

Social aspects of the transition to farming in the Balkans

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ABSTRACT – *The Neolithization of the Balkans could be considered as a very complex social phenomenon. In this work we study the causes for the cultural and social integration of hunter-gatherer communities in the Late Glacial and Early Holocene, social networks and contacts in the Iron Gates Mesolithic, and also factors having an impact on the spread of the Neolithic in the Balkans. It has been perceived that the evolution of culture in the Balkans was simultaneously influenced by internal and external factors, and this contributed to the very rapid acceptance of Neolithic values and the Neolithic way of life in the period from 6500 to 6200 calBC.*

IZVLEČEK – *Neolitizacija Balkana lahko ocenimo kot zelo kompleksen socialni fenomen. V tem delu proučujemo razloge za kulturne in socialne integracije skupnosti lovcev in nabiralcev v času poznega glaciala in zgodnjega holocena na območju Zeleznih vrat na Donavi. Analiziramo mezolitske socialne mreže in kontakte in tudi faktorje, ki so vplivali na razširitev neolitika na Balkanu. Opazili smo, da so na evolucijo kulture na Balkanu sočasno vplivali notranji in zunanji faktorji, kar je prispevalo k hitremu sprejemanju neolitskih vrednot in neolitskega načina življenja v času od 6500 do 6200 calBC.*

KEY WORDS – *Neolithisation; Balkans; Mesolithic; hunter-gatherers; acculturation*

Introduction

In explanations of the Neolithization of the Balkans most attention has been paid so far to the chronology of the emergence of the Neolithic and the directions of distribution of Neolithic cultures from the territory of Anatolia and the Near East. For a rather long time attempts to suggest a greater role for the local communities have not been accepted, being accused of advocating anachronous (also nationalistic) viewpoints connected with the idea of the autochthonous evolution of cultures in this area (*Ammerman 2003.13–15*). Yet, it seems that there are at least two reasons for examining the Mesolithic-Neolithic transition in the Balkans within wider geographical and chronological frameworks. On the one hand, there is a real possibility that local components participated at least partially in establishing Neolithic cultures, and that the introduction of agriculture was marked by intensive interaction between the

Mesolithic and Neolithic communities. On the other hand, it is becoming obvious that the distribution of the Neolithic in the Balkans is a spatially, chronologically and culturally defined phenomenon, which is reflected in the fact that the Neolithic spread over the entire area of western Anatolia and southeast Europe in a very short time, from 6500 to 6200 calBC. Therefore, two conclusions could be drawn: first, that studying the Neolithization of the Balkans includes examining the role of local populations; and second that the emergence of the Neolithic in the Balkans could not be perceived partially, without insight into events on a wider regional level. The solution to this problem certainly does not lie in the automatic acceptance of the colonization theory, which includes in recent times the study of almost all newly acquired data. If the Mesolithic communities played any part at all in this process, Neolithiza-

tion should be considered as a complex social phenomenon, which resulted in the complete transformation of the culture, economy and society of the local population (*Budja 2005.66*).

Cultural regionalization and social homogenization in the Final Palaeolithic

If we want to answer the question whether the Neolithization of the Balkans should be understood as a social and cultural transformation of the Mesolithic communities or as a 'Neolithic invasion' of uninhabited areas, we should first examine the situation preceding the emergence of the Neolithic. When, particularly, the Final Palaeolithic is concerned the following questions could be asked: a - whether there is a parallel between cultural and economic changes in the final Palaeolithic in southwest Asia and southeast Europe; and b - which factors influenced the occurrence of semi-sedentary communities in the Iron Gates Mesolithic?

Regarding the final Palaeolithic in southeast Europe, so far, precisely the phenomena registered at sites in Greece have been connected with the emergence of agriculture. The greatest attention has been devoted to the discovery of wild cereals in the Late Pleistocene and Early Holocene deposits in Franchthi Cave. Nevertheless, neither these observations nor the assumptions that in the south Balkans conditions were favourable for the local development of wild cereals have been confirmed (*Perlès 1999*). Only in recent times was this assumption actualized, after the discovery of wild wheat and barley in the Mesolithic layers of Theopetra (*Kyparissi-Apostolika 2003; Vlachos 2003*). The initial phase of the domestication process was at one time also related to the evidence for the broad spectrum economy, but more recent investigations by Miracle (*1995*) reveal that this type of economy (from the traditional point of view) was not practiced in the Final Palaeolithic on the eastern Adriatic coast.

What is then that something which distinctively marks the economic and social changes in the final Palaeolithic in the Balkans, indirectly indica-

ting the foundations on which the complex hunter-gatherer communities emerged in the Iron Gates as well as other manifestations characteristic of the Balkan Mesolithic? By the end of the Late Glacial in the southwestern Balkans an increased intensity of settlements in caves and rock-shelters, as well as the distinctive colonization of mountainous zones could be noticed (*Mihailović 1999a*). It could not be ruled out that this situation is a consequence of better preservation, visibility or investigations of the sites from this period. Nevertheless, the evidence for the settlement of mountainous regions is more than convincing. Therefore, the possibility must be considered that more intensive settlement in this area was influenced by various factors: palaeogeographic changes (resulting from the rise in sea level), the seasonal distribution of resources, and increase in total population, but also technological progress, which made possible the exploitation of new ecological niches. A certain role in these processes could also have been played by the fact that the organized system of settling where every habitation had a distinct role was introduced in this very period (*Mihailović in press a*).

That habitations had identical or similar functions over rather long periods of time is confirmed by the

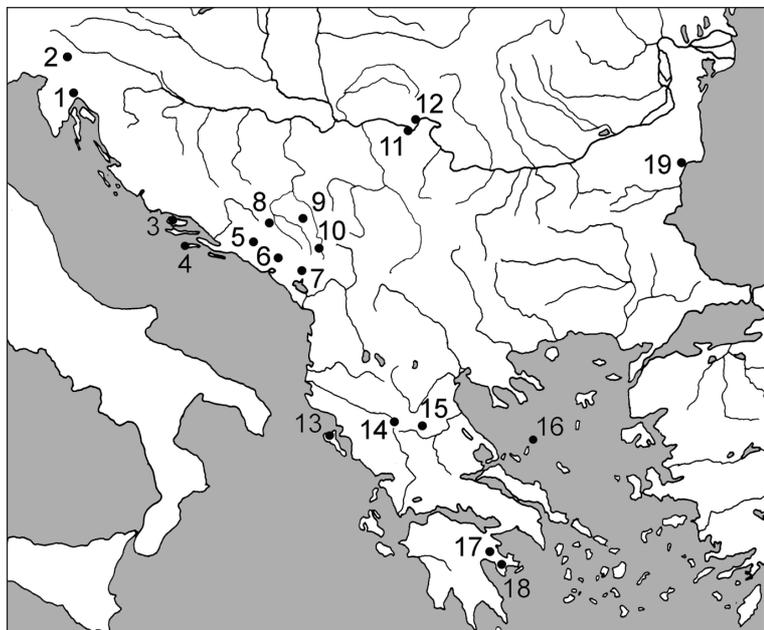


Fig. 1. Late Upper Palaeolithic and Mesolithic sites in the Balkans, mentioned in the text: 1 - Pupičina Pećina, Šebrn, 2 - Zalog near Verd, 3 - Kopačina Pećina, 4 - Vela Špilja, 5 - Badanj, 6 - Crvena Stijena, 7 - Vruća Pećina, 8 - Odmuť, 9 - Medena Stijena, 10 - Trebački Krš, 11 - Padina, Lepenski Vir, Vlasac, 12 - Cuina Turcului and other sites in Lower Gorges, 13 - Sidari, 14 - Boila, 15 - Theopetra, 16 - Cyclope Cave, 17 - Klisoura, 18 - Franchthi, 19 - Dekilitazh.

quantity and structure of the remains encountered at these sites. There are different opinions about the duration and character of settlement within certain habitations. It is essential, however, that the structure of the fauna and chipped stone artefacts is generally uniform during all phases of settlement, and at Medena Stijena the overlapping of zones of activity was even registered (*Mihailović 2004a*). Of course, it could be objected that the geomorphologic characteristics of the terrain and the position and appearance of the caves and rock-shelters had a decisive impact on the function of the settlement and that a greater quantity of finds could be explained as a result of the better preservation of layers from this period. Naturally, we are not claiming that these factors had no impact, nor that an apparently so organized model of settlement appeared for the first time only in the Late Upper Palaeolithic. The settlements from this period are, however, definitely distinguished by the fact that this evidence in the Late Upper Palaeolithic appears for the first time at sites in mountainous regions, and also that at those sites a somewhat different repertoire of faunal remains in comparison with settlements from earlier periods was encountered.

Most of the remains at the sites from Early Upper Palaeolithic generally originate from large or medium fauna from open (rarely also forest) biomes. In the Late Glacial their quantity decreases at the expense of the remains of medium and even small fauna, in certain regions (*Stiner and Munro 2002*). Hunting for certain species, e.g. the ibex that was an exception in earlier times, now became regular even at a site in the Balkan interior (Cuina Turcului I-II, *Bolomey 1970; 1973; Mihailović in press b*). The elements of specialization are still not very prominent (except at sites dating from the very end of the Pleistocene) and at most sites the remains of 2–3 animal species predominate. The alternative resources were not present in considerable quantity, except at Francthi, where fishing and mollusc and wild cereal gathering were confirmed (*Perlès 1999*).

The question could be raised as to what influenced the occurrence of such a settlement system: whether it was economizing on resources in the relatively barren Late Glacial environment (for which there are certain indications), population increase (*Stiner and Munro 2002*), or merely the pronounced seasonality of the resources. We think that latter possibility is the most probable reason. Nevertheless, in contrast to the Epipalaeolithic of the Near East, very few base camps in the open dating from the Final

Palaeolithic have been discovered in the Balkans and the northern Mediterranean, so it is very difficult to draw reliable conclusion about the settlement system in this period. The results of recent investigations in south Epirus indicate that settlements could have been logistically organized (*Sinclair 1999*).

The fact that frequent settlement in the same habitations, which had identical or similar functions, was practiced during rather long periods of time certainly indicates the important role of tradition, which in a diachronic context confirms that hunter-gatherer communities had already established a certain level of social integration at the end of Pleistocene (*Mihailović 1999a; in press a*). A high degree of integration is suggested also by more and more prominent cultural regionalization, which was going to intensify in the ensuing periods. The point is, in fact, that the industries characterized by the distinct flaking technology and distinctive style in the production of certain tool categories appeared within limited regional level by the end of the Pleistocene. It has already been established that at a wider regional level there are differences between the Epigravettian industries of the northern Mediterranean, (including Öküzini in the Antalya region) and the Epipalaeolithic industries of Upper Mesopotamia and the south Levant (*Kozłowski 2005.531*). On the other hand, more recent investigations clearly indicate the cultural differentiation of Epigravettian industries in the hinterland and in the coastal regions of the central and southwest Balkans (*Mihailović 1998*). The level of Azilianization in the industries along the coast is more prominent (*Monet-White and Kozłowski 1983*), the bipolar technology is better represented, bladelet technology is not so well developed, and the standardization of microliths is less prominent than in the industries in the hinterland (*Mihailović 1998; 1999b*).

Despite stylistic and typological conservatism (conspicuous only in some elements), it is confirmed that an identical rhythm of technological changes synchronized with the general tendencies of development in the final Palaeolithic in the wider area of the Mediterranean in both regions. All this bears witness to the fact that the social closure of the hunter-gatherer communities in this period was accompanied by a cultural openness to influences from neighbouring regions. Whether this kind of openness was also reflected in the economic sphere, taking into account the expansion of gathering activities (molluscs, vegetable food), it is not possible to determine so far, first of all because this phenomenon could have been

influenced by climatic as well as ecological factors. The phenomenon of ‘Mesolithization’ that was documented in the economy of Franchthi (*Perlès 1999. 314*) is confirmed in the Adriatic-Ionian region only in technology as the occurrence of Sauvetterian elements in the industries of chipped stone artefacts (for example, at Medena Stijena V, Boila IV, *Mihailović 1996.44; Kotjaboupoulou et al. 1999.206*).

Here, the question could be asked, what is at the root of cultural and social changes in the Final Palaeolithic, and how much are these changes relevant for an understanding of later events. In this connection it should be emphasized that Late Upper Palaeolithic of the Balkans and neighbouring areas is characterized by: a – the operationalization of actions and activities within clearly defined standards and operative sequences; b – diversification in the procurement of mineral and food resources (directed towards providing the alternative sources); and c – an intensification in the exploitation of resources on the spatial level (regarding the orientation to certain kinds of resources within a given territory) and also on the level of their maximum exploitation (*Miracle 1995.490; Mihailović in press b*). The multifarious specializations aimed at mastering the various skills and knowledge is documented in technology, but it also could be, by all appearances, observed in other fields of human activity: first of all, in the economy and the settlement system. There is a great possibility that this phenomenon contributed considerably

to the establishment of an entirely new economic model based on an intensification of the procurement of r-selected resources.

It is well known that an intensification of the procurement of r-selected resources is one of the main factors of sedentarization and transition to the Neolithic in general. Taking into account the expansion and duration of this phenomenon, we are certain that the crucial question to be asked is not how domestication took place, but how the intensification took place. The importance of this question is still more prominent if we accept the possibility that the gathering of wild cereals had been practiced in the Near East over a rather long period, and that it was the basis of sedentarization, disregarding whether it played a key or marginal role in the economies of Epipalaeolithic communities. The fact that intensification in the procurement of vegetable foods suitable for domestication and storage took place in the Near East determined the role of this area in the ensuing millennia. From this perspective it is probably not so crucial when and how domestication took place, as it could have happened at any moment because of any of the reasons. The first results of the domestication of plants and animals did not change abruptly and essentially the economic and social organization of the human communities in that area. It is known, however, that advanced agriculture and stockbreeding did not appear in the Near East before the advanced phase of the Pre-Pottery Neolithic.

Degree of cultural openness	high and very high			Late Upper Palaeolithic-early phase <ul style="list-style-type: none"> ● high degree of mobility inside large territory ● cultural unity over the large territory ● social differentiation ● long-range exchange networks (raw material, marine shells etc.) (<i>Soffer 1985; Kozłowski 1999</i>)
	low			Late Upper Palaeolithic – final phase <ul style="list-style-type: none"> ● high degree of mobility over the limited territory ● cultural regionalization ● social homogenization ● middle-range exchange networks
	very low	Early Mesolithic <ul style="list-style-type: none"> ● restricted mobility and territoriality ● cultural disintegration and isolation ● social integration ● short-range exchange networks 		
		very low	low	high and very high
		Degree of social openness		

Tab. 1. Cultural and social openness and closure in the Late Upper Palaeolithic of the Balkans – based on Eriksen’s model (Eriksen 2005).

Cultural and social integration in the Early Mesolithic

At the beginning of Holocene, profound changes occurred in the way of life and in the material culture of the hunter-gatherer communities, but they happened gradually. There are, unfortunately, scarce data about sites from this period. They were investigated in considerable numbers only in Greece (*Galanidou and Perlès 2003*), Montenegro (*Mihailović 1998; 1999b*), Serbia (sites at the Iron Gates, *Radovanović 1996*) and more recently in Croatia (*Miracle et al. 2000; Miracle 2001*), while only one site has been discovered in Slovenia (*Gaspari 2006*) and Bulgaria, respectively (*Gatsov 1982*). Differences in material culture between the final Palaeolithic and Early Mesolithic horizons on many sites could not be clearly perceived. Such is the case, for instance, with Crvena Stijena and Trebački Krš in Montenegro (*Mihailović 1999b; Đuričić 1996*), Badanj (upper layers) in Herzegovina (*Miracle 1995; Whallon 1999*), Cui-na Turcului I-II in the Iron Gates (*Păunescu 1978*) and Dikili Tash in the western Black Sea region (*Gatsov 1982*). Only in a somewhat later period does the character of finds change substantially and settlements in the open appear for the first time in the Iron Gates and in Slovenia.

The settlements in the open were probably widely distributed, but the systematic site surveying of the littoral regions have not been conducted in the Balkans even in regions where these sites could be easily identified (*e.g.* in caves and open localities in the high mountainous region). The Mesolithic sites have not been registered in the lowlands, or on river banks (except in the Iron Gates) where they could be expected. The lowest river terraces are flooded nowadays under alluvial deposits, uncultivated, or covered by vegetation, so the layers with Mesolithic finds are inaccessible. In such a situation the absence of evidence certainly does not mean evidence of absence.

The character of settlement of the earliest Mesolithic habitations in the open has not been sufficiently studied. In the earliest phase of settlement (at the end of the 9th millennium calBC) the Padina site in the Iron Gates was by all appearances a base camp where the habitation remains, working floors and even burials in addition to a huge quantity of artefacts and animal bones were documented (*Jovanović 1974; Radovanović 1981; Borić and Miracle 2004*). The remains of very early settlements have been documented also at Lepenski Vir and Vlasac,

Ostrovul Banului (I-II) and Terasa Veterani (*Radovanović 1996; 2006; Boroneanț 1999; Borić 2002; Bonsall et al. 2004*) On the whole, the evidence from the settlement in the open, together with the data acquired by investigation of the caves indicates the prolonged stay of people in the habitations and settlements, reduced mobility and prominent territoriality. However, the proof of sedentarization has increased in quantity in the course of time. In the second half of the 8th and in the first half of the 7th millennium in the Iron Gates there appeared linearly organized settlements where the remains of habitations, many artefacts and burials have been found. Nevertheless, the stratigraphic confusions arising because these are investigations of an earlier date make impossible a precise understanding of the seasonality and duration of settlement at these sites.

Regarding the economy, the system of resource procurement in the Balkan Peninsula at the beginning of the Holocene is highly eclectic. Most of the sites showed the hunting of medium forest fauna (deer, wild boar, roe deer, beaver, hare), to be confirmed to a greater or lesser extent. Mollusc gathering was confirmed at sites in the coastal region and in the immediate hinterland, while fishing was documented in the Iron Gates (*Radovanović 1996*) and in Greece (*Pickard and Bonsall 2004*). Only in the south of the Balkans was a somewhat greater role for vegetable resources in the diet registered. It is confirmed by grains of wild cereals from Theopetra (*Kyparissi-Apostolika 2003; Vlachos 2003*) and the macro-botanic remains from Franchti (*Perlès 1999*). However, in the Balkans as in some other regions it is also impossible to confirm with certainty the proportional presence of alternative and r-selected resources in the diet (*Bonsall et al. 1997; 2004; Cook et al. 2002*). Sedentarization in the Iron Gates Mesolithic was almost certainly connected with fishing, as is suggested by the remains of fish bones and the results of isotopic analyses (*Bonsall et al. 1997; Radovanović 2006*). It is still an open question whether fishing was the main economic activity or as *Radovanović* suggested (1996:37) it just “played the role of vital resource” for the survival of the community, and as such was the main integrative factor among the Mesolithic groups in the Iron Gates.

Social, cultural and economic changes in the early Holocene are very clearly indicated also by changes in the Mesolithic industries of chipped stone artefacts. The fact is that a decline on all three technological levels: a – in the selection of raw materials, b – in the chipping technology, and c – in the reper-

toire and style of tool production could be encountered in the Balkans at the beginning of Holocene (Mihailović 2001). At sites in all three well investigated regions, in Montenegro, Greece and in the Iron Gates, low-quality raw materials of local origin prevail, and the Iron Gates Mesolithic industries in the Lower Gorge acquired an almost entirely quartz character (Radovanović 1996; Boroneanţ 1999). The blade technology was in decline, while among the tools denticulated and retouched flakes and other tools for temporary use predominate. This expedient technology is not such a rare phenomenon in the European Mesolithic and it is usually connected with a decline in mobility. The reasons for its occurrence should be looked for as much in functions (that is, in the new activities, which required different tools) as in the disintegration of the cultural system from the preceding period.

Despite the fact that technological decline occurred in most early Holocene industries in the Balkans and even at the site at Zalog near Verd in Slovenia, where finds greatly resembling those from the Iron Gates have been made (Kavur 2006), there are many elements indicating the diachronic changes and cultural (and perhaps also ecological) differentiation of the chipped stone industries in this period. At present they are identifiable only in general outlines.

In the early phase in the Balkans, which is very difficult to distinguish chronologically and culturally from the Final Palaeolithic, there were industries with an Epigravettian component still prominent, but the repertoire of the Epigravettian types of tool is restricted to backed bladelets and scarce microliths. It seems that the Romanellian elements (in particular, circular microlithic endscrapers) appeared in larger quantity at sites in coastal regions such as in Montenegro (Crvena Stijena) and also on the Black Sea coast (Mihailović 1999b; Gatsov 1982). This phase, besides the mentioned sites, is also represented by the finds from Cuina Turcului II (Păunescu 1978). In the next phase from which most of the sites could date (and which probably date from the end of 9th and from the 8th millennium calBC) the expedient technology was at its peak (sites in the Iron Gates, Padina in particular; Franchthi – lithic phase VII, Theopetra) (Mihailović 2001). In the last phase, at the end of 8th and the beginning of the 7th millennium calBC bladelet technology reappeared (Vlasac, Franchthi, Kozłowski and Kozłowski 1982; Perlès 1990) and in some regions (e.g. at Crvena Stijena in Montenegro) tools appeared which could be described as prototypes or imitations of the imple-

ments produced by using bladelet technology, which would be the main characteristic of the local Castelnuovian in the Late Mesolithic (Kozłowski et al. 1994; Mihailović 1999a; 1999b). At this moment there are no elements which indicate a strict chronological distinction between these phases (for instance, the quartz industries in the Iron Gates survived until the middle of the 7th millennium calBC). These are, therefore, general tendencies, which, however, should not be ignored.

It is difficult to establish at this moment to what extent the changes in the chipping technology and in the style of tool production ensued because of foreign influences and to what extent they are the reflection of the economic and technological needs of the local communities. That the needs of the population could have had the decisive role is indicated, for instance, by the fact that at least in two regions (in Montenegro and the Iron Gates) the decrease in quantity of microliths and backed tools could be related to the occurrence of bone projectiles.

When the cultural influences and contacts with neighbouring areas are concerned, it should be emphasized first of all that the Iron Gates Early Holocene industries were related at one time to influences from the Black Sea region (Cuina Turcului-Belolesye-Shan Koba complex, Radovanović 1981; Kozłowski 1989). In recent times, however, it has been held that the decrease in quantity of high quality raw materials confirms that the Balkans was isolated in this period (Kozłowski 2005:536). Although technological decline basically confirms the successful technological adaptation to the newly created circumstances in the natural environment, it seems that there are grounds for the claim that just in this period contacts with the neighbouring communities deteriorated. This is not surprising as the process of social integration (which had started in the Final Palaeolithic) reached its peak during the Mesolithic. Within that context it could be concluded that just the social closing, in the last resort, actually resulted in distinct cultural isolation.

All this, however, is valid only until the beginning and the middle of the 7th millennium calBC, when the new phase in the evolution of the Mesolithic in the Balkans had started. In that period cultural conditions stabilized and communities with recognizable cultural identities were established. Semi-permanent settlements with dwelling structures did occur; there is evidence for intensive hunting and fishing, and even for dog domestication (in the Iron Gates – Bö-

könyi 1978). Many proofs of horizontal and vertical social stratification, the establishing of regional groups and the first conflicts were encountered at the sites in the Iron Gates (*Boroneanţ 1973; Rok-sandić et al. 2006*). There is a great possibility that a complex system of beliefs, evident in the funerary ritual among other things, was already established in that period (*Radovanović 1996; 1997*). All this could be characterized as a consequence of the internal dynamics of evolution of the Iron Gates population, but for the fact that the first elements, which indicate connections with Anatolia and the Near East, occurred in the Balkans at just about that time (end of 8th and beginning of 7th millennium calBC). To what extent they could have contributed to the cultural changes documented in the final Mesolithic in the Balkans we discuss below.

Cultural opening and social tensions in the Late Mesolithic

Although Late Mesolithic sites have been encountered only in Slovenia, Montenegro, Serbia and Greece, there is a great possibility as we said before that the level of investigation does not accurately reflect the population density in the Balkans in this period. The registered sites include cave sites in the coastal region and in its immediate hinterland, but also settlements in the open that are confirmed, in addition to the Iron Gates, also in Greece (*Merkyte 2003*). The stratigraphic continuity of the Early and Late Mesolithic has been reliably confirmed in Serbia, Montenegro and Greece (Franchthi), but it should be emphasized that the borderline between Early and Late Mesolithic in the Iron Gates could not be established in a conventional manner. This borderline is marked in addition to the presence of the characteristic microliths and bladelet tools by the general changes in culture that happened around 6300 calBC (and perhaps slightly earlier) in the Mesolithic of this area. Distinguishing the Late Mesolithic is additionally complicated by the fact that the first Neolithic elements did occur in the Iron Gates at approximately the same time (*Radovanović 2006*).

The changes in the settlement system in the Late Mesolithic are insignificant. The cave habitations still bear witness to the intensive settlement of mountainous zones and littoral regions, while evidence of settlement in river valleys is still lacking. The sites in Greece confirm in the best way the settlement of coastal regions. Regarding cave habitations, the impression remains that most of the investigated settlements were actually ephemeral camps which do

not offer sufficient insight in the settlement system of this period.

The faunal remains also indicate close a relationship between settlements and the distribution of resources. The remains of deer, wild boar and roe deer still prevail at sites in the mountainous zone, and the changes are visible in the expansion of the range of resources and the increased intensity of fishing and the gathering of molluscs. Of particular importance is the fact that fishing for big fish (bluefin tuna in Franchthi, Cyclope Cave and Vela Špilja, and beluga in the Iron Gates) was practiced in the previous and this period not because of the actual share they had in the diet, but because this type of fishing must have assumed a high degree of labour organization, which included the wider community (*Radovanović 1996. 55–56; Pickard and Bonsall 2004*).

This combined strategy in obtaining resources has been confirmed in all areas. The most exhaustive evidence in Montenegro comes from Crvena Stijena and Odmut. In layer IV at Crvena Stijena three horizons with many hearths, snail shells and animal bones, bone projectiles and antler tools were found (*Benac 1975; Mihailović 1998*). It is surprising to a certain extent that the remains of ibex are prevalent at Odmut (*Bökönyi 1973*), but it merely bears witness to the fact that hunting for caprines in the high mountainous zone was practiced in this area, as well as in the Mesolithic of northeastern Italy. Remains of fish and birds (*ibid.*), as well as a rather large number of harpoons of a distinct type were found at the same site (*Srejšević 1974a*). In the Iron Gates, at Padina and Lepenski Vir, except hunting for forest game, fishing was also practiced and bird hunting was also registered (*Radovanović 1996*). Bone projectiles and antler tools were also encountered in this region and at some sites in rather large quantities. In addition to fishing, hunting and gathering, Greece turned up very little evidence of vegetable resources (*Perlès 1999.316; Trantalidou 2001.417–418*), while in Croatia and Slovenia in the earlier period the gathering of molluscs already had a very important, even social function – as indicated by the remains of a ‘feast’ in Pupičina Pećina (*Miracle 2001*).

Nevertheless, the most conspicuous changes in the Late Mesolithic are in technology. At sites in the coastal region and also in the Aegean not only microliths, but also bladelet technology based on the flaking of cores of high quality raw materials appeared together with artefacts characteristic of the previous period (*Perlès 1990; 1999; Mihailović 1998; 1999b*).

A similar process took place in the Iron Gates (*Radovanović 1996*). Although the flint from the Pre-Balkan platform, wide blades and trapezes, occur already at Vlasac (*Kozłowski and Kozłowski 1982*), it is obvious that the emergence of ground stone tools and pottery at Padina B and Lepenski Vir could be related to the emergence of the Neolithic in neighbouring areas (*Jovanović 1987; Garašanin and Radovanović 2001; Antonović 2006*).

But there are many reasons the cultural position of these sites could not be precisely defined. First, it is obvious that the Late Mesolithic developed in continuity with the previous period. The elements of continuity and distinction of the Iron Gates Mesolithic are visible in the settlement system and in the organization of settlements and habitations, in the manner of obtaining the resources, and in mortuary practices, art and the belief system. Regardless of the high proportion of terrestrial resources (which is related to the introduction of stock-breeding and agriculture – *Bonsall et al. 1997; Radovanović 2006*) more recent analyses of fauna have revealed that there is no evidence that domesticated animals were used for food before the beginning of the 6th millennium, *i.e.* when completely established Neolithic cultures appeared in this area (*Radovanović 2006*).

How, then, could the cultural and social changes in the Late Mesolithic in the Balkans be explained? The establishment of Late Mesolithic cultures probably took place during the 7th millennium calBC. In this period Lepenski Vir culture reached its climax, Castelnovian spread along the Adriatic coast, and the bladelet industries of the Upper and Late/Final Mesolithic appeared (even earlier) in Greece. Regarding the local Castelnovian, which is characterized by the absence of the technique of microburins, it is evident that it developed and spread gradually. It could be best perceived in Montenegro. The initial phase was registered at Crvena Stijena IVb2, where only stylistic and typological changes were encountered; the second phase (Crvena Stijena IVb1) is characterized by microbladelet technology and a broad repertoire of microlithic tools on the bladelets (truncations, notched and denticulated tools, trapezes); while the third phase (Crvena Stijena IVa) is characterized by a restriction of the repertoire of tools on bladelets and the appearance of wide blades (*Mihailović 1998; 1999b*). The quantity of the Castelnovian elements and microbladelet technology at the Late Mesolithic sites in this area decreases from the coastal area (Crvena Stijena, Vruća Pećina, *Mihailović 1999b; Đuričić 1997*) towards the hinterland (Od-

mut, Medena Stijena, *Kozłowski et al. 1994; Mihailović 1996*).

The social complexity of hunter-gatherer communities has been studied in the Late Mesolithic mostly in the Iron Gates. In the Lepenski Vir culture it was confirmed in the first place by architectural remains, stone sculpture and the funerary ritual (*Srejović 1969; Srejović and Babović 1983; Chapman 1993; Radovanović and Voytek 1997; Borić 1999*). However, we would like here to draw attention to phenomena which could be followed in the wider geographic area. Namely, it is obvious that in the Late Mesolithic there was a cultural and social opening, *i.e.* the connecting of hunter-gatherer communities at a wider regional level. Rather surprisingly, it happened in a period when there is evidence for the establishment of cultural identity and at approximately the same time that in some regions (*e.g.* in the Iron Gates) the degree of social integration reached its peak. The cultural opening is indicated by intercultural trends in flaking technology, the repertoire and style of tool production and by the fact that the distinct Late Mesolithic cultures appeared in this very period. Social openness is also indicated by evidence that the exchange of raw materials, artefacts and goods was more frequent in the Later Mesolithic than before. On the other hand, the internal integration of the Iron Gates communities is best reflected in the phenomena documented at Lepenski Vir itself.

The integration of the Iron Gates Mesolithic communities could have been influenced by various internal and external factors. It is apparent, among other things, in the distinct hierarchization, which is evident in different domains: in the parallel use of two technological concepts (blade/bladelet and expedient technology), in the synchronized practice of a highly specialized and broad spectrum economy, in the regional settlement system and in the organization of settlements, as well as in the funerary ritual. Basically, it is characterized by a tendency to distinguish specialized activities, prestigious objects and goods and structures of special importance and purpose, as well as groups and individuals having special status. This phenomenon had already been evident in the Near East since the Pre-Pottery Neolithic and in the Balkans since the establishment of complex hunter-gatherer communities in the Iron Gates. All this suggests a certain level of social complexity and alteration of values, either cardinal ones (aesthetic, sacred, ethical, economic, spiritual, social), but also those which individuals and groups have chosen between the traditional and the modern, humanism and ma-

terialism, loyalty and pragmatism (Zetterberg 1997). Many of the changes which took place in this period could be explained as a result of the internal transformation of Mesolithic society. Nevertheless, simply the fact that the opposing tendencies occurred in this period, the tendency to create social identity and the tendency to open up to the outside world, indicate the existence of social conflict in the closing phases of the Mesolithic. The external factor which had the decisive impact on the intensification of this conflict must have been connected to the process of Neolithization.

Cultural and social interactions in the Mesolithic-Neolithic transition

The more recent dates obtained for Neolithic sites reveal unambiguously that the ceramic Neolithic in western Turkey and southeast Europe spread very rapidly, between 6500 and 6200 calBC. Within this

short interval the tendency of the Neolithic to progress from the southeast towards the northwest that was often recognized as evidence of continuous colonization is hardly discernible, and it could actually be followed only if the entire process is considered over a very large area and chronological framework, and if the emergence of the Pre-Ceramic Neolithic in Greece is also ascribed to it. It is obvious, however, that other factors influenced the expansion of the Pre-Ceramic Neolithic.

The chronology of the emergence of the ceramic Neolithic is well known. The Neolithic settlements in western Turkey are dated to the period from 6500 to 6300 calBC (Özdoğan 1999; Reingruber and Thissen 2005) and similar and even earlier dates have been obtained for the sites in Greece (Reingruber and Thissen 2005). The Neolithic occurred in Bulgaria around 6300 calBC (Todorova and Vaisov 1993) and slightly later dates were recently obtained for

Degree of cultural openness	very high		
	high	<p>Late Mesolithic – late phase (after 6300 calBC)</p> <ul style="list-style-type: none"> ● substitution phase (Lepenski Vir, Padina): Neolithic elements in technology + Mesolithic economy, beliefs and funeral practice ● availability phase (Vlasac): flint from Pre-Balkan plateau; blade technology (Kozłowski and Kozłowski 1982), Spondylus beads (Borić 2006) ● cultural and social openness is enforced by the influence of external factors 	<p>Early Neolithic</p> <ul style="list-style-type: none"> ● sedentism, farming economy ● cultural and social integration and differentiation ● population mobility inside large territory <p style="text-align: center;">←</p>
	low	<p>Late Mesolithic – early phase (7000–6300 calBC)</p> <ul style="list-style-type: none"> ● settlement of littoral and mountain regions ● cultural stabilization and differentiation ● technological, economical and social hierarchization ● possible connections with distant regions: Cyclope beads at Vlasac (Borić 2006); Near Eastern elements in the Iron Gates Mesolithic 	
	very low	<p>Early Mesolithic</p> <ul style="list-style-type: none"> ● restricted mobility and territoriality ● cultural disintegration and isolation ● social integration ● short-range exchange networks 	
		very low low	high and very high
		Degree of social openness	

Tab. 2. Cultural and social openness and closure in the Iron Gates Mesolithic – based on Eriksen’s model (Eriksen 2005).

the sites in the central Balkans (*Whittle et al. 2002*). It is, therefore, absolutely clear that the more recent dates do not speak in favour of assumptions about the continuous emergence of the Neolithic and that they could not be explained either as a consequence of long-lasting processes (such as increase in population or the search for fertile soil) or general theories of acculturation.

Such a tempo of expansion was probably the consequence of some distinct event, and there are different opinions concerning this issue, but we shall discuss here only the assumptions about the spread of the Neolithic in the southeast Europe. There are, as it were, just two possibilities, which could explain the speed of its expansion: either there ensued a mass population movement through scarcely inhabited areas, or the Mesolithic communities in the Balkans were already prepared to a great extent to accept the Neolithic way of life and Neolithic values.

Taking into account the evident discontinuity in the material culture, economy, settlements, burial practices, art and system of beliefs and almost complete absence of chronological overlapping of the Mesolithic and Neolithic, it seems at first glance that the former possibility is more plausible. After all, all essentially diffusionistic theories of earlier or later date are based on the assumption of discontinuity. Here we would like to draw attention to just a few facts, some of which we have already mentioned.

❶ Despite the small number of investigated sites and on the basis of the distribution of sites in Montenegro and in the Iron Gates it could be assumed that the Mesolithic in the Balkans was widely distributed in the littoral and mountainous areas.

❷ The elements of continuity are barely visible in the proto-Starčevo and Starčevo culture (microlithic and quartz components in the chipped stone industry), but they are, on the other hand, very conspicuous in the Neolithic of the south Adriatic and its immediate hinterland. For example, the changes in the settlement system, economy and material culture in the Early Neolithic in Montenegro are almost insignificant in comparison with the Mesolithic (*Mihailović 1998; 1999b*).

❸ The illusion of discontinuity in the central and eastern Balkans could be the consequence of the fact that conclusions were drawn in the past on the basis of comparison between the Neolithic agricultural settlements in the open and Mesolithic settlements

in caves and rock-shelters. On all sites where there is a stratification of the Mesolithic and Neolithic horizons (and where the character of settling was similar) in the Iron Gates, as well as in Montenegro, the elements of continuity are much more conspicuous.

Nevertheless, even if we start from the assumption that the Mesolithic population was widely distributed, there is still the question of acculturation. We will examine this question from the aspect of social connections between the Balkans, Anatolia and the Near East, and from the aspect of cultural and social interactions of the Mesolithic and Neolithic communities at the very moment of transition from the Mesolithic to the Neolithic.

The Near Eastern elements were first studied within the context of the phenomena registered in the Iron Gates Mesolithic. The parallels with Natufian and Pre-Ceramic Neolithic in the Near East were established already at that time, first of all in the field of mortuary practice (*Srejović 1974b; Garašanin 1997*). But because of the chronological interval and geographical distance, the similarities were explained from the beginning as a result of convergent tendencies in cultural evolution. In recent times, the evidence has increased in quantity and new theories have appeared that opened up the field to different interpretations.

On a general level, the parallels between the Iron Gates Mesolithic and the Epipalaeolithic and the Pre-Pottery Neolithic of Anatolia and the Near East could be encountered in the funerary ritual, *i.e.* the burial of skulls and burial under house floors, in settlement organization (the existence of a central structure), in rectilinear architecture based on the precise measuring of ground plans, in the making of mortar floors and the use of pyrotechnology, and even in art, if we take into account the position, technique and style of manufacture of the sculptures at Lepenski Vir, as well as the syncretism in depicting human and animal figures (see parallels with Nevali Cori and other sites – *Hauptmann 1999*). The question could be raised as to whether all this is an accident, even more so as similar phenomena have not been recorded (at least not in that form and scope) in Mesolithic cultures in other parts of Europe.

When the chronology of these phenomena is concerned, it should be said that partial interment and the emergence of rectilinear architecture had already appeared in the early phases at Vlasac, while most of the other manifestations appeared in later period

(at Lepenski Vir itself). Within that context it could not be ruled out that at the end of 8th and the beginning of the 7th millennium there could have been a limited intrusion of populations or influences from the Near East, most probably from the Lower Danube basin and the Black Sea region. Despite the fact that there is no reliable proof of this (the partial interment of skulls is registered in the Mesolithic in Ukraine – *Radovanović 1996:306*), it should be taken into account that the importance of the Danube direction was confirmed also in earlier periods: in the emergence of the Upper Palaeolithic, in establishing the cultural complex Cuina Turcului-Belolesye-Shan Koba (*Kozłowski 1989; Radovanović 1996*) and even in the Neolithic, considering that the earliest Neolithic settlements in Bulgaria were confirmed only in the Danube basin (*Todorova and Vaisov 1993*). On the other hand, the occurrence of elements of Pre-Pottery Neolithic at Lepenski Vir, if we put aside the possibility of the convergent tendencies, does not bear witness to anything else but the continuity of cultural evolution in the Upper Gorge in the Iron Gates from the establishment of the Mesolithic settlement at Vlasac to the advanced phase of Lepenski Vir culture. It is not very probable that Mesolithic communities from Lepenski Vir took over these elements from the Neolithic surroundings, as they are mostly absent there and they never occur together like a package deal.

The delay and incompatibility of the phenomena encountered in the Mesolithic in the Balkans (first of all in the Iron Gates), in comparison with similar manifestations in Anatolia and in the Near East, are logical if we take into account the distance between these two regions. Also, some other facts must be taken into consideration: a – still insufficiently investigated Mesolithic and Neolithic sites in the areas between these two regions, b – local environmental conditions, and c – some social factors. In the last case it concerns the fact that investigations of the early phase of the Pre-Pottery Neolithic in Cyprus (*Simmons 1998; Cauvin 2000; Guialine et al. 2000*) convincingly confirm that colonizing communities made every effort to develop an authentic culture and to adapt to the new environment, abandoning not only traditional resources, but also the ‘advanced’ technologies (laminar technology, specific projectiles and stockbreeding). Except for practical reasons, the fact that the connection between the Cyprus communities and their home territory became less and less strong as time passed certainly contributed to this situation.

In all this, it should be borne in mind that the culture of the Pre-Pottery Neolithic should not be perceived within a concept of cultural groups (which makes the comprehension of cultural phenomena rather more difficult than easy – even when the Neolithic is concerned), but as a cultural *koine*, which is evident in the fact that communities which inhabited large geographical areas shared the same culture and values, and where communication evidently existed, meaning the exchange of ideas, objects and goods. At its climax, the Near Eastern *koine* spread over very large areas. In this period areas very far from the home territories were settled in the process of so-called leap frog colonization (*Cauvin 2000*), but whether this also happened when the Iron Gates is concerned could not be established with certainty. It is almost certain, however, that the presence of Near Eastern manifestations in the Balkans (and consequently in the Iron Gates Mesolithic) could be best explained by Srejović’s assumption that the Balkans and the entire Black Sea and Caspian region belonged to ‘the extended branch of the fertile crescent’ (*Srejović 1974b; 2001*), perhaps not so much in ecological and economic, but in the spiritual sphere.

The possibility that the emergence of the Neolithic in the Balkans was largely preceded by influences from Anatolia and the Near East change to a certain extent the perspective of understanding the Neolithization process in this area. If this proves to be correct, it would mean that the Mesolithic communities were acquainted with the Neolithic innovations, that some of them even tried to apply them, but that they could not or did not feel the need to adopt them, either because of the restrictions of the environment, or because of social factors. It is obvious, however, that it was not enough to know about the innovations, nor even to have the ‘know-how’, but their acceptance had to suppose the complete reorientation of the social and economic system. The Mesolithic communities were not guided so much by pragmatic needs, as it seems they tried to maintain the social networks and system of values within the restricted regional level. The conditions for economic transformation were fulfilled only then when changes in social values took place, so it is small wonder that the emergence of the first Neolithic elements was related to the exchange of raw materials, the imitation of tools and use of the objects which had not just economic, but also status value, indicating openness and a tendency to modernity.

Concluding remarks: the transition to farming

On the basis of everything said above we are more inclined to consider the process of Neolithization from the aspect of acculturation than from the aspect of colonization, regardless of the fact that authors of the model support the opinion that an availability model (*Zvelebil 1986*) could not be applied to the Balkans. One of the problems related to this model lies in the fact that the phase of availability is inadequately documented and that it is still assumed that the presence of Neolithic elements (pottery, bones of domestic animals) at Mesolithic sites could be the consequence of stratigraphic disturbances. That is, for instance, the case with a small amount of bones and pottery found in layer IV at Crvena Stijena (*Malez 1975; Mihailović 1998*) and the pottery finds on the sites in the Iron Gates (*Garašanin and Radovanović 2001*). But, it must be emphasized that the substitution phase (which is paradoxical to a certain extent, considering the duration) was reliably documented in the Balkans. It concerns the fact that to the availability phase in the Iron Gates could be ascribed only the finds from Vlasac: flint from the Pre-Balkan platform, laminar technology (*Kozłowski and Kozłowski 1982*) and recently found beads of *Spondylus* shells (*Borić 2006*). On the other hand, a large quantity of pottery and typical Neolithic chipped stone tools has been documented in the Mesolithic context (trapezoidal dwellings) at Padina B (*Jovanović 1987; Mihailović 2004b*).

We agree with authors who recognize the Neolithic elements on the Mesolithic sites in the Iron Gates as an influence from the Neolithic surroundings (*Radovanović 2006*). Also we are not inclined to date Padina and Lepenski Vir in the Neolithic (*Jovanović 1987; Borić 2002*). It means that the Neolithic horizons at the sites in the Iron Gates, despite the stratigraphic doubts, are clearly distinguished from the Mesolithic horizons on the basis of the cultural contents. There have been encountered not only the bones of domestic animals, but also many other elements characteristic of the Neolithic in the central Balkans. The Iron Gates sites, after being included in the Neolithic settlement network, lost their importance, and Lepenski Vir lost entirely its sacred character. But even then, in the Neolithic, the Mesolithic

elements were present, but in the very small measure (*Mihailović 2004b*).

However, not only social values and striving for integration in social networks impeded the transition of the Mesolithic communities to the farming economy. There were some practical reasons. The Mesolithic groups were not able to employ this activity, first of all because of the environment and seasonal settlements directed towards the exploitation of water resources. There are only a few settlements on the banks that provided conditions for both activities (like Starčevo and Vinča in the later period). Therefore, it should not be ruled out that at some moment satellite agricultural settlements were established and that they took the main role in the course of time, and all that could have resulted in the marginalization of the settlements where fishing was the main activity. The fact that some of the earliest Neolithic settlements in Bulgaria were encountered on river banks could speak in favour of this assumption.

We wish to mention still another phenomenon worth examining. The rapid expansion of the Neolithic, as well as the genetic and anthropological evidence for the appearance of the foreign population and its mixing with local people (*Roksandić 2000; Zoffmann 2000; Richards 2003; Jackes et al. 2000*) could perhaps be best explained by the fact that precisely the integration of local communities (now in the Neolithic *koine*) could have considerably facilitated the flow of people, objects and goods and thus resulted in the rapid unification of culture in the entire territory of the central Balkans. The pockets of Mesolithic population, like those in the Iron Gates could have survived for a couple of hundred years, during most of the period of Early and Middle Neolithic (*Radovanović 2006*). Finally, we would like to say, risking a generalization that a similar rhythm of cultural and social transformation marked the next period. The way these transformations happened and the questions arising from their study lead to the conclusion that the reasons which encouraged them were similar. The more recent investigations of these phenomena clearly indicate that in these transformations (and probably in the transition from the Mesolithic to the Neolithic) the colonizing component played only a secondary role.

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