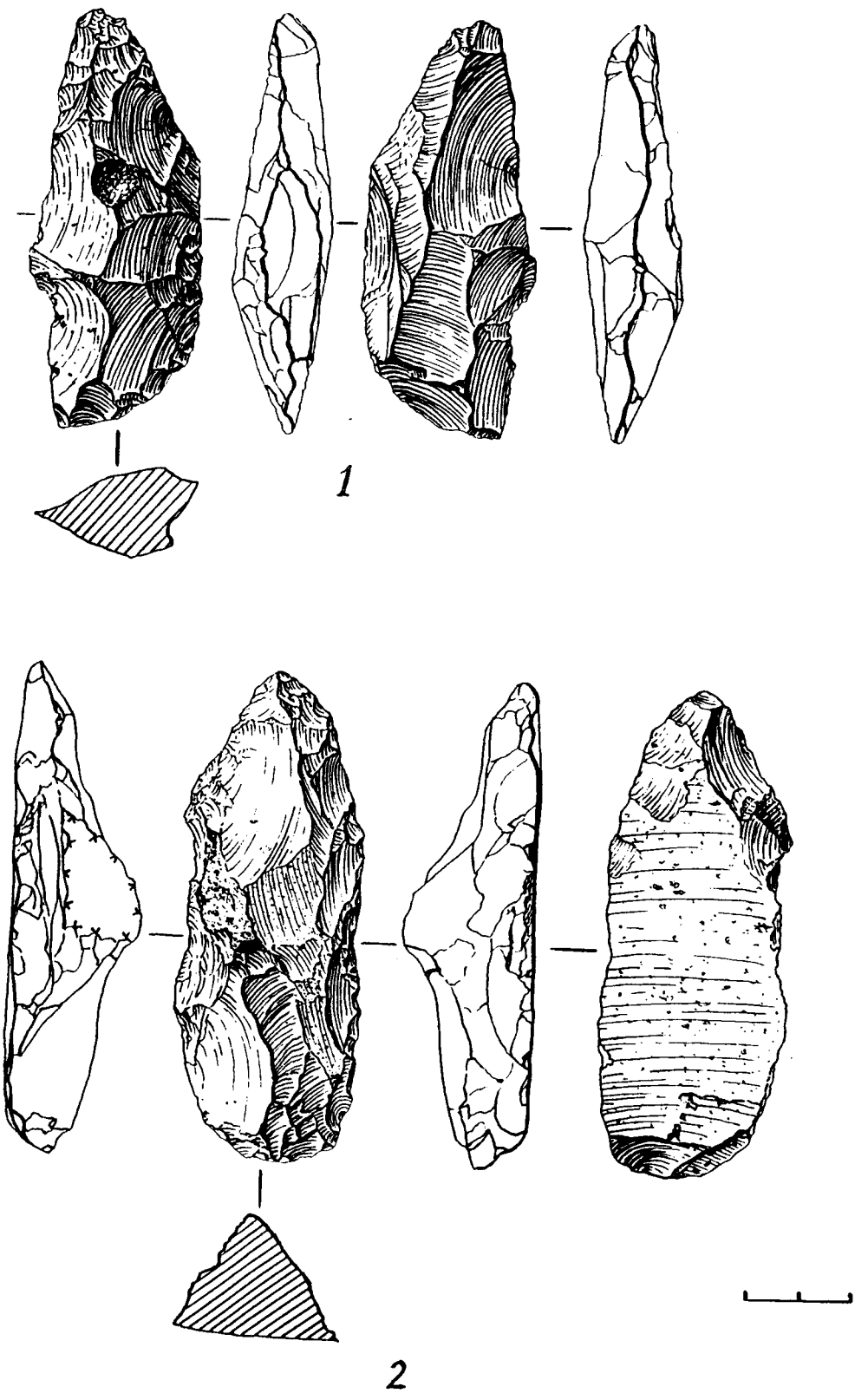

Fig. 2 Leaf points from Upper Palaeolithic complex of Korolevo II

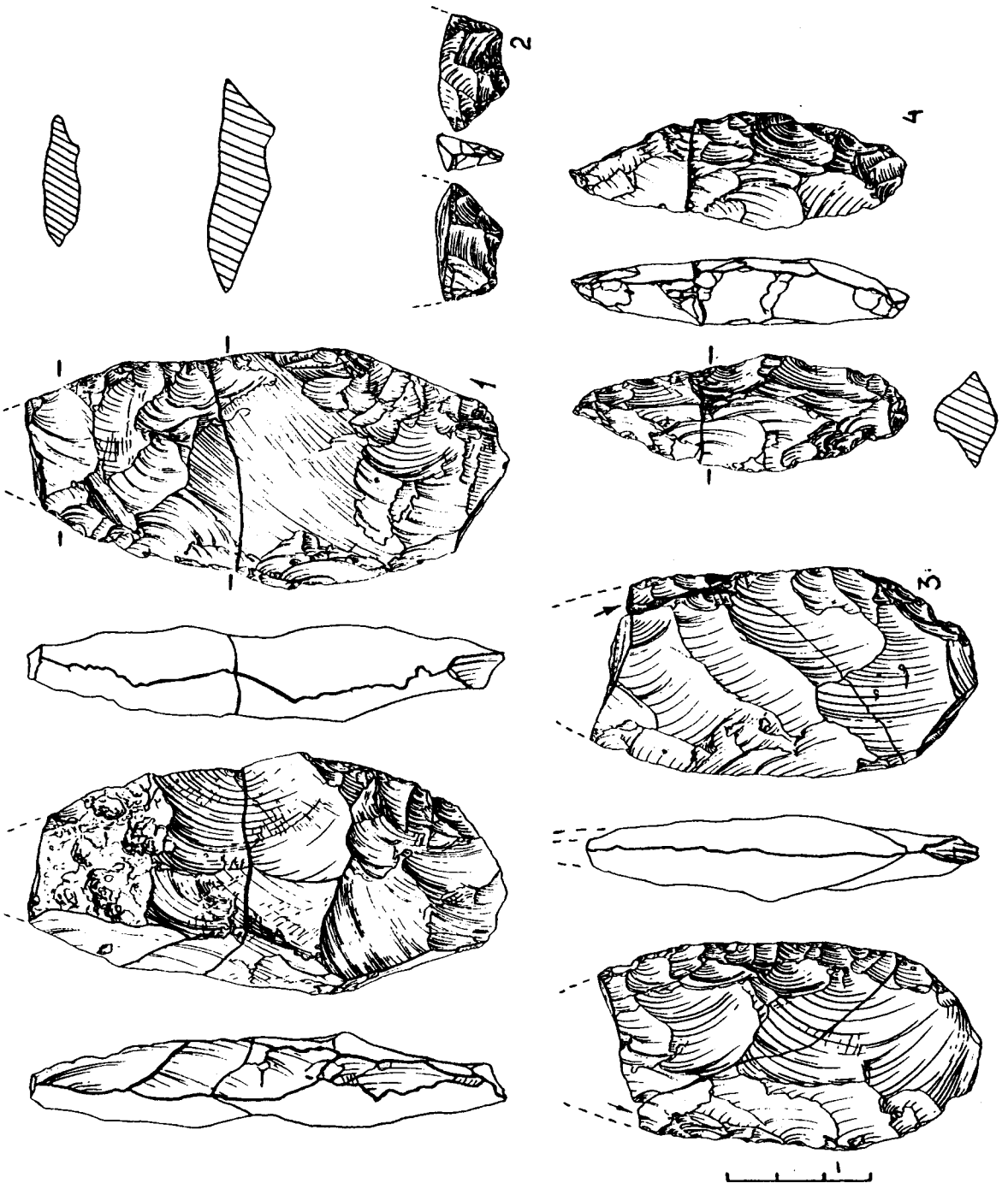

Fig. 3. Leaf-points From Upper Palaeolithic complex of Korolevo II

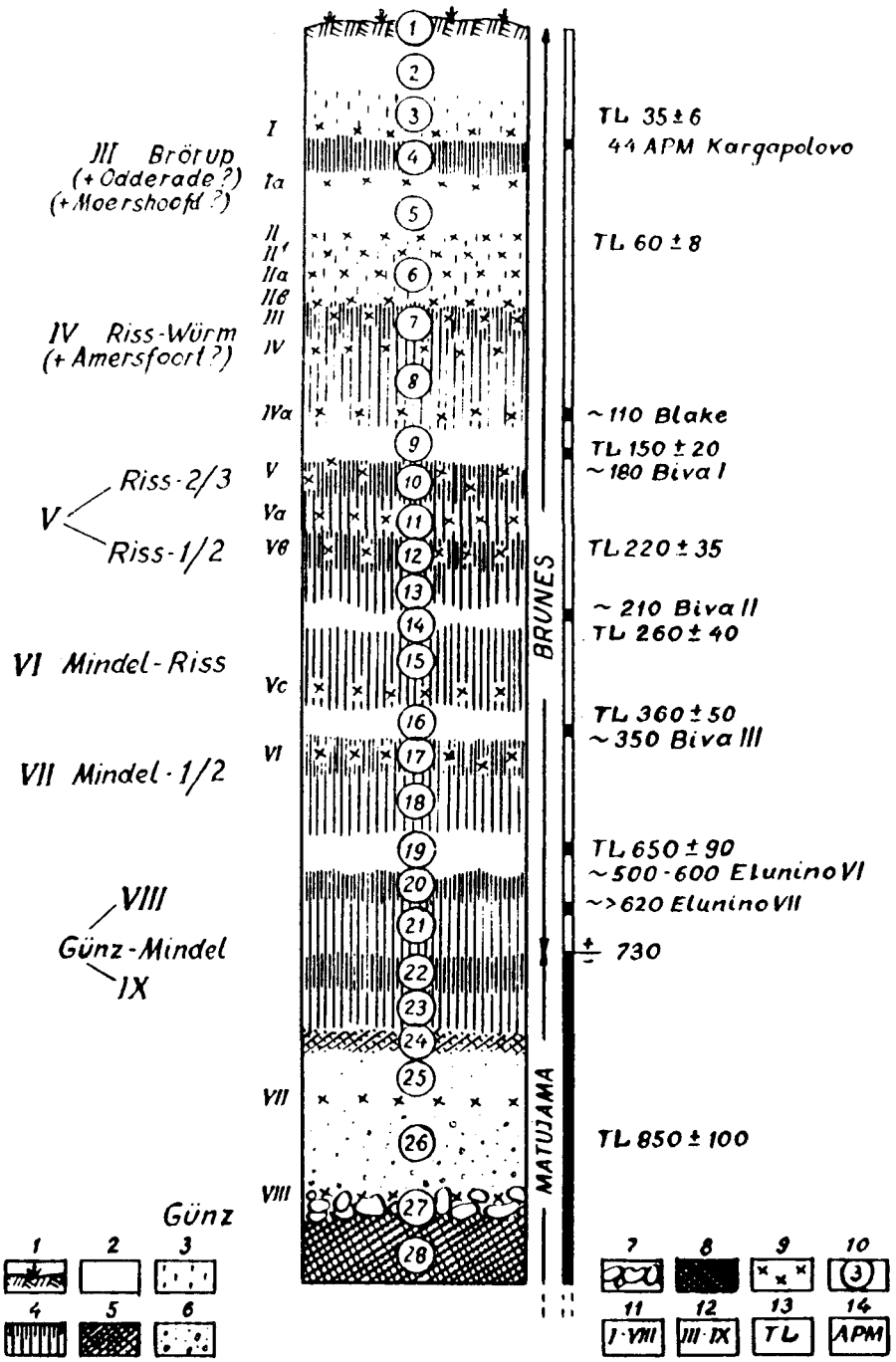

Fig. 4 Chronological and cultural sequence of Korolevo II

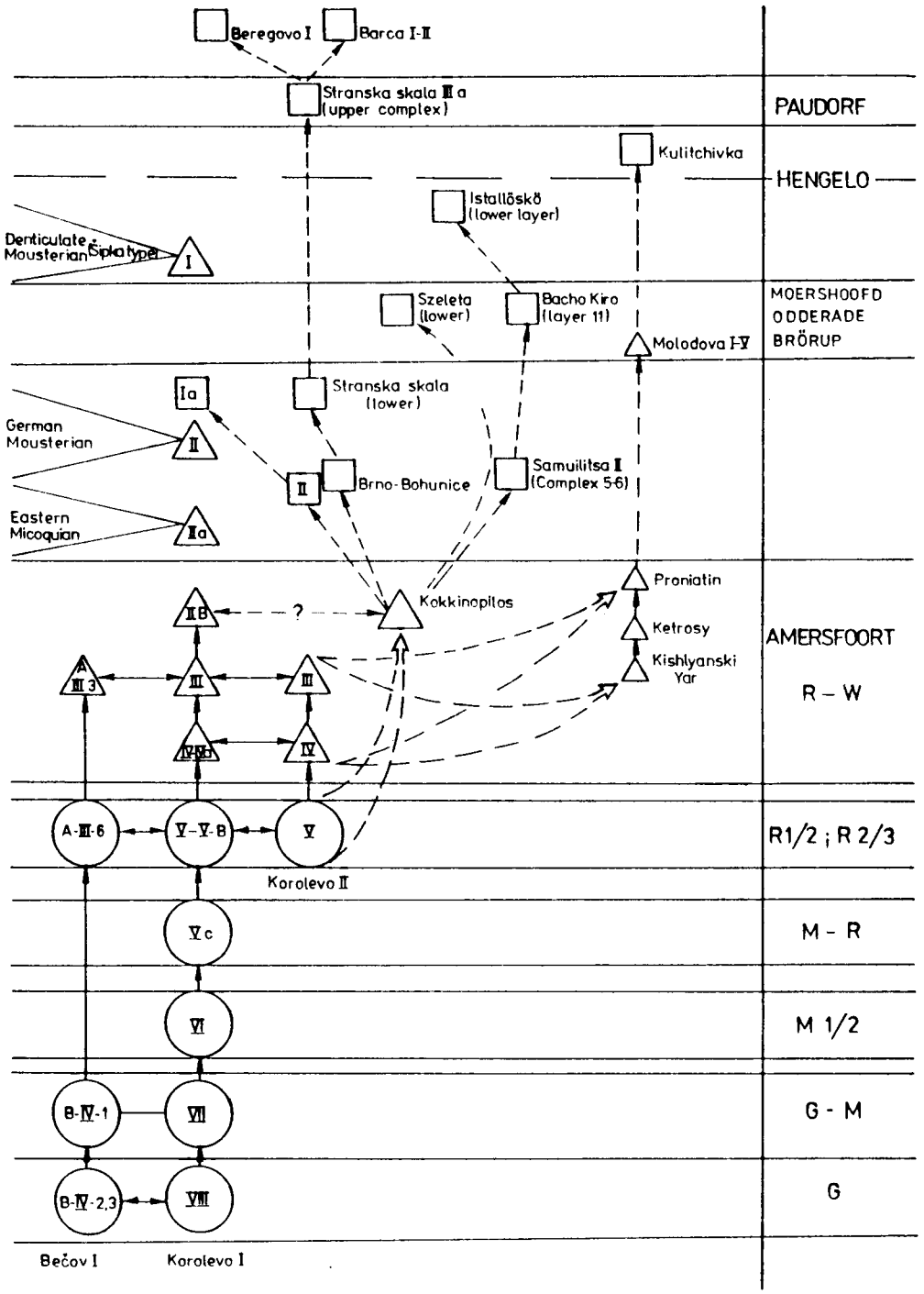

Fig. 5 The evolution of Early Upper Palaeolithic industries of the Carpathian and Balkan regions