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GRAVETTIAN/EPIGRAVETTIAN SEQUENCES IN THE BALKANS AND ANATOLIA

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ABSTRACT

Nearly ten years ago, at a conference in Ioannina, one of the authors (J.K.K.), tried to point to the main stages of the Gravettian/Epigravettian in the stratigraphical sequences in the Balkans. stressing their associations, especially in the Last Glacial Maximum (LGM), with the Danube basin, the associations that resulted from the refuge role of the Balkans for Central Europe (Kozlowski 1999). Now, we would like to offer some remarks on the relation between the Balkans and Anatolia during the maximum and the end of the Last glacial period. Of special importance is the question: did Anatolia, at that time, belong to the European cultural province or did it belong to the Near East sphere?

KEYWORDS: Gravettian, epigravettian, Anatolia, Balkans, Okuzini Cave, tools

INTRODUTION

Unfortunately, the disproportion in the number of Palaeolithic records registered in the Balkans and those in Anatolia is still too large. The records from Anatolia come mainly from central-south part of Turkey, notably the region of Antalya (Otte *et al.* 1999). So far we have no stratified Upper Palaeolithic lithic inventories from other parts of Anatolia, with the exception of the Hatay region in south-east Anatolia (Kuhn *et al.* 1999). For this reason we shall base our discussion on the Anatolian data available from the sequences in Karain B cave (Albrecht *et al.* 1992) and Öküzini (Otte *et al.* 2002).

We shall compare the dynamics of cultural changes in the Balkans and in the Anatolia in several chronological cross-sections corresponding to: the pre-LGM period between 30 and 20 Kyr, the Last Glacial Maximum (between 20 to 16 Kyr), and the end of the Glacial period (the chronological intervals of 16 to 14, 14 to 12, 12 to 11 and 11 to 10 Kyr B.P.) (Fig. 1).

THE PRE-LGM PERIOD

The pre-LGM in the Balkans was a period when the Aurignacian tradition was getting obsolete and was being replaced by the Gravettian. The discoveries in the Temnata Cave in Bulgaria show that the oldest traces of the Gravettian, in layer 3d, appear between 29–28 Kyr B.P. which corresponds to the Late Aurignacian assemblages in the Bacho Kiro sequence (culture level 6a) (Drobniewicz *et al.* 2000).

Recent investigations in Cave 1 in Klisoura in the Peloponese (Koumouzelis *et al.* 2001), too, suggest that even between 25 to 20 Kyr B.P. we are dealing with the co-occurence of the latest Aurignacian assemblages (layer III, 6a) with – intercalated between them - layer III' that contained typical backed bladelets and was dated at 23 000±540 years ago (Gd–15349).

that the blade technique was poorly manifested in the Aurignacian sequence at this site (Koumonzelis *et al.* 2001).

The Balkan Gravettian from the pre-LGM is, in fact, a kind of Mediterranean facies with backed bladelets. Such an interpretation has been confirmed by the discoveries from Asprochaliko, layer 10, dated to about 26 Kyr B.P. (Bailey *et al.* 1992), and the older assemblages from Kastritsa, layer 21, level 9 (with the dates of 21 800 to 20 800 B.P.) (Adam 1989), also by the finds from "lithic phase II" in the Franchthi Cave dated at 22 330±1200 Kyr B.P. (Perlès 1987). All these inventories contained uni- and bilateral backed bladelets, double backed bladelets and micrograveттes. The dominant technique is the production of bladelets and blades from single-platform cores. The cores exhibit flake scars, especially in the final stage of reduction.

ÖKÜZINI		GREECE		BULGARIA	MONTENEGRO
Phases	Stratigraphic Units	Argolid	Epire		
A (>16Kyr BP)	XII-X	?	Kastritsa 5 Klithi (base)	Temnata IIIa-III	Crvena stijena Xa-d Medena stijena X-IX Mališina stijena 3b10
B (16-14Kyr BP)	IX-VII	Klisoura, Grotte 1 c. IIA, IIb	Klithi (S 4000)	Temnata II, Ia, I	Crvena stijena IX Medena stijena VIII Mališina stijena 3b1
C (14-12 Kyr BP)	Vib-III	Franchthi IV Klisoura, Grotte 4 C. 4,5	Boila II Klithi (sommet)	?	Crvena stijena VIII Medena stijena VIII-V Mališina stijena 2
D (12-11 Kyr BP)	II	Franchthi V	Boila IIIa	?	
E (11-10 Kyr BP	Ia1, Ia2	Franchthi VI Klisoura, Grotte 7 Unité a	Boila IIIb-IV (?)	?	Trebački Krš
F (<10 Kyr BP)		Franchthi VII Klisoura, Grotte 1 c.5a	?	Dekilitazh (Varna)	Crvena stijena VII-VI Trebački Krš Ia-Ib

Fig.1: Comparative chronological table of the Epigravettian assemblages in Anatolia (Okuzini Cave) and in the Balkans.

The latter assemblage was identified only in 2001. The bladelets from it had been, in the first season of the investigations, interpreted as an integral part of the Aurignacian assemblages, which compelled us to assume the evolutionary continuation of the Aurignacian in the direction of the Gravettian, despite the fact

In the territory of Anatolia, in the period between 30 to 20 Kyr B.P., we know very few Palaeolithic finds, limited – basically – to the lower levels of the sequence in Karain B cave investigated by G. Albrecht (198) (archaeological levels 27–32) and by M. Otte and I. Yalcinkaya (2001) (archaeological horizons

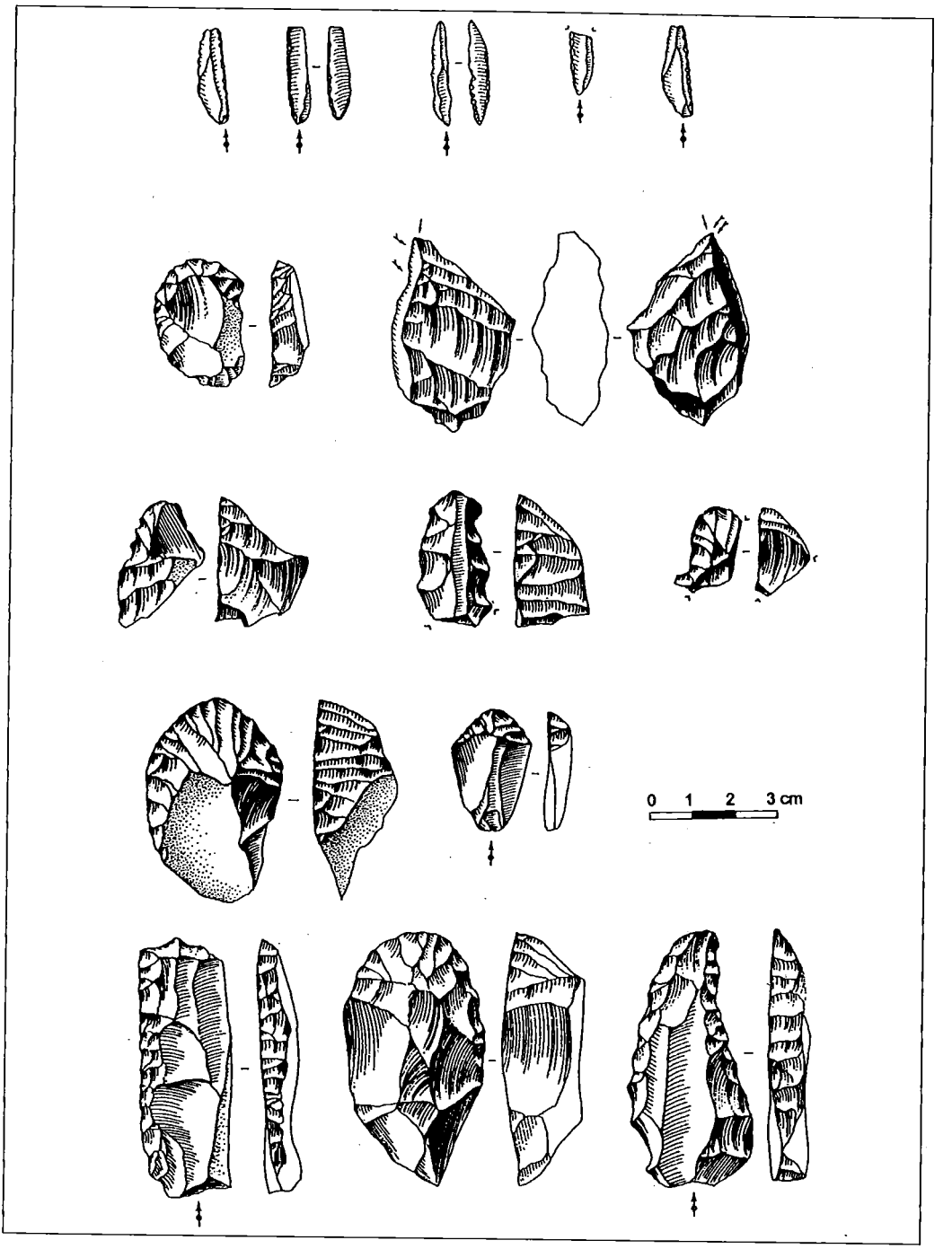

Fig.2: Aurignacian industry from Karain B Cave (acc.to Otte and Yalcinkaya) 1-5 - Dufour bladelets, 6,12 - end-scrapers, 7 - carinate burin, 8-11,14 - carinated scrapers, 13-15 - retouched blades.

20–23). In those levels we can see a typological and technological hiatus between the lower series with Aurignacian elements (such as: carenoidal end-scrapers, nosed-end-scrapers, Krems-Dufour type bladelets and retouched blades – Fig. 2) and the upper series with backed bladelets, microgravettes and others, resembling the beginning of the sequence in the Öküzini Cave. So far we have only one reliable radiocarbon date for the lower level of Karain B sequence (namely: level 22, investigations by Yalcinkaya and Otte, 27 980+240 years B.P. OxA–8362); the upper level is located below the dates of 14 to 16 Kyr B.P.

The Aurignacian elements that are present in the lower part of Karain B sequence are too few and – still – insufficiently documented to be able to decide whether they are closer to the Balkan Aurignacian or to the Levantine Aurignacian. The late phase of the Levantine Aurignacian with flake technique is well – represented in the period between 30 to 20 Kyr B.P.

IMPACT OF THE LGM

Just before the LGM in the NE Balkans new industries appear. They contain a set of backed implements (Gravette points, microgravettes, double backed points resembling Sauveterre points and pointes à face plane) different from the indifferentiated industries with backed bladelets of the early phase of the Mediterranean Gravettian. Such, new assemblages are known from the Temnata Cave sequence (sector TD I), particularly in the levels from VIIa/b to IV. We can see a typological and technological similarity between these assemblages and the typical Gravettian in the Middle Danube basin. The various levels in the Temnata Cave show not only resemblance to Willendorf II sequence but also fill the gaps in between some Willendorf II levels, for example: level VIII at the Temnata Cave fills the gap between level 5 and 6 of Willendorf II, and levels VII–VI fill the gap between levels 8 and 9, and finally, levels V and IV from the Temnata Cave are younger than the youngest level 9 in the Willendorf sequence (Drobniewicz *et al.* 1992; Tsonev 1997).

This means that the NE Balkans were inhabited in the coldest periods and served as refuge for the Gravettian population from the Middle Danube area and the Carpathian Basin. This hypothesis has been corroborated by the presence of raw materials from the Carpathian Basin in the Bulgarian site of Temnata (Pawlikowski 1992).

The impact of the LGM on settlement in Central Europe is manifested in the emergence of a new facies – the facies with shouldered points. These implements are well known from the final Danubian Gravettian where they appear between 24 to 21 Kyr B.P. (Willendorf II level 9, Nitra-German, Moravany-Noviny; Kozlowski ed. 2000).

The earliest assemblages with shouldered points are in the NW Balkans (in the Sandalja Cave, about 21 Kyr B.P.), and in Greece (layer 19 from the Kastritsa Cave, about 19 Kyr B.P.). This unique facies of the Gravettian also reached the Peloponese where it is unfortunately undated (the Kephalari Cave).

In the Balkans, between 19 to 16 Kyr B.P., independently of the northern influences seen in the occurrence of shouldered points, industries emerge that do not know shouldered points but whose whole technological and typological tradition is linked with the Gravettian, such as for example levels IIa–III in the Temnata Cave (Sirakov *et al.* 1994). In these levels the basic set of backed tools is restricted to microgravettes and double backed points with ventral distal and proximal retouch. These elements are undoubtedly derived from the tradition of the Danubian Gravettian. Similar types of backed tools are also found in the western part of the Balkans, namely: in level X in the Crvena stijena Cave and levels X–IX in the Malisina stijena Cave in Montenegro (Mihajlovic 1999). In the latter Cave, however, also individual examples of backed bladelets

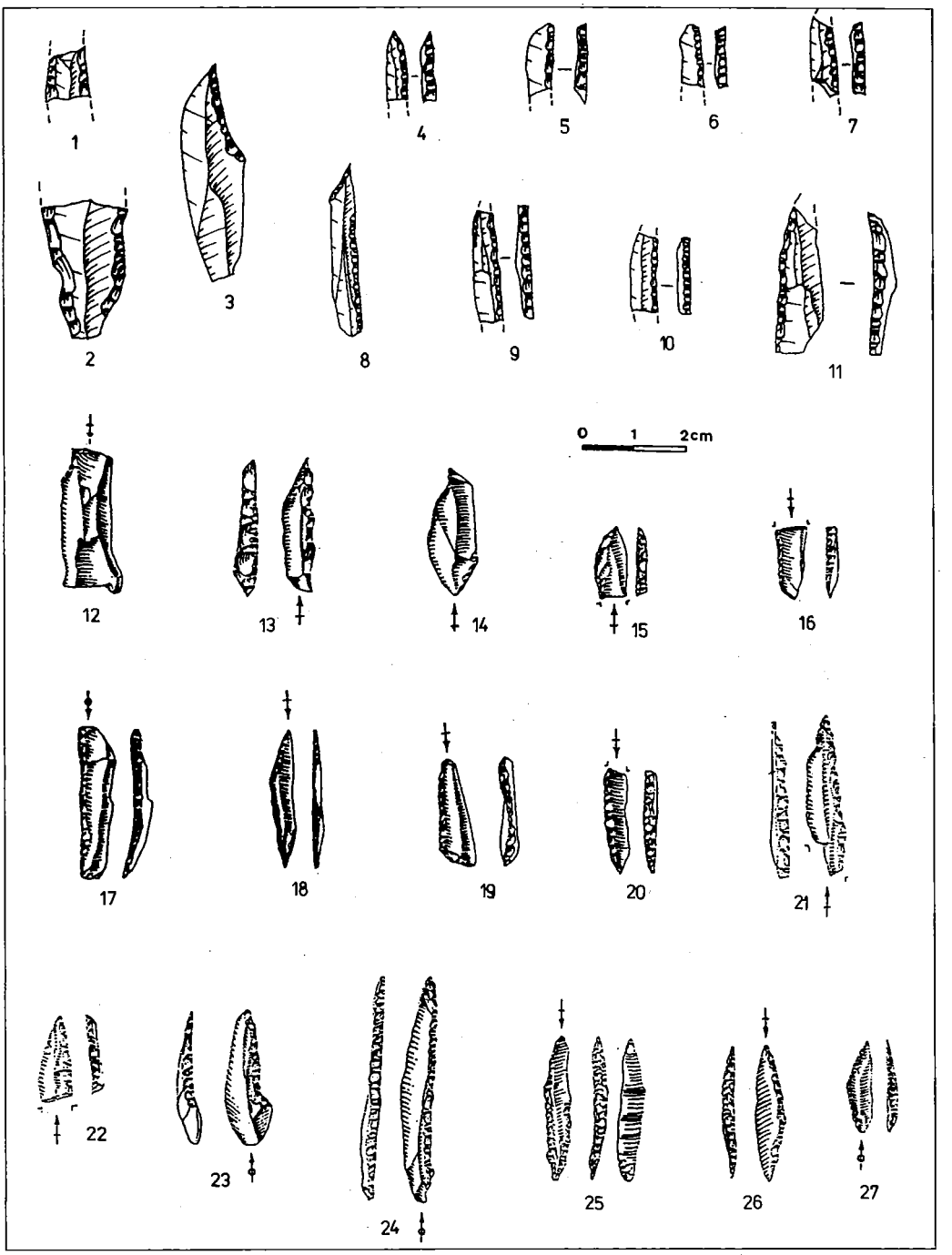

Fig.3: Early Epigravettian in the Balkans (1-7 - Malisina stijena, layers IX-X, 8-11 - Crvena stijena, layer X) and Anatolia (12-27 - Okuzini Cave, layer XI).

with a broken back or slightly convex back appear (Fig. 3:1–11).

The range of the Gravettian technological tradition covers also the territory of southern Turkey. The lowest stratigraphical series (units XII–X) in the Öküzini Cave correspond to the Glacial Maximum on the basis of both absolute determinations (19–16 Kyr B.P.) and the evidence of sedimentology and fauna (Yalcinkaya *et al.* 2002). In these levels we find a technique – which is in common with the Balkan Gravettian – of laminar blanks production from prepared single-platform cores with flaking surfaces on the narrow face of tabular radiolarites. Among the diagnostic backed implements predominate bladelets with a straight, slightly convex or broken back, sometimes with ventral retouch in the proximal part (Fig. 3:12–21). When we compare the tools from Öküzini with the Balkan specimens we can see that at the Balkan sites double backed points are more numerous, whereas in the Öküzini Cave specimens with a single back - slightly convex or broken - are the dominant form. Nevertheless, a number of typological details are shared, for example: the ventral retouch on points. It seems that the tendency towards "protogeometrization" appears earlier in Anatolia than in the Balkans, although the final effect of this process is similar.

The formation of the cultural entity between the Balkans and Anatolia was facilitated by the see recession during the LGM and subsequent part of the Late Glacial. The emergence of a larger continental shelf and easier connections between Aegean Islands contributed to trans-aegean links as well as to the Balkan-Anatolian migrations across Marmara sea basin.

Both the Balkan sites as well as the Öküzani Cave represent seasonal camps. For example, in the Temnata Cave (levels III and IIIa) the occupation of the cave was longer: from the end of winter until late autumn. In the Öküzini Cave (layers XII–X) the season of occupation covered only spring and summer. So the Öküzini Cave occupations are short-term camps, frequently re-visisted, while in the case of Balkan sites, such as the Temnata or the Kastritsa, we are dealing with larger base camps where dwellings and structured hearths occur. Moreover, the hunted game is different: in the Balkans at that time chamois (*Rupicara*) and horse are most common, but in the Öküzini Cave we find wild goat, sheep and fallow deer.

The existence of links between the finds from the lower levels in the Öküzini Cave and the Balkan Gravettian seems even more justified when we compare these finds with the territories of the Palestinian coast where in the period between 19 to 14 Kyr B.P. the Kebaran occurs (Bar Yosef 1987). The northern distribution of this unit did not reach either Syria or south-eastern Anatolia (Fig. 4). Although the Kebaran, too, belongs to units basing on bladelets produced from single-platform cores, yet it has a totally different kit of backed tools with the dominant obliquely truncated bladelets (described as the Kebara or Jiita points). The Kebaran sites are relatively small in area, located in the littoral zone and in the mountains of the Near East. The Kebaran people hunted fallow deer, red deer and ibex. They inhabited, mainly, the Meditterranean shrubland and based their subsistence on lattitudinal seasonal migrations. The range of the migrations was fairly small. Such nature of the Kebaran as a specific adaptation limited to the eastern coast of the Meditterranean and the Jordan valley caused that the Kebaran did not have more remote connections, notably with the northern part of the Near East.

LATE GLACIAL

The next phase, between 16–14 Kyr B.P., saw warmer climatic conditions, attributed in the Balkans to the Philippi interstadial. In the Balkans, during this phase, we can see the appearance of a greater number of backed pieces

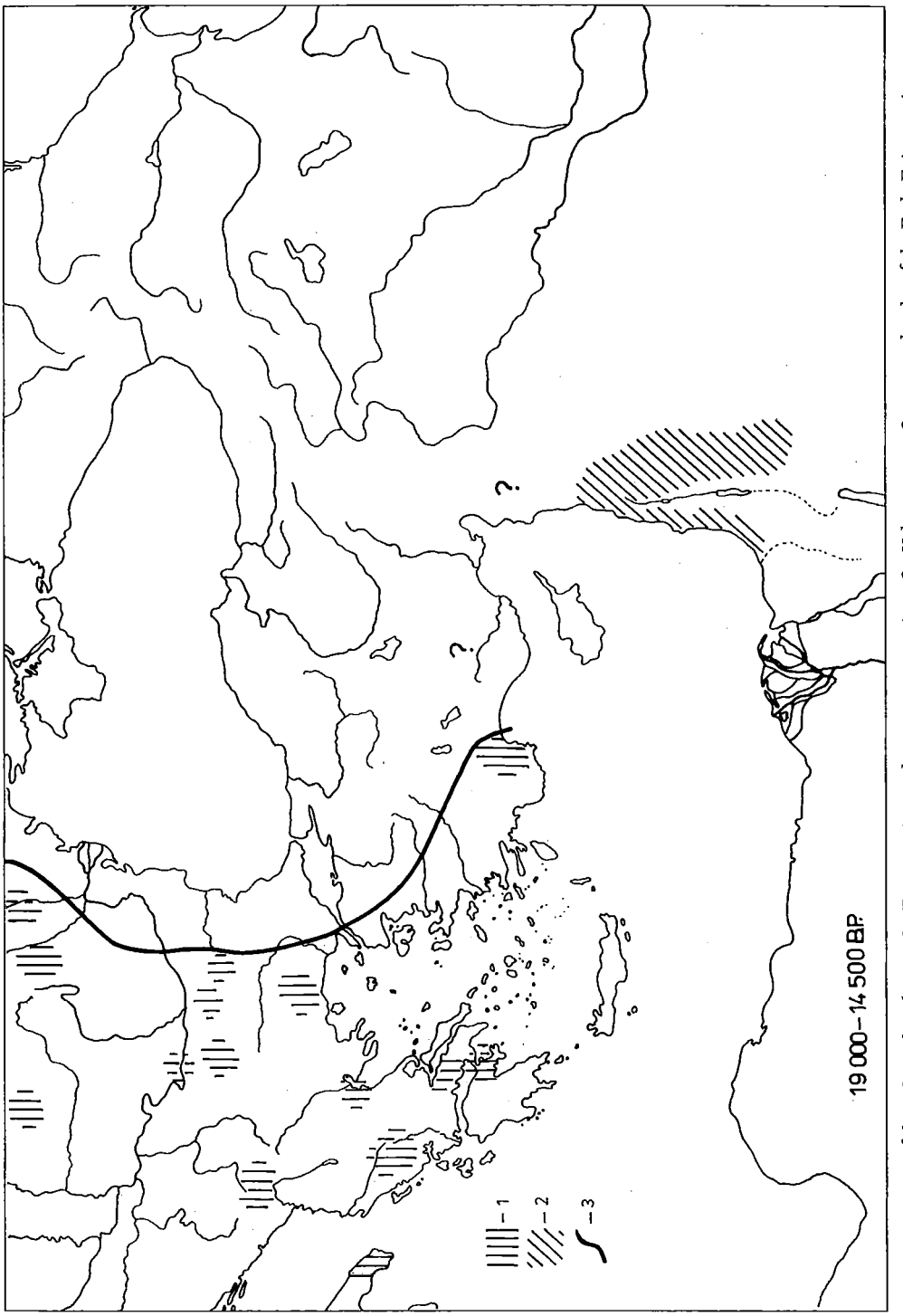

Fig.4: Map of the LGM cultural units: 1 - Epigravettian settlement concentrations, 2 - Kebaran area, 3 - eastern border of the Early Epigravettian.

with the broken back and parageometric forms such as large segments (for example, at Crvena stijena, level IX – Mihajlovic 1999). In Anatolia, on the other hand (at Öküzini, levels VIII and VII) the number of double backed points, also backed pieces with ventral retouch in the proximal and/or distal part increases somewhat later than in Balkans. We can hypothesize that in the period between 16–14 Kyr B.P. the contacts between the Balkans and southern Anatolia were enlivened and – for this reason – the Balkan influences reach Anatolia but with some delay.

In this warmer period traces of occupation in the Balkans occur from the end of winter until autumn, and large, residential camps are present. A major role belongs to the working of wood which is indicated by use-wear analysis for the upper levels in the Temnata Cave (II–I, Ia). In the Öküzini Cave, in this phase, occupation continues as brief episodes, in summer, autumn and winter. The most important activity is connected with the treatment of hide, mainly of goat hide.

The next chronological interval falls between 14 to 12 Kyr B.P. In Europe this was the Late Glacial warming belonging to the Bölling Complex. The evolution of the Epigravettian industries in the Balkans in this chronological interval is characterized by the development of the microburin technique. This technique is represented in lithic phase IV in Franchthi, as well as in the caves of the Peloponese (for example in Cave 4 in the Klisoura Gorge), and even in the Pindus Mountains (Boila, layer II). But the microburin technique did not serve to produce microlithic inserts or arrowheads but, rather, to shape *piquant-trièdre* on the distal tip of backed bladelets.

In Anatolia, in the same chronological interval, units VI–III in the Öküzini Cave show the transformation of proto-geometric forms of inserts into typical geometric microliths such as segments and trapezes, and even scalene triangles.

The two phenomena are related to the perfecting of hunting weapons, notably of spear points made up of several inserts, and - probably - with the introduction of arrowpoints equipped with geometrical microliths.

In the sphere of common tools, in the Balkans and in Anatolia, progress takes place in the quantity of short end-scrapers and tools with marginal retouch.

From the point of view of subsistence strategies in the whole of the Epigravettian we can see a tendency towards the broadening of the alimentary spectrum by some new species of mammals that previously had fairly rarely occurred, first of all red deer. At the same time remains of birds, plants and marine fauna appear. This is not yet the process of the "broad spectrum revolution" but the evidence that from this phase the variety of food increases in comparison with earlier phases of the Epigravettian.

Both in the Balkans and in Anatolia the settlement is less stable: there are mainly short-term bivouacs, transitional hunting camps where the game was quartered and – possibly – prepared for use in base camps, but no such camps have so far been discovered.

The difference between the Epigravettian sphere and the cultural units of the Syro-Palestinian coast is still conspicuous. In the chronological interval from 14 to 12 Kyr B.P. in the territory of Palestine the Geometrical Kebaran occurs, which is the continuation of the Early Kebaran (Bar Yosef 1987). In the assemblages of the geometrical Kebaran besides truncated bladelets also trapezes and rectangles appear. The range of distribution of this unit increases to NE reaching Syria. Settlement becomes more stable and the area of settlements becomes bigger. Traces of habitation structures and storage facilities appear in camps. This greater stability of settlement systems in the Near East in comparison to the Epigravettian in SE Europe could be the effect of improved ecological conditions in the Near East, while

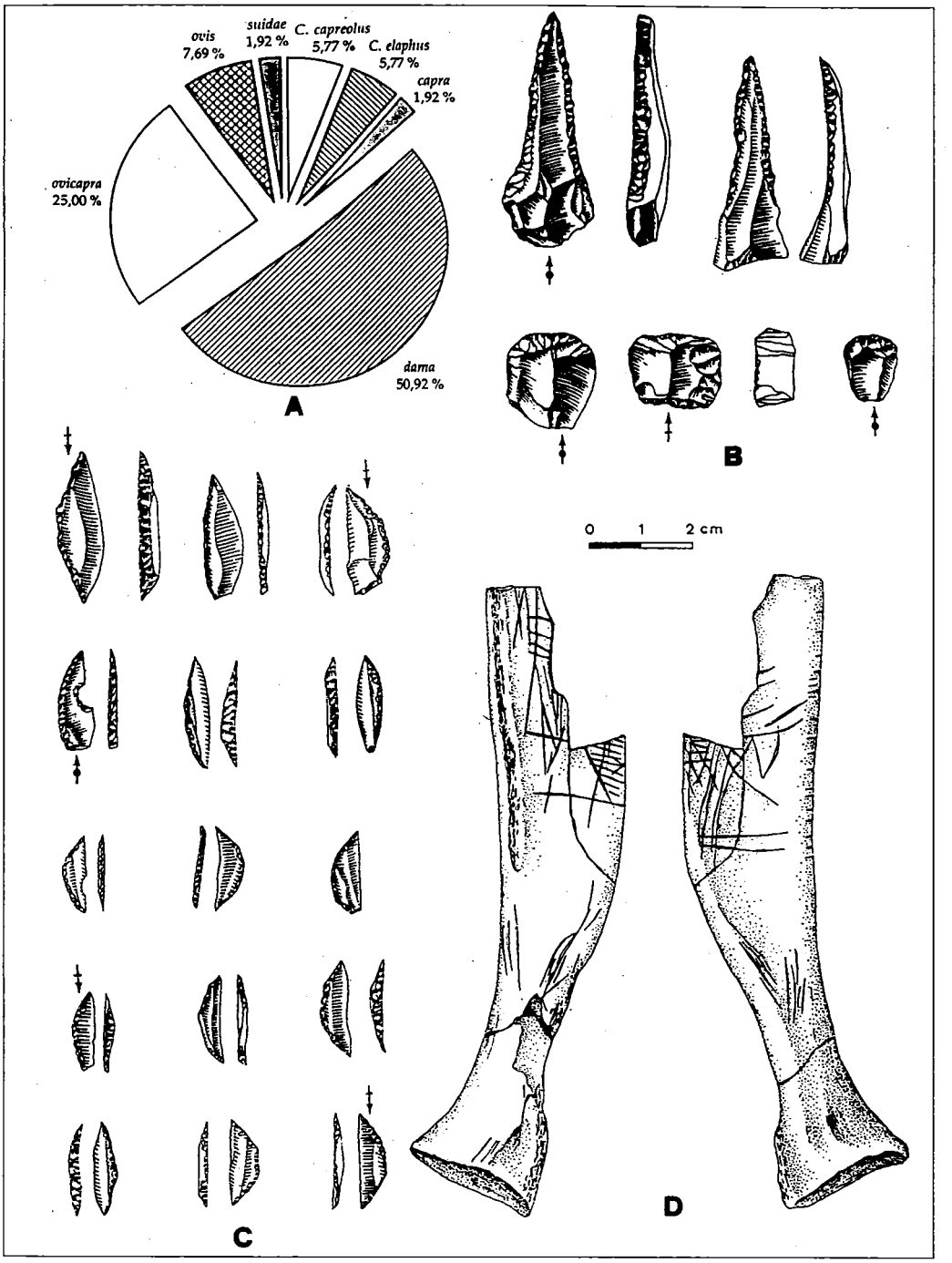

Fig.5: Okuzini Cave, layers II, III, IV: A - quantitative structure of the hunted game, B - common tools, C - microliths, D - ornamented scapula.

the Balkans and Anatolia remain under the influence of cool Arctic fronts. The warmer spell of the Bölling oscillation was probably more marked in the Near East than in the Balkans.

The next chronological phase corresponds to the period between 12 and 11 Kyr B.P. Both in the Balkans and in Anatolia in this phase assemblages appear which predominantly contain a variety of geometrical microliths (Fig. 5). This is a phenomenon that at the end of the Late Glacial is conspicuous also in the western part of the Meditterranean. Together with changes in the composition of mammals (Ovicaprids in Anatolia and horses and bovids in the Balkans are replaced by cervids and the suids). Increased mobility of population groups takes place. The Epigravettian population broadens the spectrum of food using small mammals, reptiles, turtles, marine resources and plants. In such a way the period of logistic mobility, typical for the earlier periods, becomes replaced by residential mobility. The stability of camps in that system depends on the complementary character of exploited resources. For this reason camps in the Peloponese (the Franchthi Cave, lithic phase V), situated closer to the sea coast, are more stable, with a greater range of activities than, for example, the camps in unit II, from Öküzini.

Independently of these changes there continue to be a gap between the Syro-Palestinian coast and Central Anatolia. In the Middle East Geometric Kebaran has been replaced by the Natufian, which extends more to the North, particularly in Syria. New entities, different from the mediterranean Epigravettian appear in Eastern Anatolia, Transcaucasia and Iraq, i.e. Trialetian and Zarzian (Fig. 5). The origin of these entities, characterized by backed implements, is unclear, possibly related to the middle phase of the Upper Palaeolithic in the Black Sea - Caspian zone (S.K. Kozlowski 1994).

The end of the Pleistocene - between 11 and 10 Kyr B.P. - is characterized by the last cool oscillation of Dryas III, which is seen in the pollen diagrams from the Balkans, Anatolia and the Middle East as a return of cold and dry conditions. At that time the resources of land and water environment are fully exploited and replace the big game hunting which had so far dominated. The Epigravettian tradition with geometrical microliths is continued in the Balkans and in Anatolia until the beginning of the Holocenem (Kozlowski 1996). Development of seafaring, documented by the distribution of obsidian from the island of Melos (Perlès 1987), caused that at the transition between the Pleistocene and the Holocene the whole of the Aegean Sea Basin becomes a single cultural unit (Sampson *et al.* 2002). This unit is to play a unique role in the earliest Neolithization of South - Eastern Europe.

That links existed between Anatolia and SE Europe at the end of the Pleistocene has been established not only in the sphere of technology and subsistence strategies but also in the symbolic culture. The first investigations of I.K. Kökten (1958, 1961) in the Öküzini Cave yielded limestone pebbles with incised motifs both figural and geometrical (Fig. 7). Unfortunately, the stratigraphical position of these iconographical and symbolic documents is uncertain. The finds were ascribed to level IV, that is to the Bölling - which is questionable. They may, in fact, come from the very end of the Pleistocene. It is important, that the image of the Bovid shows similarity to Gravettian mobile art in Western Europe (for example: the incised representation on a pebble from Blot, France - Delporte 1990 p. 92), and to incised representations on rock blocks in the Italian Epigravettian (for example, from layer 8 from the Pagliaci Cave – ca 15–16 Kyr B.P. - Palma di Cesnola 1992 p. 72). At the same time, the image from the Öküzini Cave is distinctly different from the figural art of the Kebarian in the Near East, whereas it resembles more closely the realistic representations of Bovids from the paintings from Chatal

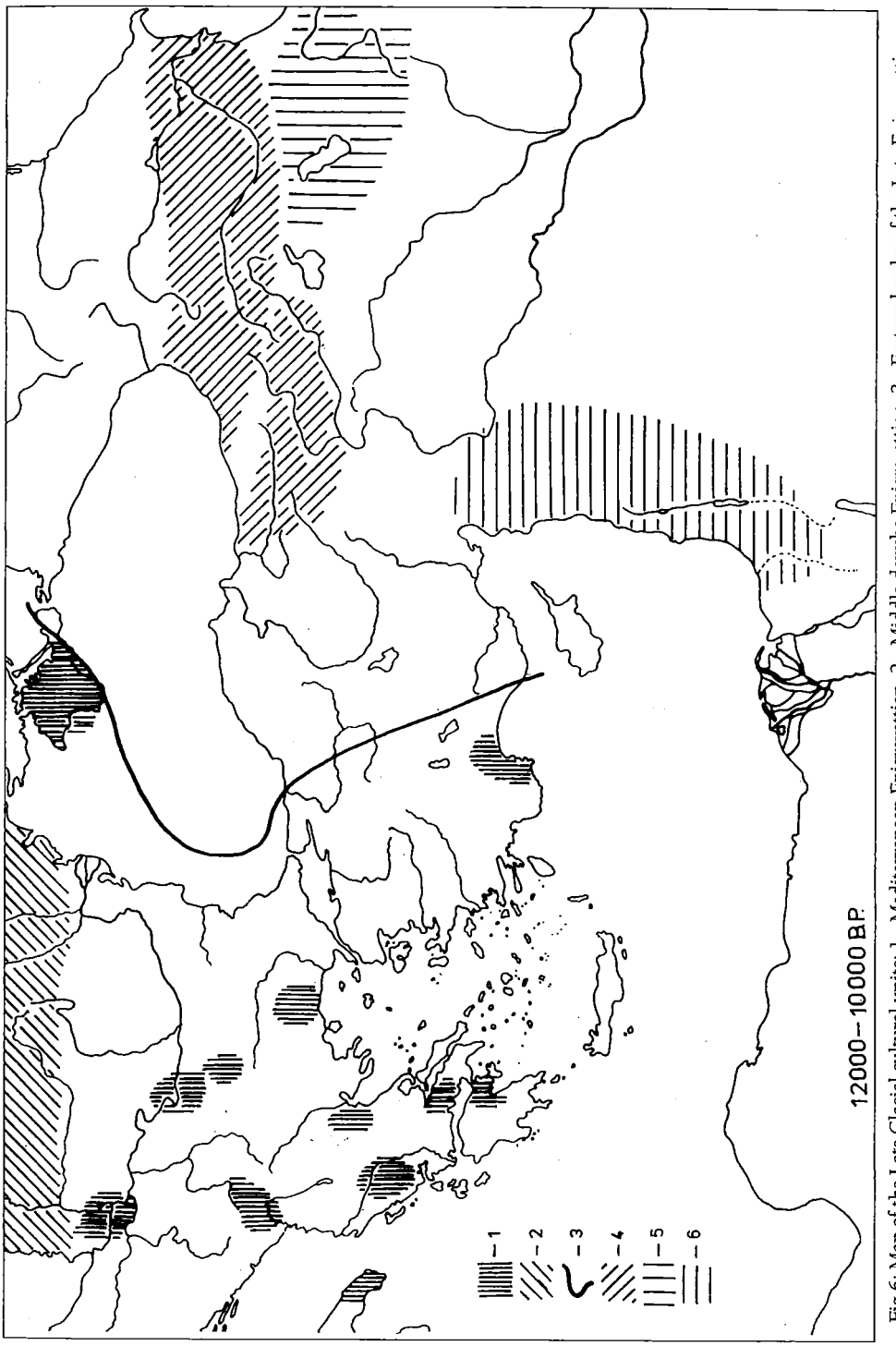

Fig.6: Map of the Late Glacial cultural units: 1 - Mediterranean Epigravettian, 2 - Middle danube Epigravettian, 3 - Eastern border of the Late Epigravettian, 4 - Traletian, 5 - Zarzian, 6 - Natufian.

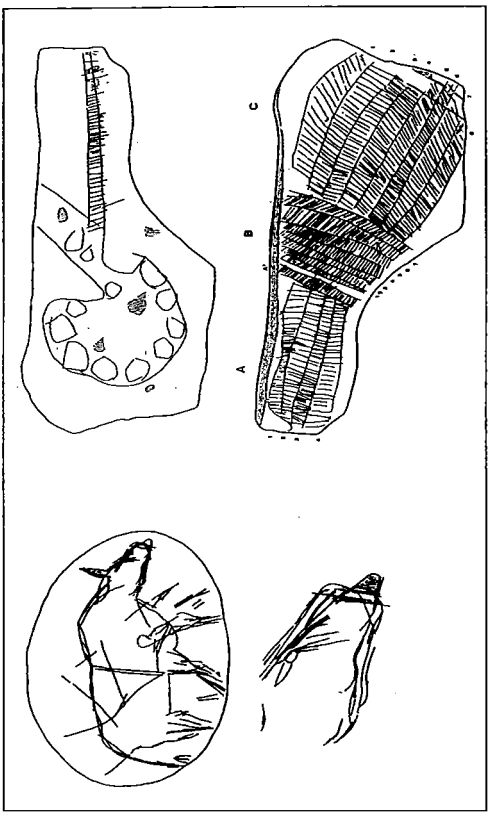

Fig.7: Okuzini Cave (excavations by I.Kokten): 1a - pebble with drawing of the bovid, 2 - incised limestone pebble with geometric patterns (acc. to A.Marshack).

Huyuk - as A. Marshack (1997) has rightly observed. The symbolic motif on the second pebble from the Öküzini Cave is registered over a broader range. It belongs to "ladder-like" motifs consisting of accumulated sets and subsets of engraved marks. Such motifs are known from the Epigravettian in Italy, but they also occur in the Epipalaeolithic of the Near East, for example in the Geometrical Kebarian from Urkhan-e-rub (about 14.5 Kyr B.P.) and in the early Natufian from the Hayonim Cave (Marshack 1997, Otte *et al.* 1995).

CONCLUSIONS

The similarity of symbolic motifs suggests that at the end of the Pleistocene the Epigravettian community maintained relations with the communities of the Syrio-Palestinian coast. These relations had preceded the process of Neolithization that later unified the territories with the Epigravettian, the Zarzian and the Kebaro-Natufian traditions.

The existance of the Northern Mediterranean Gravettian/Epigravettian entity between the Spanish coast and South-Central Anatolia could explain some questions as to the origin of European gene pool, and particularly the mt DNA diffusion of haplogroup H. This group shows the highest frequencies in South-Western Europe (Spain, North Italy) and intermediate frequencies in Central Italy, Balkans and Anatolia (Torroni *et al.* 1998). Some genetists explain the diffusion of haplogroup H as the result of a migration from South-East intermediate between the spread of first Modern Humans (>40 Kyr B.P.) and the Neolithic expansion (<10 Kyr B.P.). If we agree that haplogroup H expanded about 25–20 Kyr B.P. (Richards *et al.* 1996) this spread would be contemporary with the diffusion of Gravettian technology in the Mediterranean basin. However, the archaeological records confirm that this diffusion was in the West – East direction, opposite to the paleogenetic data suggesting that haplogroup H harbors a much higher diversity in Anatolia than in Europe. Nevertheless this haplogroup is much more common in Europe than in the Near East; this can suggest that the possible source of haplogroup H might be Central European, followed by the diffusion in the South-Eastern direction just before the LGM. The presence of this group in the Near East was the result of Late Glacial or Early Holocene contacts between the Epigravettian and Near Eastern cultural units.

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