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# DATA ON THE RELATIONSHIP BETWEEN THE MIDDLE AND UPPER PALAEOLITHIC IN HUNGARY

*ABSTRACT — The end of the middle palaeolithic cultures and the appearance of the earliest upper palaeolithic cultures fell on the middle Würmian period, geochronologically on the end of Brörup/Mende basal brown soil; Hengelo interstadial/Basaharc double soil complex, probably Denekamp/Mende Upper interstadial soil.*

*Palynologically the pleniglacial A pollen zone cannot be divided, during the interstadials, however, arboreal vegetation can be found even on the Hungarian Great Plain.*

*Palaeontologically in the Szeleta and Istállóskö faunal wave of the Utrecht phase the ratio of the upper palaeolithic steppe fauna elements increase pushing back the cave bear.*

*Archaeologically the Middle Palaeolithic pebble industries had no contact whatsoever with the Upper Palaeolithic cultures. The end (?) of the Transdanubian Jankovichian and of the older cultural horizons of the Szeletian in the Bükk Mts are contemporary to the first Aurignacian wave. It demonstrates even direct contact with the latter: a marginal contact of two contemporary populations living in the same ecological sphere.*

*Up to date no definite evidence on genetical links between the Middle and the Upper Palaeolithic in Hungary has been found.*

*KEY WORDS: Hungary — Early Würm — Stratigraphy — Palynology — Palaeontology — Middle and Early Upper Palaeolithic.*

Starting from the few and sometimes doubtful absolute chronological data, it is a circa 20 thousand years interval where this contact can be examined. This is the period when different industries of mosaic-pattern development could live side by side in a relatively narrow time interval occupying geographically attached ecological spheres of different characteristics.

Drawing the chronological borders, the principal problem is in the elimination of the significant difference between the geochronological and absolute chronological data. There is an at least 30 thousand years gap between the estimated geochronological and the measured absolute data in favour of the latter, what cannot be explained, still it has to be considered. When the difference between the geochronological and various absolute chronological data reaches the 60 ky (!) (e.g. in case of the middle palaeolithic site of Tata) there is only one explanation: there must be an error in calculation, sampling or measuring. The theoretical attempt to eliminate these controversies, which indicate that the middle palaeolithic populations would have long survived on certain territories, lacks the objective basis. The correlation of data from different chronological measurements is still missing, and much more data will be needed for a final solution.

Biochronology and the rhythm of sedimentation can only yield reliable data within topographically and chronologically delimited cases. The reason is the

contradiction between the slow pace of change in plant and animal species and a demand for detailed chronology.

If the radiocarbon dates of not only archaeological sites are considered (Krolopp, 1977, Table 1.) the discussed period maybe put with some reservation between 50 and 30 ky.

According to classical pleistocene terminology: from the end of Brörup till Paudorf, in Northwest European terminology between the Odderade and Denekamp interstadials (Zagwijn 1974; Kukla 1981).

G. Bosinski dates the transition of the Middle Palaeolithic to the Upper Palaeolithic in the Hengelo interstadial. The cold peak of the pleniglacial A, partitioned by several soil forming interstadials, can be put to circa 65 ky, still with middle palaeolithic industries (Bosinski 1988, 360).

Hengelo interstadial as the ecological background of the great switch over seems evident from Hungarian data, too. Our problem concerns once more the absolute chronological data. Starting from the local stratigraphical situation there is a shift of a whole stadial between the interstadial periods, bearing the same name, on two relatively close territories. M. Pécsi set up a slightly idealized and generalized layer sequence from the Hungarian loess stratigraphy (Pécsi 1977, 103). Here this period is the interval between the formation of the Basaharc lower soil complex and that of the Mende Upper humus zone. In the index sequence this 20 m thick sediment series is called the Mende-Basaharc complex (Pécsi 1977, 97—104).

It can be characterized as follows. The early Würm interstadial (Brörup, Amersfoort?) is identical with the Basaharc base soil: a chernoziem type soil with high clay content formed under thick, well developed forest-steppe vegetation. Its colour is dark brown depending on the lime content (Pécsi 1977, 101).

The Basaharc double complex formed during the next warmer phase. It is a well identifiable phenomenon in Hungarian sequences: a double steppe soil separated by a 20 to 80 cm thick loess. The sometimes 1.75 m thick charcteristic soil could develop only under long interstadial circumstances. According to the clasical periodization it is identical with the *Hengelo*. This period is closed by the formation of the Mende Upper soil complex. The upper, younger level of the double, asymmetrically developed soil is dated by C-14 to around 28—29 ky: the Paudorf. It is present in the whole country usually in doubled form. The upper layer is a slightly developed chernoziem, the lower is a stronger brown chernoziem — forest soil, supposing an intensive vegetation (Pécsi 1977, 97—98). The two soils are separated in the eponymous section by half a meter of deluvial loess.

The physical — chemical quality of the developed soils is defined first of all by the local relief situation, for soil formation, however, the significant amelioration of the climate was needed or at least the interstadial climatic condition.

Neither the origin nor the sedimentational pace of the loess layer of various thickness, dividing the soils, is regular discordance; hiatus or redeposition can often be supposed (Pécsi 1965, 330—331). As the earliest Upper Palaeolithic sites were found in caves the analysis of the cave deposits and their comparison with open-air sections is important.

The cave filling is only partly the detritus of the mother rock, its majority is sedimented from outside, and the pedological changes known in the open air can also be observed in the caves.

The cave sediments of the middle Würm formed under at least two climatic types:

— in case of a dry climate the loess coming from outside is characterised (little detritus) with high quartzite content. In this sediment type the bones are fossilized and the stone has intact edges;

— during moist and cool periods the wall of the cave is strongly affected by the frost, cryoturbational damage can be seen on the bones and the stone tools, while the colour of the usually evenly settled layers is much darker than in the former case. The warmer interstadial circumstances result in a reddish-brown soil due to the accumulation of ferro-oxides. This soil type is called by mistare cave clay (Ringer 1982, 3-4).

Concerning the two sources of vegetation reconstruction, the palynological data, on the one hand, are of too large a scale, and the analysed samples, on the other, did not come from archaeological sites. In the boring on the Hungarian Great Plain the pleniglacial A pollen zone, from the Brörup (*Betula — Pinus — Picea* forests) till the Paudorf is constituted of the pollens of cold enduring grasses beside the scarce arboreal vegetation (*Betula*, microtherm shrubs, cranberry). The two phases inside the pleniglacial A pollen zone can be separated by the scarce appearance or total lack of arboreal vegetation.

Other data indicate that the border between the two very similar phases may be the Hengelo, though this interstadial cannot be evidenced in the deep drilling of the Great Plain (Járai-Komlódi 1966, 99—104).

There are divergences between the micro-ecologies of nearby territories even inside the general tendencies of vegetation changes on the Great Plain.

The charcoal analyses are made mostly on samples from the hearths of archaeological sites. Here the results mirror a situation somewhat different from the natural, modified by human selection. During the settlement waves in the interstadials there was enough arboreal vegetation for fire even on the most continental Great Plain. In the midmountains such arboreal species are found which are less sensitive to the gradual decrease of the amount of outfall, they rather indicated the amount of necessary/minimal sunshine (Stieber 1957).

The fauna is more or less unified in the discussed period. There is no significant change in the species association. It is only the change of species ratio which may help to follow modifications in the fauna on the whole.

The two phases of the Upper Pleistocene Utrecht faunal wave correspond to this period. The earlier one is the so-called Szeleta-phase (early Würmian interstadial). The overwhelming majority of the cave bear and the presence of *Rupicapra-Capra* is due to the midmountanous environment. Besides this steppe elements (mammoth, reindeer) also occur (Jánossy 1979, 172; Vörös 1984, 12—15). By the following Istállóskö-phase the characteristic species of the lower Würm disappear, the ratio of the cave bear decreases in favour of the later dominant species (Vörös 1984, 20—21).

The growing ratio of the *Arvicola* in the microfauna indicates a moister period. From a strictly ecological view the first faunal phase of the two, best identified in the Istállóskö cave, seems to be Middle Palaeolithic as suggested, among others, by the cave bear dominance, while the younger levels contain interstadial fauna i.e. they suppose a more recent living environment.

The living conditions of the molluscs allow no general climatic implications in this period. The analysis of materials from open-air sites may better help a micro-ecological reconstruction.

Regarding the problem of Middle/Upper Palaeolithic transition I would like to emphasize that there are *no* direct proofs attesting that the local Middle Paleolithic industries would be the genetical predecessors of the Upper Palaeolithic cultures.

As suggested by the different dating methods all the main Middle Palaeolithic cultures in Hungary *may* have survived over the peak of Würm 1, even as long as the Pleniglacial A. This concerns, however, only cultures on the whole, and not the local continuous development of a site.

The earliest Upper Palaeolithic industry in Hungary is the Aurignacian. Its earliest appearance is contemporary to the latest Middle Palaeolithic facies. The following lines will deal with the possibility of their contacts.

The pebble-working Middle Palaeolithic industries in the northwestern part of Transdanubia (Gábori-Csánk 1968; Vértes et al. 1964) may be omitted.

No genetical contact with the Upper Palaeolithic can be supposed. Those Upper Palaeolithic industries which use pebble raw materials are younger (at least) about a stadial-interstadial phase. They developed outside the Carpathian Basin, have a different ecological background and their typo-technological features attach them to a unified cultural circle. Their 'inclination' for pebble working may go back to local reasons.

As for the origin of the Upper Palaeolithic, Middle Palaeolithic technocomplexes using flake→blade blanks can be examined. In Hungary they are the following: The Mousterian industry from the lower layer of the Subalyuk cave is restricted to a few caves in the Bükk Mts. 908 artifacts, among them 308 tools are known from the lower four reddish clay layers (Bartucz et al. 1938). This industry is too old to have any contact with the Upper Palaeolithic. The archaeological material of the upper layer complex is quantitatively richer (5 265 artifacts, among them 704 tools), although it is restricted to a smaller topographical unit (Bartucz et al. 1938, 140).

The cultural attachment of this younger unit is discused. The 'cold' features of the cave sediment suggest that it existed during the Würm 1, according to Gábori-Csánk it is contemporary to Érd (Gábori-Csánk 1986, 227).

From among the middle palaeolithic cultures the Jankovichian is the best analysed one.

Gábori-Csánk gave a detailed analysis of the industry in her dissertation. The newly described culture is a local manifestation of the Micoquian facies developed from the Acheulian base culture. The industry has a double Middle Palaeolithic character: on the one hand it is a levallois type Mousterian, on the other, it consists of leaf-shaped elements (Gábori-Csánk 1986, 217). The Upper Palaeolithic tools do not surpass 8 %.

Average length of the leaf-shaped tools from the eponymous site (Jankovich cave, Northwest Transdanubia) is 57 mm, (*Tab. 1.*).

TABLE 1. *Jankovichien, bifacials (altogether 30 pieces)*

| Inventory No. | L | B | T | a | b | l | r |
|---|---|---|---|---|---|---|---|
| 167/914.11. | 73 | 39 | 12 | 75 | 55 | 35 | 40 |
| 34/918. | 45 | 29 | 9 | 105 | 112 | 65 | 75 |
| 94/915 | 74 | 46 | 12 | 80 | 80 | 15 | 24 |
| 94/915.13. | 50 | 29 | 9 | 75 | 75 | 35 | 30 |
| 94/915.11. | 51 | 27 | 7 | 65 | 65 | 22 | 20 |
| 94/915.9 | 55 | 35 | 9 | 100 | 100 | 40 | 40 |
| 94/915.8. | 61 | 33 | 9 | 80 | 110 | 35 | 40 |
| 34/918.3 | 64 | 36 | 10 | 70 | 70 | 20 | 60 |
| 13/914.1. | 67 | 38 | 11 | 60 | 60 | 60 | 45 |
| 13/917.1. | 45 | 27 | 7 | 60 | 60 | 55 | 60 |
| 13/917.2. | 42 | 25 | 8 | 65 | 65 | 45 | 40 |
| 94/915.40. | 38 | 24 | 7 | 65 | 85 | 45 | 50 |
| 34/918.6. | 59 | 35 | 7 | 80 | 80 | 25 | 45 |
| 94/915.14 | 55 | 27 | 9 | 70 | 70 | 55 | 30 |
| 61/928.2. | 71 | 36 | 9 | 70 | 60 | 60 | 65 |
| 94/915.6. | 71 | 40 | 9 | 50 | 50 | 45 | 35 |
| 61/925.1. | 67 | 37 | 8 | 70 | 105 | 20 | 35 |
| 61/925.2. | 65 | 40 | 9 | 80 | 80 | 35 | 50 |
| Pb/555 | 91 | 43 | 13 | 110 | 90 | 65 | 70 |
| Pb/556 | 92 | 45 | 13 | 60 | 60 | 45 | 65 |
| Pb/557 | 42 | 29 | 8 | 90 | 80 | 45 | 60 |
| Pb/559 | 72 | 31 | 8 | 50 | 50 | 65 | 45 |
| Pb/560 | 67 | 28 | 9 | 70 | 70 | 45 | 55 |
| Pb/558 | 82 | 34 | 13 | 60 | 60 | 30 | 40 |
| 94/915.16. | 29 | 24 | 7 | 80 | 90 | 45 | 30 |
| 94/915.15 | 38 | 26 | 9 | 80 | 80 | 80 | 100 |
| 94/915.17. | 31 | 27 | 6 | 55 | 85 | 25 | 45 |

L: *length in mm*
B: *width in mm*
T: *thickness in mm*
a: *ideal/symmetrical top angle*
b: *real/measured top angle*
l: *left edge angle*
r: *right edge angle*

The late Acheulian-Micoquian traditions are mirrored in the oblique form of the base of the leaf-shaped tools.

The schematic drawing of the leaf tools with angles (*Fig. 1.*): It is important to note that J. Hillebrand found the middle fragment of an early Szeletian (?) leaf tool during his excavations in the Jankovich cave in 1915 (Gábori-Csánk 1986, vol. II, Table IIIa-b, 3.).

The raw material of the leaf tool is the glassy quartz porphyry, the source area of which is a well defined territory in the Bükk Mts. This is also the basic raw material of the Szeleta industry, to which the find can be attributed typologically. Thus the importance of the tool lies in the fact that it indicates the contact between the early Szeletian of the Bükk Mts with the Jankovichian.

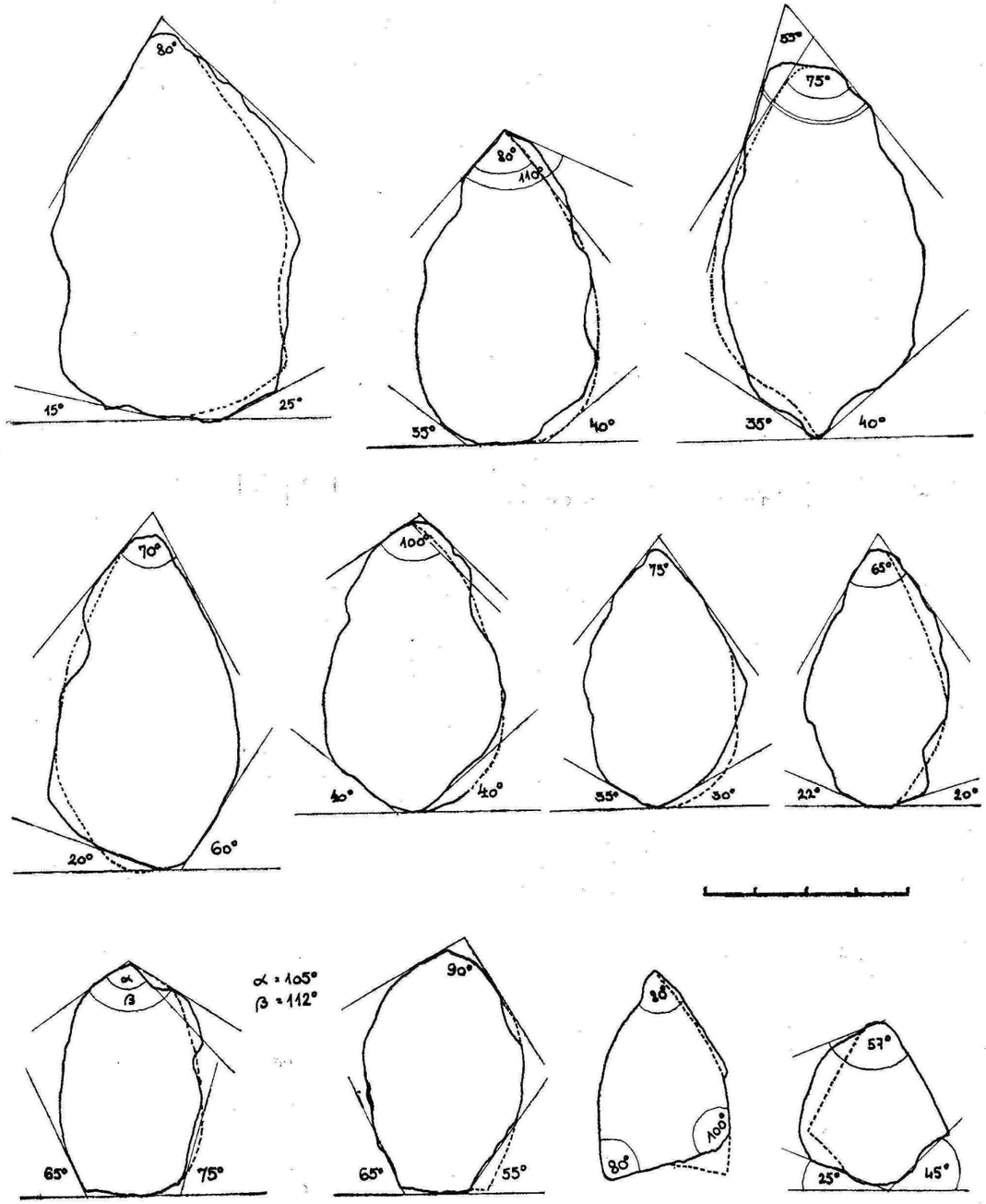


FIGURE 1. *Schematic drawing of leaf-shaped tools of the Jankovichian culture with base and top angles.*



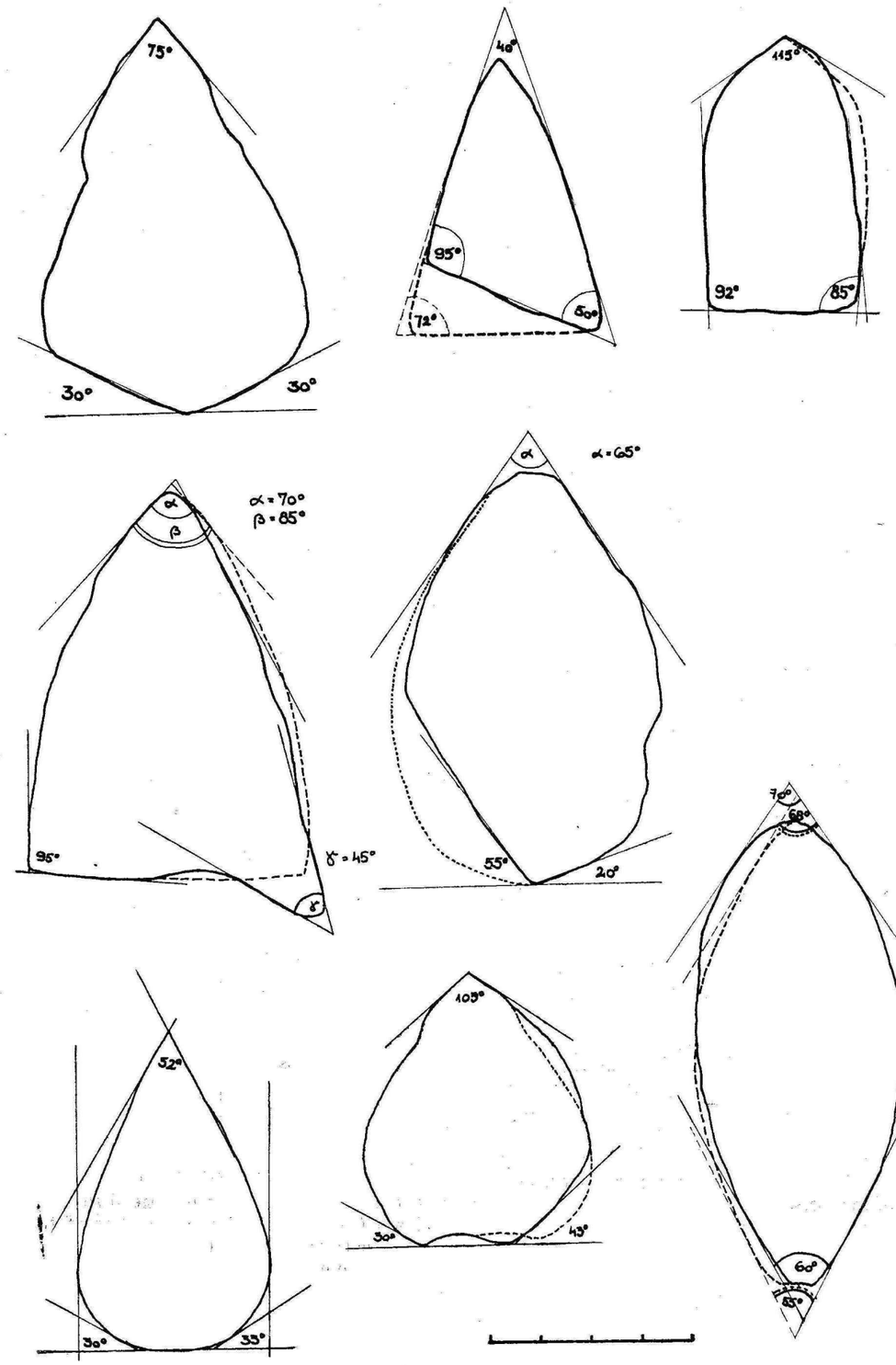


FIGURE 2. *Schematic drawing of some of the leaf-shaped tools of the Bábonyian culture with base and top angles. Avas-Alsószentgyörgy, Miskolc Petőfi utca and Mályi.*

The local development of the Jankovichian cannot be observed, there is no evidence of its contact with Upper Palaeolithic cultures.

Since all the assemblages with leaf-shaped tools, defined earlier as Transdanubian Szeletian, proved to belong to the Jankovichian, the classical Szeletian is restricted to where it came from: a few caves in the Bükk Mts.

Another industry in Northeast Hungary, which may be mentioned due to its chronological position, in regard of a possible contact with the Upper Palaeolithic, is the Bábonyian. This industry was described in the last few years. The ecological character and stratigraphic position of the material, collected from the surface of lower hills along the eastern and northern foothills of the Bükk Mts. is not clarified. It is related to Micoquian industries developed from Acheulian traditions. Typo-technologically it can be attached to them, still its appearence is greatly influenced by the most common raw material, the lamellar glassy quartzporphyry.

Its chronological place can be deduced with the help of analogies. It is another question if the rough bifacial industry of some caves in the Bükk Mts, earlier defined as early Szeletian, could be attached here. The publication contains material only from open air sites (Ringer 1982, 7—157), still the caves are not alien for bifacial industries derived from the Micoquian.

Comparing the technical data and the schematic drawings (*Fig. 2*) of the Bábonyian tools with the Jankovichian ones, the strong mutual traditions appear more strikingly than when comparing the total industries. Our impressions, namely, may easily be influenced by the two basically different raw materials (a very fine liver-brown radiolarite of silky lustre from Transdanubia in the Jankovichian and mostly fibrous, laminated, banded non coherent grey quartzporphyry in the Bábonyian).

The technical data of the bifacials in the Bábonyian are the following: (legend see at Jankovichian) (*Tab. 3.*).

The Szeleta cave is of basic importance (Gábori 1954). Its chronological place, multilayered stratigraphy, the quantitatively and qualitatively important archaeological material has again been placed in the focus of reseach (Allsworth-Jones 1986).

All the problems arising from the chronology, origin and further development of the culture can be solved only after the careful reevaluation of the data. This task is being carried out by K. Simán. Circumstances reconstructed by this method, the justification of new results need, in ideal case, the complex excavation of a new site. Now we give a short description of the facts.

The ratio of the bifacial tools in the lower cultural layer with leaf-shaped tools in the eponymous site is around 29 %. It is very difficult to recognize the original function of these tools as the edges were subjected to strong cryoturbation. It maybe noted, in the same time, that the tools in such a devastated state are more symmetrical and slender than the leafshaped scrapers of the Jankovichian. The ratio of the blades and Upper Palaeolithic implements is also higher: 165 (end-scraper — borer — burin group). The Middle Palaeolithic types and the geochronological position of the industry place the find assemblage in the Middle Palaeolithic, the total picture, however, suggests its youngest phase. The two bone points found in the older Szeletian complex prove contemporaneity (and no more) with the Aurignacian I of the Istállóskö cave. The Upper Palaeolithic component of the Szeletian may also be due to this contemporaneity.

The ratio of the fine, typical leaf-shaped points in the upper cultural layer is around 17—18 %, that of the side-scraper — raclette group decreases to 13 %.There are somewhat more items of strictly Upper Palaeolithic type (blade points, backed blades, end-scrapers, borers, burins), their ratio surpasses the 20 % (Vértes 1965, 341). The leaf points are real points, the whole industry is more elongated and slender. In the lower complex the width made 54 % of the length, while here it is 46 %.

TABLE 2. *Szeleta Cave, Upper layer, bifacials] (altogether 60 pieces)*

| Inventory No. | L | B | T | a | b | l | r |
|---|---|---|---|---|---|---|---|
| Pb/88 | 72 | 41 | 12 | 85 | 85 | 65 | 35 |
| Pb/94 | 48 | 23 | 8 | 90 | 90 | 60 | 45 |
| Pb/85 | 48 | 22 | 9 | 80 | 80 | 35 | 45 |
| Pb/79 | 74 | 33 | 13 | 75 | 90 | 70 | 55 |
| Pb/80 | 89 | 37 | 7 | 100 | 100 | 40 | 60 |
| Pb/81 | 97 | 43 | 10 | 50 | 50 | 45 | 50 |
| Pb/76 | 75 | 34 | 13 | 50 | 50 | 35 | 30 |
| Pb/78 | 75 | 37 | 14 | 45 | 45 | 75 | 85 |
| Pb/113 | 93 | 38 | 12 | 55 | 75 | 25 | 40 |
| Pb/96 | 104 | 41 | 13 | 65 | 65 | 60 | 55 |
| Pb/97 | 72 | 36 | 9 | 60 | 60 | 75 | 60 |
| Pb/109 | 63 | 24 | 6 | 35 | 35 | 85 | 95 |
| Pb/75 | 64 | 37 | 10 | 60 | 55 | 45 | 20 |
| Pb/86 | 92 | 44 | 12 | 70 | 70 | 20 | 50 |
| Pb/71 | 94 | 27 | 9 | 45 | 45 | 70 | 75 |
| Pb/91 | 95 | 38 | 10 | 55 | 55 | 60 | 65 |
| Pb/70 | 92 | 29 | 9 | 45 | 45 | 70 | 60 |
| Pb/92 | 131 | 40 | 12 | 50 | 50 | 80 | 50 |
| Pb/88 | 110 | 43 | 12 | 45 | 45 | 60 | 55 |
| Pb/73 | 68 | 38 | 5 | 30 | 30 | 50 | 55 |
| Pb/72 | 77 | 30 | 11 | 65 | 50 | 50 | 65 |
| Pb/93 | 144 | 48 | 12 | 45 | 55 | 35 | 45 |
| 53.4.14 | 94 | 40 | 11 | 50 | 45 | 30 | 50 |
| 53.4.13. | 98 | 38 | 9 | 75 | 61 | 65 | 65 |
| 53.38.9 | 108 | 44 | 11 | 50 | 55 | 30 | 50 |
| 53.38.7. | 102 | 41 | 14 | 80 | 80 | 25 | 50 |
| 53.7.15. | 89 | 38 | 13 | 65 | 85 | 70 | 60 |

The technical data of the leaf-shaped tools of the devēloped Szeletian level are: (legend see at Jankovichian) (*Tab. 2.*). Schematic drawing of the leaf-shaped tools with the angles (*Figs. 3—4*).

Two researches dealing with this period give totally different interpretations on the contact of the two layers of the Szeleta culture, its origin and the features of the Bábonyian.

Á. Ringer (1988) states that the Central European Micoquian of Bábonyian type substitutes in its area the Mousterian of Acheulian traditions,



TABLE 3.

| Sites | L | B | T | a | b | l | r |
|---|---|---|---|---|---|---|---|
| Miskolc, Petȍfi st. | 62 | 37 | 7 | 52 | 52 | 30 | 33 |
| Bársony-h. | 207 | 110 | 18 | 75 | 75 | 25 | 30 |
| Mályi | 91 | 41 | 11 | 70 | 70 | 60 | 60 |
| Sajóbábony | 65 | 51 | 13 | | 70 | 105 | 120 |
| Sajóbábony | 71 | 38 | 13 | | 75 | 70 | 70 |
| Sajóbábony | 76 | 52 | 18 | | 75 | 30 | 30 |
| Sajóbábony | 45 | 30 | 8 | | 55 | 95 | 50 |
| Sajóbábony | 54 | 31 | 9 | | 115 | 95 | 85 |
| Eger-Kȍporos | 42 | 34 | 15 | | 105 | 35 | 45 |
| Eger-Kȍporos | 85 | 58 | 14 | 90 | 75 | 35 | 30 |
| Eger-Kȍporos | 60 | 36 | 16 | | 105 | 50 | 60 |
| Eger-Kȍporos | 63 | 26 | 10 | 50 | 50 | 45 | 60 |
| Eger-Kȍporos | 50 | 28 | 11 | 60 | 35 | 70 | 70 |
| Eger-Kȍporos | 50 | 49 | 14 | | 75 | 110 | 100 |
| Ostoros | 58 | 28 | 7 | | 60 | 80 | 75 |
| Ostoros | 60 | 36 | 9 | | 105 | 35 | 45 |
| Nekézseny | 110 | 48 | 26 | 90 | 90 | 65 | 75 |
| Nekézseny | 47 | 47 | 11 | | 90 | 100 | 100 |
| Nekézseny | 65 | 26 | 11 | | 40 | 35 | 70 |
| Nekézseny | 85 | 38 | 13 | | 55 | 45 | 60 |
| Nekézseny | 69 | 36 | 14 | | 70 | 45 | 40 |
| Nekézseny | 41 | 30 | 11 | | 45 | 20 | 55 |
| Nekézseny | 31 | 22 | 16 | | 75 | 25 | 45 |

The younger facies rich in leaf-shaped tools represents the development from the Middle towards the Upper Palaeolithic. From technological point of view the Bábonyian type leaf-shaped scraper is the genetic predecessor of the developed Szeletian leaf tools. This development might be continuous.

K. Simán (1988 a) questions the Bábonyian as an independent industry. Based on her excavations and field surveys she considers it to be the workshops of the early Szeletian. The material of the upper cultural horizon of the Szeleta cave is basically different from the earlier industries, formerly considered as its predecessors, and it has a different origin (Simán 1988 a). She suggests a new technical term for it: "gravettian industry with Szeletian points" (Simán 1988 b).

The data which served as a basis for these argumentations are only partly authentic: the old excavations (no modern ones have ever been made in the Szeleta cave) do not always meet our present demands. Simán is right to argue for the insufficiency of the information of which Ringer not only defined a new industry but also outlined its inner development on typological basis. In case of scattered finds collected from the surface the find material may be a mixture of several cultures. Simán defines the culture of the upper assemblage with leaf-shaped tools of the Szeleta cave as an "early Gravettian enriched by leaf points". On the whole I agree, nevertheless, if the upper culture with leaf points has no genetical links with the lower layer preserving the name 'Szeletian', a new name should be found for this find unit, which would express its characteristics. In this upper industry the leaf-shaped tools and the gravettoid elements are represented in nearly the same ratio (17 %). So it could be named as a bifacial industry enriched with gravettoid elements, and this denomination would be as justified as the above one. Probably it would be more effective to stress the special feature of a culture (i.e. the leaf-shaped implements). Gravettian, as a technical term has lost from its real contents as the bulk of information grew. Parallelly to the differentiation of local facies it is going to be a synonym for the generalized Upper Palaeolithic characteristics.

J. K. Kozlowski in his recent study mentions Hungarian finds from standpoint of the Moravian Szeletian. He also lacks the authentic, safe documentation of the Szeleta cave. For him it is doubtful if the Upper Palaeolithic component would really be an integral part of the upper industry with leaf tools (Kozlowski 1988, 354).

Some other find assemblages may help to define the duration of the industries with leaf-shaped points, and their relation to the cultures of Upper Palaeolithic populations arriving in developed form. These sites are situated on the western foothills of the Bükk Mts. The leaf-shaped finds are known mostly from the hill tops around Eger, partly from excavations but mostly from surface collections (Vértes 1951, 154—190; Dobosi 1972, Tab. I—VI).

The original cultural definition can no longer be hold, a revision or verification is an urgent task.

For sake of curiosity the first leaf point found in Hungary will be published once more. The 'handaxe' from the Bársony-ház was found in Miskolc in 1893. This find and Ottó Herman persuaded the sceptical scientific world about the necessity of palaeolithic research. The circumstances of its discovery cannot be reconstructed but it has an inestimable cultural value (*Fig. 7*).

The earliest upper palaeolithic culture in Hungary is the Aurignacian, appearing as an isolated phenomenon in two caves of the Bükk Mts. The open-air site of Sahy-Parassa was originally also published as Aurignacian (Gábori 1957, 257—258). In the later publications he corrected this nomination, and attached it to the Gravettian (Gábori 1969, Fig. 2.). The history of research of this culture is long and successful. The last archeological review appeared in Hahn's monograph (Hahn 1977). The author could not undertake the task of eliciting the stratigraphy and identifying the Hungarian finds. A short monograph on the bone points had been published somewhat prior to it (Albrecht et al. 1972). Here the authors defined the bone points, acting as index types in the Hungarian material as well as a special cultural characteristics of the aurignacoid techno-complex (Albrecht et al. 1972, 82.). The argumentation is worth noting: the bone points with split base can be found in cave sites where there are but a few stone implements. So the caves must have been kill-sites or short-term hunting residences (Albrecht et al 1972, 83).

The recent Hungarian special literature did not deal with the sites or the industry. Usually the theses given by Vértes in his handbook have been fixed on the culture (Vértes 1965, 172—176), where the author summarized his excavational results (Vértes et al 1955, 111—291).

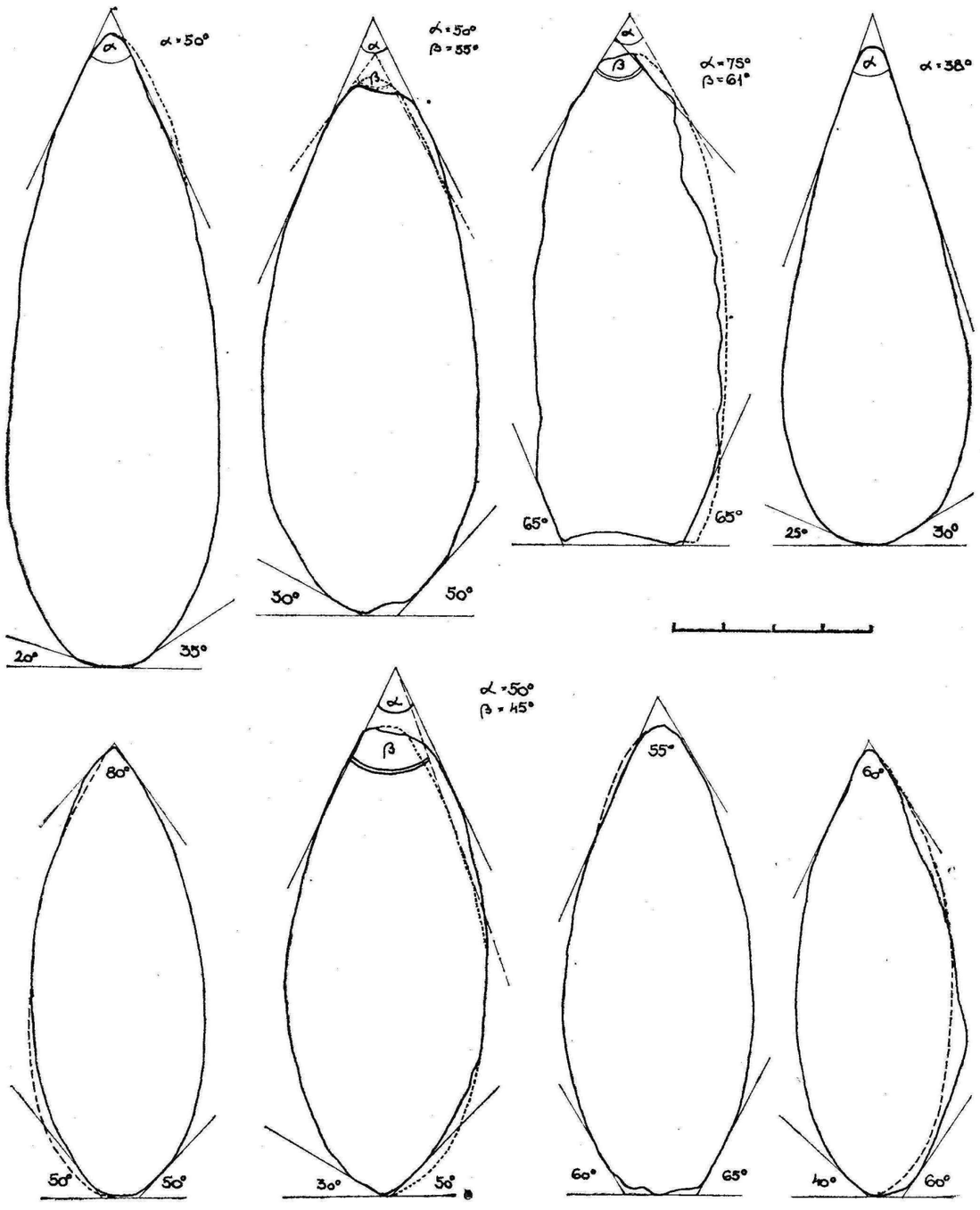


FIGURE 3. *Typical leaf-shaped points from the upper settlement horizon of the Szeleta cave. Schematic drawing with base and top angles.*



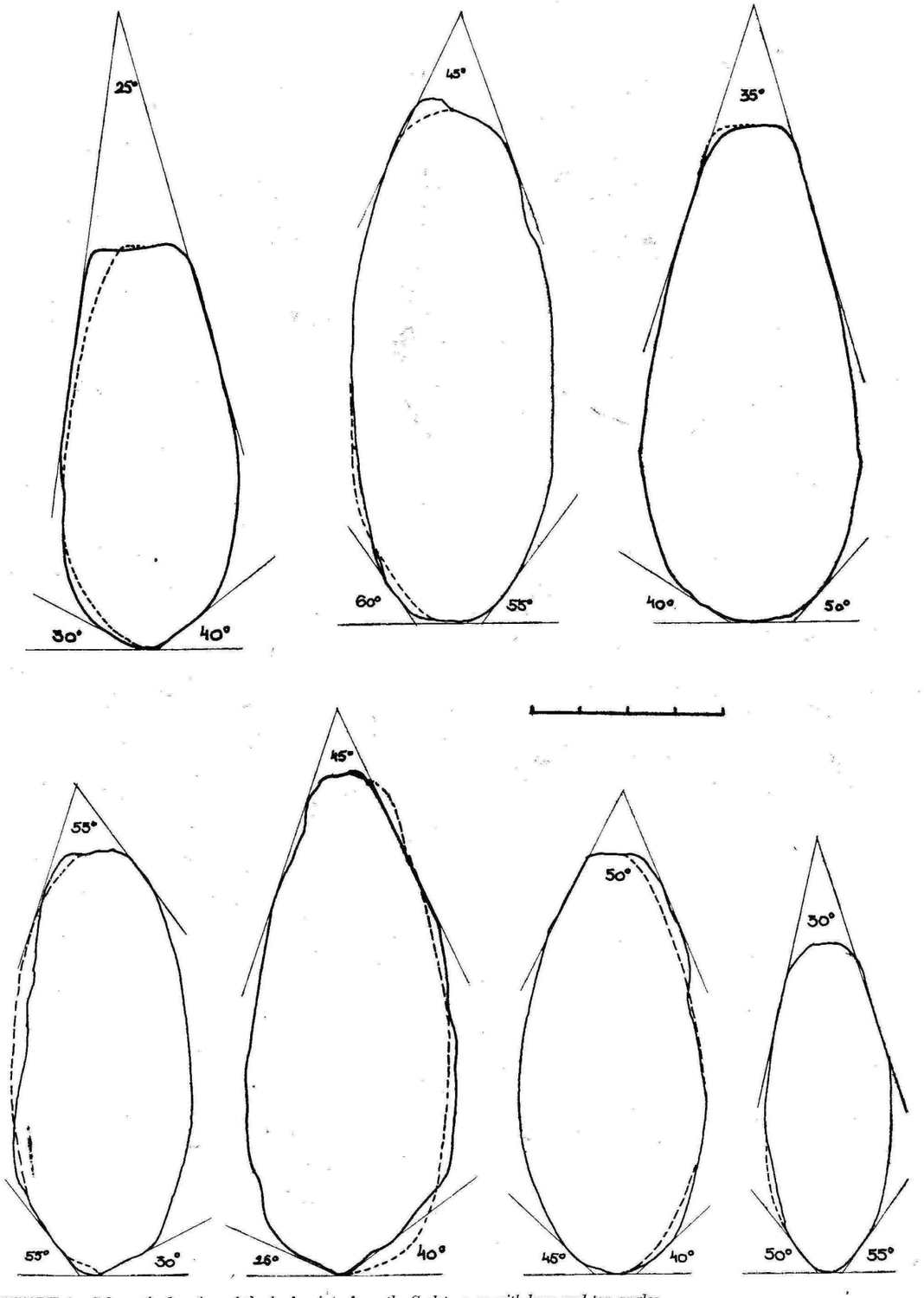


FIGURE 4. *Schematic drawing of the leaf points from the Szeleta cave with base and top angles.*

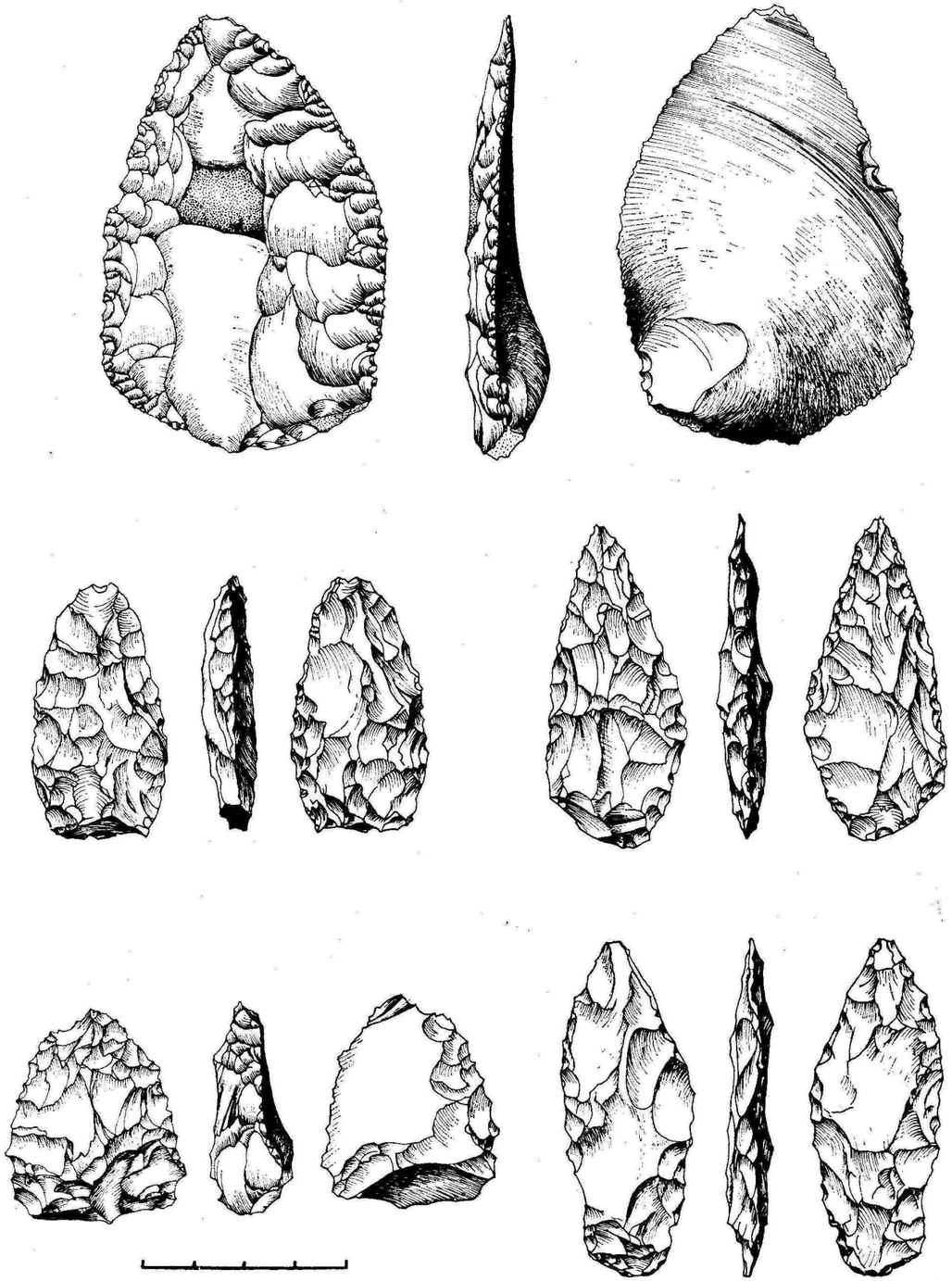

FIGURE 5. *Find assemblages from the region of the Bükk Mts with leaf-shaped tools. Eger-Köporos, Csokvaomány.*



Istállóskö cave is a large (45 m long, 14 m broad) cave with favourable setting on the western side of the Bükk Mts. Several scholars carried out excavations in it since 1913 more and more mixing the already disturbed layer series. The archaeological material was published together, without topographical indications.

At the start of his excavation Vértes thought that earlier the material must have been collected only from the upper cultural layer, as he tells about the implements in his summary (Vértes 1965, 172). It is, however contradicted by a sentece of Hillebrand from 1917 (Hillebrand 1919, 10), namely, that they dug everywhere till the rocky bottom. From the early publications Kadič's statement is also to be cited: from the lack of cores and flakes he deduced that the cave must have been used temporarily during the winter time (Kadič 1944, 53), what is in harmony with recent observations on the role of the caves.

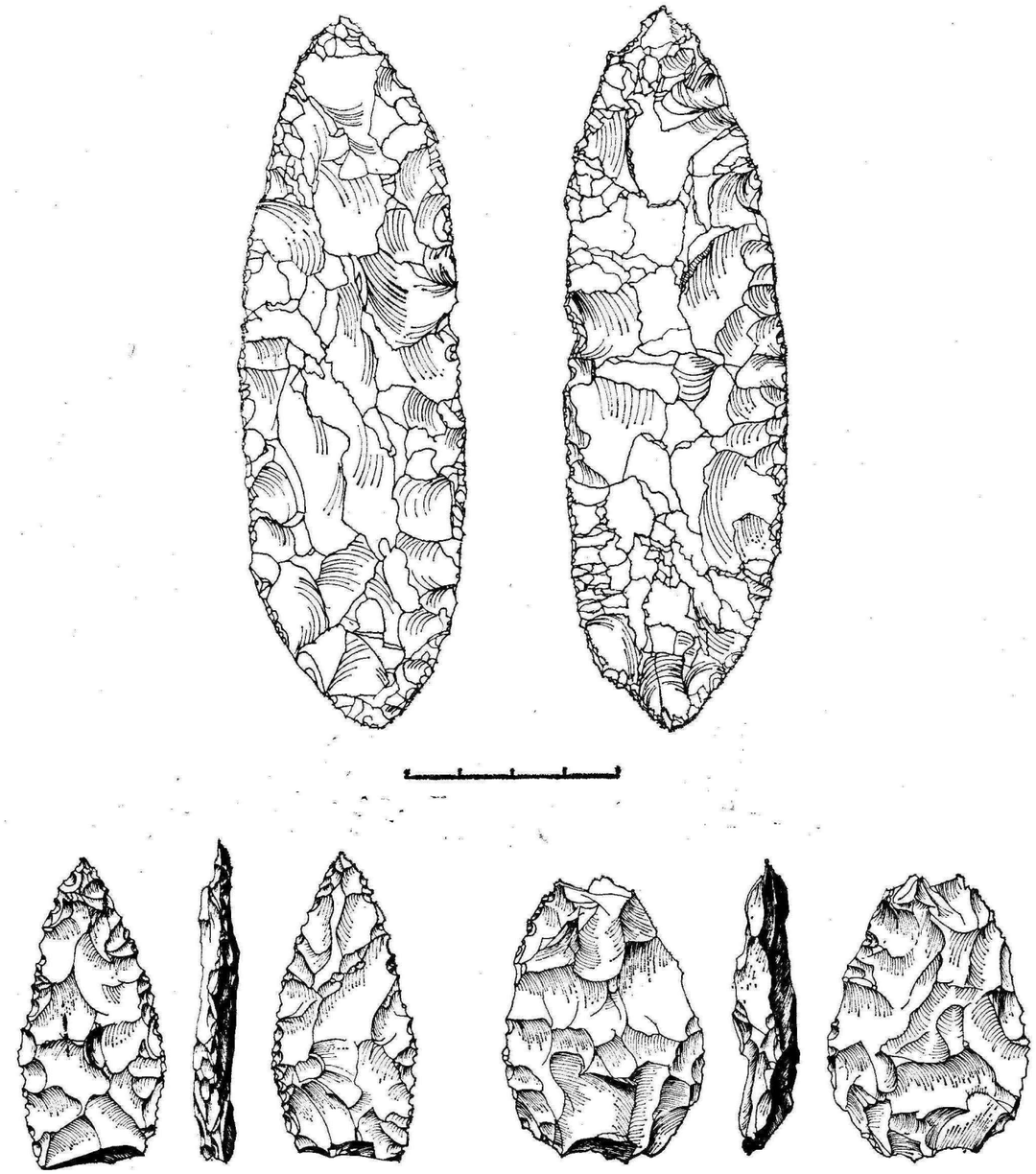

FIGURE 6. *Scattered leaf point from Aszód. Bifacials from Ostoros-Rácpa.*

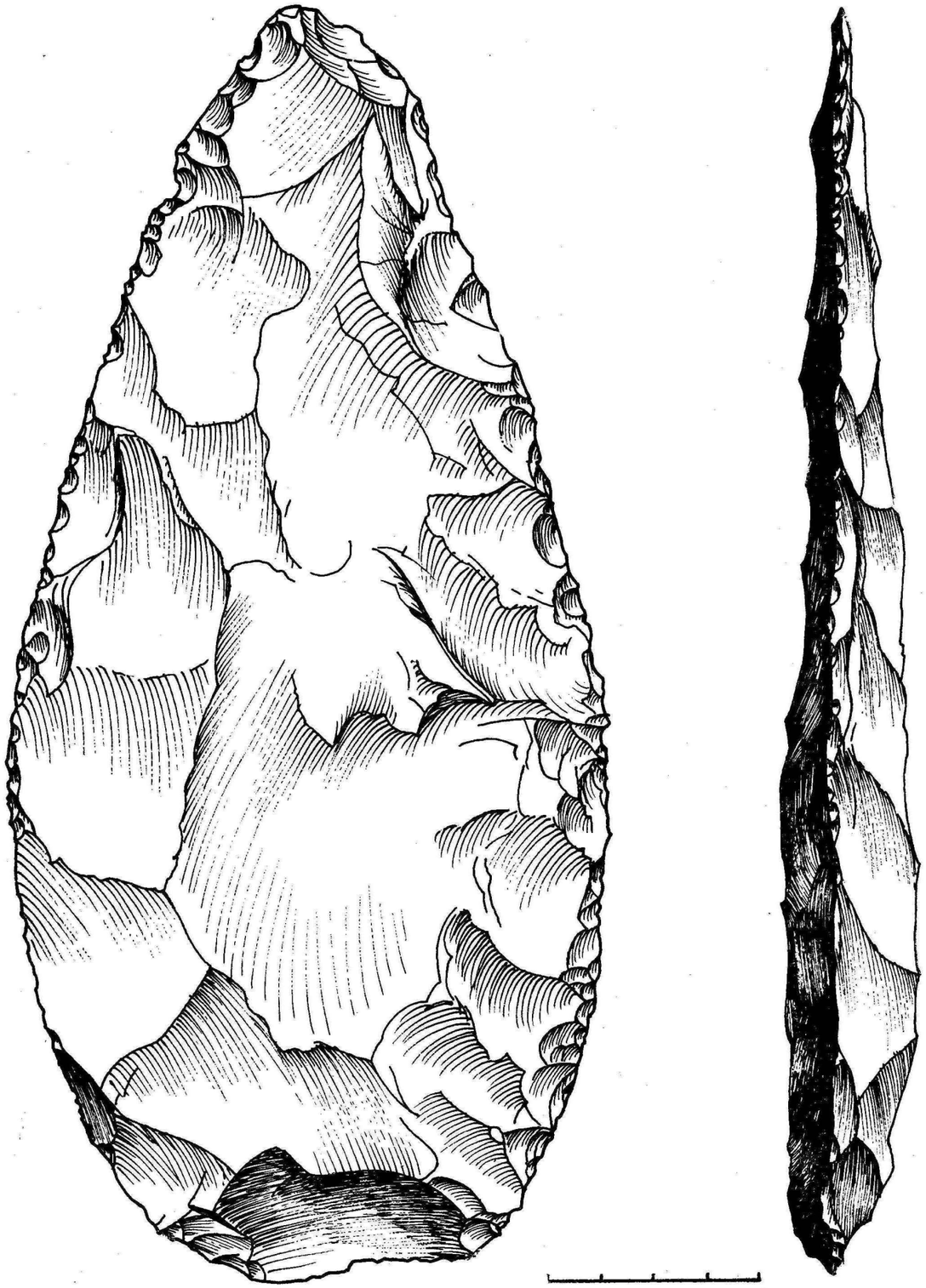

FIGURE 7. *'Handaxe' from Miskolc, Bársony-Ház, the first Hungarian palaeolithic find. M = 1 : 1.*



K. Valoch touches the Hungarian Aurignacian problem in one of his earlier articles. He considers the carenoid implements as definite tools, based on French finds. A similar role is attributed to the Mladeč bone points from the Istállóskö cave, putting both layers in the Olschewian culture (Valoch 1968, 359). F. Bordes connects the bone points with the function of the cave in his review of the paper: "This is clearly a hunting site, not a living site" and regards the bone points as a decisive criterion for the Aurignacian culture (Bordes 1968, 369).

Lately I. Vörös reconstructed the chronostratigraphical position of finds from the Istállóskö cave (Vörös 1984, 7—31).

Altogether 13 excavations were carried out in the cave. The most important observations are:

— the materials devided by Vértes into two cultural layers were found in at least five cave deposits of different characteristics or colour. The layer complex of the younger "olschewian" material called by Vértes Aurignacian II, consists of at least three settlement/hearth levels, while the older lower cultural layer (Aurignacian I. with the bone points with split base) contains at least two settlement levels.

— with the help of the complex archeozoological analysis of the fauna it can be told about the two Aurignacian levels of the cave that the lower cultural layer (Szeleta faunal phase, Würm I/II) was used as a hunters' residence (see "kill-site"!) during the summer-autumn period specialized on the spring-summer appearance of the cave bear, with an estimated population number of 15—20 persons per settlement level, and altogether an estimated population of 30 to 40 persons in the three settlement levels. A secondary butchering site might have existed around the entrance and in the rear part of the cave.

In the levels of the upper cultural layer (Würm II/III, July average temperature 17. 4) a home base settlement must have existed during the autumn--winter-spring periods. There was a butchering place at the entrance and a secondary butchering place and fur depot in the rear part. The estimated number of population in the upper two settlement levels is around 25 persons. (In case of the not Aurignacian settlement in the uppermost part of the sequence an Upper Palaeolithic temporary site can be found in traces indicating the presence of about 3—4 persons) (Vörös 1984, 18).

The archaeological material in the levels of the lower cultural layer contains 114 bone objects, 31 of which are bone points with split base, 46 are stone implements which belong to the Aurignacoid technocomplex as rightly defined by Albrecht (Albrecht at al. 1972, 83).

In the upper layers only 5 of the 31 bone objects are spear-heads, and there are 107 stone implements. Among the latter we can witness the appearance of the micro-tools, parallelly as the aurignacoid tendencies appear on the open-air sites of the Gravettian, being more or less contemporary to the upper cultural layer of the Istállóskö (Bodrogkeresztúr—Henye, Vértes 1966, 5—14). Concerning its connection with the two layers of the Szeleta culture:

— the cultural layers of the two caves are contemporary. It is attested, beside the geological facts by the material evidences of the neighbouring populations in both caves. There was a fragment of a Szeletian leafshaped scraper in the lower cultural layer of the Istállóskö and a Szeletian leaf-shaped point in the upper layer. Both Simán and Ringer suppose an isolated Aurignacian settlement in the 3rd layer of the Szeleta cave (Simán 1988 a,; Ringer 1988). The contemporaneity of the older cultures of the Szeleta and Istállóskö caves is underlined by the fact that there are undoubtedly cryoturbated tools in the Szeleta, and according to Hahn "Kryoretusch" can be observed on the tools in the lower layer of Istállóskö as well (Hahn 1977, 122). It means identical or at least similar ecological/climatic circumstances.

Finally let us repeat that there have never been found any direct, well supported proofs showing a development from the Middle to the Upper Palaeolithic in Hungary. The Aurignacian I, as the earliest Upper Palaeolithic culture dated to around the Hengelo interstadial, was a short and isolated episode in the Hungarian Upper Palaeolithic. There are no traces of its further development. The material of the upper cultural layer of the Istállóskö is closer to the contemporary open-air sites, its genetical relation to the material of the lower cultural layer of the Istállóskö cave is more than dubious.

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