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## SLOVAKIA IN THE EARLY AND MIDDLE BRONZE AGES

(1700 — 1200 B.C.)

The territory of Slovakia geographically belongs to the Carpathian Basin and this fact determines its development in the Early and Middle Bronze Ages. The important contemporary trans-continental roads, and chiefly the important passes in the Carpathians, secured a specific position for our territory in the course of this development. This fact determines also the ethnic, cultural and economic situation in our territory in the individual periods. In order to understand properly the pre-historic development of Slovakia we must consider the situation on the Middle Danube comprising the section of the river between the Bratislava Gate (the gap between the Alps and Carpathians) and the Iron Gates in the Southern Carpathians, paying special attention also to the special development of Transdanubia and of the Tisza Basin. Therefore on studying the Bronze Age history of Slovakia we must pay extraordinary attention to the territory of west Slovakia, to east Slovakia and to the southern fringes of central Slovakia undergoing specific development. Students of the above problems are well informed about the difficulties connected with the basic question of chronologization and periodization of the Bronze Age in the Carpathian Basin in particular, and in Central Europe in general. Since the nineteen-thirties some researchers, namely the Hungarians, repudiate Reinecke's traditional chronology, applying instead their own chronology based on the stratigraphy of the classical tell localities such as the stratified site in Tószeg. The untenability of this chronology was pointed out by M. Mozsólics (1943—1952), and chiefly by V. Miložič at the Zurich Archaeological Congress (1953). The control research carried out in Tószeg confirmed the correctness of Miložič's objections, but at the same

time strong objections were voiced as regards the chronology and periodization from the historical viewpoint, i.e. the problem of the rise of the tell settlements, fortified habitation sites, their decay and the so-called "great migration" (Bóna, 1961). I. Bóna and his school have worked out a new chronology and periodization (Bóna 1961, Kalicz 1968), based on these momentous archaeological facts. The new chronology is separated from the central European chronology and is tied to the Mediterranean-Balkanian one. In the sense of this chronology they (J. Bóna and his school) have divided Reinecke's BA — BB 1, i.e. the Early Bronze Age and the Incipient Middle Bronze Age into Early and Middle Bronze Ages, placing the absolute dating of the Early Bronze Age roughly between 2000—1700 B.C. But it has appeared that this chronology and consequently also the dating was mistaken, and I. Bóna in his newest synthetic work "Die mittlere Bronzezeit in Ungarn" radically shifted the end of the Middle Bronze Age back by almost 150 years, i.e. approximately to 1500—1450 B.C. In the meantime B. Hänsel (1969), pupil of V. Miložič, put forward his own conception of the classification of the Bronze Age in the Carpathian Basin, respecting more or less the achievements of the Slovak research, especially as regards the introduction of stage BA3 (as MDB5), respecting the end of the Great Historic Epoch, i.e. the disintegration and destruction of the fortified artisan settlements as the first archaeological disintegration of the tribal society and the origin of the differentiated society. Since we cannot use two different chronologies and periodizations in the territory of the C.S.S.R. the Slovak archaeology will continue using the central European chronology of the Early

and Middle Bronze Ages under the proviso that we shall insist on the respecting of the historic processes of basic importance taking place during the given period (Točík — Vladár 1971).

Before starting the assessment of the Bronze Age in Slovakia, I shall briefly touch upon the previous development towards the close of the Eneolithic Period.

This period is characterized by great contrasts between the development in west Slovakia on one hand, and east Slovakia on the other.

In the Late Eneolithic Period west Slovakia is relatively densely settled by the people of the Kosihy-Čaka group (Vladár 1966), identical with the Makó cultural group occupying Transdanubia and partially also the Tisza Basin. The relation of this group to the Bell Beaker culture, whose bearers penetrated through Transdanubia up to the Csepel Island near Budapest and in south-west Slovakia sporadically up to Sládkovičovo and Čataj, has neither been sufficiently studied nor solved (Vladár 1969). We are very interested in studying profoundly this relation as the bearers of the Makó-Kosihy-Čaka culture cremated their dead without exception and their culture shows southern affiliations — while the culture of Bell Beakers came from the west, eventually south-west and used prevalently inhumation burials.

The Early Bronze Age in south-western Slovakia began with the arrival of a new population called the Veselé-Chlopice group (Točík 1963, Budinský — Krička 1965), representing both culturally and ethnically a completely new component of key importance, whose historic significance has not been duly assessed. The importance of studying this group is underlined by the appearance of prospecting, a new significant economic-social factor, connected with the extraction of copper and copper industry. The copper industry appearing in Slovakia at the beginning of the Early Bronze Age played a dominating role in all-European context (Junglaus, S., Sangmeister, E., Schrödter, M., Spindler, R., 1971). The Veselé-Chlopice group was unjustly regarded as a pastoral-hunting society up to recently, in spite of the fact that in the territory whence they came to this country, i.e. the territory to the north and east of the Carpathians, this group had pastoral-farming character. In view of the further development we must emphasize that their material culture characterized by corded pottery has nothing to do with the central-European Corded cultures. The people of this culture bury their dead exclusively in contracted position with a view to the south and with the orientation varying according to the sex. The E-W (East-West) orientation was observed also in the following development stage, i.e. in the Nitra culture replacing the Kosihy-Čaka culture in south-west Slovakia between the Váh and Žitava Rivers. It is not yet clear whether there wasn't a similar infiltration to south-west Slovakia before the arrival of the new eastern component (i.e. of the Nitra culture) as on the right bank of the Danube, where

the Bell Beaker people spread over the Makó group (i.e. over the Kosihy-Čaka culture) and amalgamated with it. We do not know whether the arrival of the new eastern component, i.e. of the Nitra group, was not preceded by an infiltration similar to that on the right bank of the Danube. Fact is that the burials of the Veselé-Chlopice group so far cover the territory to the east of the Morava River up to the River Váh, including the surroundings of Bratislava, Trnava and Piešťany. So far we have not found a single burial of the Veselé-Chlopice group east of the River Váh. According to the present state of research the Nitra culture, with the exception of some isolated graves at the Nitra burial site (Točík 1963) and in Branč (Vladár 1974), containing pottery similar to, but not identical with the shapes of the Veselé-Chlopice group, appears as a ready culture with a uniform and very rigid burial rite containing numerous typically oriental features, such as stretched position, the so-called "frog position", vampirism, etc. These facts raise the question — was it a further wave from north-east or did this culture arise north of the middle Danube between the Morava and Nitra Rivers? In this culture are mixed the elements of the Merzanowice culture extended over south Poland with the central European element of the Bell Beaker culture, and eventually also with the Kosihy-Čaka group (J. Machník 1977). The new finds from the vicinity of Bratislava, from the Žitný ostrov (the great Danube Island in south Slovakia) and from Branč, i.e. from the surroundings of Nitra reveal also close contacts with the arising Wieselburg culture, whose core area was in northern Burgenland, i.e. in the area of the Neusiedler Lake in east Austria (Vladár 1969). The Nitra culture of the beginning of the Bronze Age, i.e. at Ba1, forms part of a large cultural area stretching over the territory east of the Morava River, along the bend of the Carpathians, to the River Bug north of the Carpathians and River Bodrog, south of them (J. Machník 1977).

The dimensions of the Nitra culture burial sites Výchapy-Opatovce, Branč, Holešov indicate that they belonged to an intense settlement of long duration. They correspond to a permanent settlement of farming and pasturing character. It should also be mentioned that in spite of the large number of burial grounds in the territory of Moravia and Slovakia not a single settlement belonging to this culture is known. The Nitra culture reached approximately to Nové Zámky in the south and it did not cross the Žitava River in the east. One of the further tasks of the Slovak archaeology is to find out who settled the left bank of the Danube, i.e. the basins of the lower Váh, Hron and Ipel Rivers contemporarily with the existence of the Nitra culture. It can be presumed on the basis of the analysis of the horizons of the tell settlement in Malé Kosihy, district Nové Zámky, that after the disappearance of the settlement by the Kosihy-Čaka group the Ipel Basin and the area around the lower Hron are settled by people of the Hatvan culture, with two development phases corresponding to the Nitra culture. In the neighbouring Hungary this hiatus is

filled by the Kisapostag I Transdanubian culture and by the Nagurév culture, and by the incipient Hatvan culture in the Tisza region. It cannot be ruled out that these cultures overlapped also to south Slovakia and to the southern fringes of central Slovakia — on the Danube we should look for the Kisapostag culture and in the Hron and Ipel valleys for the Hatvan culture. The peoples of these cultures cremated their dead. Before cremation the bronzes were removed from the dead and put into a vessel added to the urn containing the burned bones (Bóna 1976). The Nitra culture can be divided into three development phases on the basis of the grave inventory (Točík — Vladár 1971). In the first phase we can still find some elements of the Veselé-Chlopice group. Among the bronze industry we admire an ostentatious willow-leaf shaped jewel. Of similar shape are also the small knives with one-sided ribs. Very interesting are the daggers, sometimes 18 cm long and used as knives. In this phase very popular are the faience beads and cylindrical antler beads.

In the second phase flourishes the willow-leaf shaped bronze industry, alongside with wire jewels, metal sheet industry and sporadically appear also "Cypriote" pins. The pots have simple neck and are ornamented with cord impressions. On the neck of the biconic post there is often a small handle, decorated with corded ornaments. Alongside with the pots appear also cups and simple bowls.

In the third "transitory" phase the pottery shows Early Únětician traces. This phase forms a transition period from BA1 to BA2. The willow-leaf shaped jewellery is disappearing step by step, and is replaced by simple and multiple wire "noppennings", pins with disc-shaped heads — with or without ornaments, pins whose head is turned into circle and triangular daggers with engravings. In the course of these three phases the burial rite remains the same. In contrast to the N-S (North-South) orientation of the Únětice burials in Bohemia and Moravia the orientation of the Nitra culture burials is E-W (East-West) and they contain considerably less pottery. The whole development course of the Nitra culture contains much more other accompanying materials, e.g. arsenical copper. The Nitrian burial grounds disappear with the introduction of the tin copper, i.e. bronze, i.e. at the beginning of BA2, while the development of the Únětician culture goes on. Some of the western researchers (J. Neustupný 1960, V. Mucha 1963) hold that there was an Únětician expansion to the milieu of the Nitra culture and that it had been Úněticianized. On the basis of the newest research we might conclude that the Nitra culture had contributed to the formation of the east Únětician sphere and that the local component, (the Nitra culture) appears chiefly in the burial rite, i.e. in the orientation of the graves, it has a decisive share in the bronze industry and acts as a mediator of the southern and south-eastern elements of the Únětice culture in general. We have established gradual penetration of the Nitra culture to the Únětice culture only in the Výchapy-Opatovce burial

ground. We suppose that this transitional phase will be found in independent burial grounds, first of all in other large burial grounds of the Nitra culture, or perhaps even more likely in the Únětice, mixed Wieselburg-Únětice or Hurbanovo burial grounds. In keeping with the extension of the Middle Danubian Early Bronze cultures it looks very probable that we shall come across the overlapping of these three cultural and ethnic components also on the Žitný ostrov (the large Danube island) and in the westernmost part of the Danubian Lowland, i.e. in the area east of the Small Carpathians. The three cultures are the local Nitra culture, the Wieselburg component penetrating here from Austria and the Moravian Únětician component. These three cultures using inhumation burials utterly differ from the Transdanubian cultures, where cremation burial absolutely prevailed over an extensive area in the Early Bronze Age.

At the beginning of BA2 south-western Slovakia forms the south-eastern border of the Únětice culture, which is practically limited by the Žitava and Danube River and its northern border is formed by the line connecting Púchov and Topoľčany.

The Únětice culture in south-west Slovakia can be divided into three regional groups, the main criterion for this division being the share of the neighbouring cultures in the local material cultures — it does not concern the burial rite, which is uniform for the whole area.

As I have mentioned in the surroundings of Bratislava and on the Danube Island (Žitný ostrov) we can see a strong Wieselburg culture component, reaching here from Burgenland and basically influencing the local pottery. Besides the classical locality in Velký Grob (B. Chropovský, M. Dušek & B. Pollak 1960) here belongs also the Mliečany burial ground on the Danube Island. The eastern border of this group reaches to Čalovo. It seems that this mixed horizon is temporarily limited and disappears before the rise of the mixed Únětice-Maďarovce horizon, i.e. at the break of the BA2—BA3. Approximately on the territory of one district, i.e. between Nové Zámky and Komárno, on the lower Žitava and Nitra Rivers arises the Hurbanovo group with pure Kisapostag (Tokod) — type pottery and with some typical features of the eastern Únětice group. Its burial rite corresponds to that of the other groups. They dug deep inhumation graves oriented E-W and containing a considerable amount of accompanying pottery. In spite of the high percentage of plundered graves the accompanying inventory is still very rich. Besides bronze jewellery and weapons they contain also gold products. Prevail the boat-shaped, so-called Sibiu-type earrings, but there are also numerous looped and spiral-shaped earrings of local origin. The Hurbanovo group played without any doubt a key role in the import of Transylvanian products to the west, to the territory of the classical Únětice culture.

Most of west and south-west Slovakia was inhabited by an Únětician people of eastern facies. The eastern sphere of the Únětice culture has not



been studied — with the exception of the burial rite. On the basis of the burial rite and grave inventory its sphere can be limited to east-Moravia, to the Záhorie region (the territory between the Morava River and the Small Carpathians north-west of Bratislava) and the territory east of the Carpathians up to the Žitava River. This sphere is known in west Slovakia only from the burial sites, whose graves have E-W orientation and the skeletons are situated in different ways, according to their sex. We have discovered so far three development stages in Slovakia, the first and third of them are mixed (the earlier is a mixture of the Nitra and Ťňetice cultures and the later is a mixture of the Ťňetice and Maďarovce groups).

The classical, i.e. middle stage is represented by large burial grounds containing up to 100 graves (Matúškovo) with the graves in large groups, probably of clans. From the bronze inventory found in Slovakia we still miss the typical Ťňetice pins with perforated heads. The rest of the bronze inventory does not differ from the western sphere. There are substantial differences in the pottery — the so-called Ťňetice pot differs in shape and dimensions from the analogous vessels in the west. The eastern Ťňetice pots are generally slimmer. It cannot be ruled out that this shape, alongside with some other shapes, e.g. the vessels with their maximum cavity in the bottom third penetrated to the west from south-west Slovakia, or they had come through Slovak mediation from the Vatyja culture. It applies also for some bronze products, such as the Sibiu-type earrings and metal-sheet industry, including the large pins with ornamented circular metal-sheet heads.

The Ťňetice-Maďarovce burial grounds can be regarded as an independent development stage. We know several large burial grounds of this type, e.g. in Branč (V l a d á r 1974) and in the surroundings of Galanta, e.g. in Abrahám (the research of B. Chropovský — not published). In comparison with the previous stage we do not see any difference in the burial rite, i.e. in the orientation of the graves — with the exception of the accompanying inventory. In the graves there is a drop of pottery and besides Ťňetice pots appear also Maďarovce jugs and sporadically also cups. Characteristic jewels of this culture are the pins with perforated globular heads and twisted stem. Since the Ťňetice culture in Slovakia is known only from burial grounds, we cannot say much about its economic-social structure.

The extinction of the Ťňetice culture in Slovakia occurred without doubt earlier than in Bohemia or in west Moravia. The Hurbanovo group in Nesvady near Nové Zámky lived up to the Ťňetice-Maďarovce transition group. Around Bratislava, namely in the burial ground in Velký Grob the mixed Ťňetice-Wieselburg group was the last to extinguish and so far we have no document of its existence in BA 3. We have found the direct continuation of the Ťňetice culture only in exceptional cases — only in one burial ground in Matúškovo, where there are independent groups of graves one group belongs to this mixed horizon. According to the

western chronology the Ťňetice burial grounds end with the earlier type of pins with globular vertically bored heads — but the stem is not yet twisted.

Alongside with the existence of the Ťňetice culture and its variants in west Slovakia we shall have to take up a position on the development in the Hron and Ipel River basins. This territory is relatively little researched, but it was without any doubt settled in the Early Bronze Age, since it is the most fertile and climatically most favourably situated region of Slovakia. After the so-called BĀ 1 hiatus at the beginning of BA 2 suddenly appears in this territory the Hatvan culture both in open and fortified settlements (T. N e š p o r o v á 1969). The Hatvan culture appears in our territory alongside with the Kisapostag culture. Besides settlements we know it also from cremation burial grounds. Hungarian scholars call it the Tokod culture, characterizing it as the eastern branch of the Hatvan culture. This culture brought about profound economic and social changes in south-western Slovakia and is characterized by open and fortified settlements with differentiated forms of dwellings. Besides single-room houses they built also two- and three-roomed dwellings and the fortifications enclose usually an area of up to one hectare. Such fortified settlements belonging to this culture have been found on the Törökdomb (“Turkish Hill”) in Malé Kosihy on the Várhegy (“Fort Hill”) in Kamenín and also on the Fidvár (“Earthwork Fort”) in Vrable.

I shall not deal with the genesis of this culture — its core area lies more to the south, in the Tisza Basin and it has only peripheral importance for Slovakia. I have certain objections against N. Kalicz's regarding this culture as the result of the mixing of eastern nomadic peoples with the Kurgan culture and of the local component with the Nagyrév culture. At present we are able to say only that in BA 1 the Hatvan people cremate their dead and build permanent dwellings, indicating that it was a farming-pastoral society. At this development stage they constructed fortified settlements on the lowlands, but also on the hills. The author considers it a higher form of organization and ascribes it to a certain form of monopoly in the mining and processing of copper for trading. We know about several lowland and hill settlements, but none of them has been researched (J. V l a d á r 1961). We know several burial grounds of this culture from the lower Ipel River (Salka I and Salka II). The urns used in these burial fields are amphoras with two holders, ornamented with honeycomb pattern or impressed textile texture, profiled bowls with a holder and cups with similar ornaments as the amphoras. These features represent the Hatvan culture. However, absolutely prevailing in the grave inventory are the jugs with white incrustation, belonging to the Kisapostag culture. The ratio of Hatvan pottery to the Kisapostag jugs in these graves is 1 : 6–10. The situation is quite contrary in the settlements, e.g. on the Törökdomb in Malé Kosihy, where the ratio between the two cultures is sometimes 1 : 100 in favour of the Hatvan cul-

ture. From this we may conclude that it is sometimes incorrect to characterize an archaeological culture on the basis of the ritual pottery only. Thus we cannot agree with calling the Hatvan facies on the lower Ipel as a Kokod group (G. B á n d i 1969, N. K a l i c z 1968).

At the decline of the Early Bronze Age (BA 3) there are two cultures developing side by side on the middle Danube — the characteristic Maďarovce culture in Slovakia and the characteristic north-Pannonian, Transdanubian culture, recently called also Incrusted Pottery culture. The two cultures have a common economic and social basis forming an integral part of the large Balkano-Danubian civilization sphere (J. B ó n a 1975). The sphere is a result of local development positively influenced by the mature east-Mediterranean and Pontic cultures. The division of labour, rise of handicrafts, of the local and long-distance trade, separation of the villages of the artisans and traders from the farming settlements, the gradual social and class differentiation are the main hallmarks of this civilization sphere. J. B ö h m worked out this second big division of labour already in the nineteen-fifties, regarding the fortified settlements of this civilization as the earliest towns in our territory (J. B ö h m 1947).

The superstructure of the Maďarovce culture is still characterized by inhumation burials — a continuation of the local Ůnětice component. This is the main difference between the Maďarovce culture and between the culture of the Incrusted Pottery in Transdanubia, cremating their dead in the spirit of local traditions.

It follows from the hitherto discovered and studied settlements and burial sites that the Maďarovce culture did not arise from the Ůnětice culture through gradual superseding. On the contrary! Only new burial grounds and settlements with a material culture appear in which the Ůnětician component is represented by two shapes of pottery, with pots and vases only. This onslaught e.g. in Zámeček ("The Castle") in Nitrianský Hrádok is connected with the construction of a wall and of a moat. There is similar situation on the spur of land called Bašta ("The Bastion") in Ivanovice, in the Trenčín District and recently also on the "Fidvár" in Vrábľe. All these facts document the profound economic and social changes that occurred during the Bronze Age and were probably accompanied by ethnic changes too. I do not exclude the possibility of interference from the south, or even more likely from the east, i.e. from the Pontic steppes. This interference from the south and east together with the deep economic and social changes was mediated by southwestern Slovakia and through Lower Austria to Moravia where the Věteřov culture originated. This process took place during the period of the pins with pressed semi-globular heads and with twisted stems, i.e. in the second-half of BA 2. This mutation is characterized also by a number of characteristic bronzes, such as the super-size 20–30 cm long pins with disc heads, with T-shaped heads and also by the introduction of pins with conic or mushroom-shaped heads. On the basis of these materials, of the accom-

panying bronze industry and chiefly on the basis of the stratigraphy of "Na Zámečku" in Nitrianský Hrádok we can divide the Maďarovce culture into three development phases: a) The Ůnětice-Maďarovce phase characterized above; b) The classical period of the pins with big semi-globular ornamented heads, pins with vertically perforated mushroom-shaped head and hat-shaped threads; c) Late Maďarovce or Proto-Tumulus phase dated by pins with twisted sickle-shaped stems and double-conically pressed head with incipient horizontal discs. Alongside with them appear also pins with small decorated double-conical heads, strong neck, perforated and square stem. More frequent are the needles with a handle on their neck.

In the classical late phase we can see strong influence from south-east and from east from the spheres of the Fűzesabony, Szeremle, Gerjén, Vatin, Cirna and Žuto Brdo groups and also of the incipient Rákospalota culture. At this development stage occurs a civilization change in the burial rite, bringing about birituality e.g. in the Majcichov burial ground (B. C h r o p o v s k ý 1964), characteristic of the subsequent stage of the so-called Koszider period. Alongside with the Maďarovce culture north of the Danube, and on the lower Hron and Ipel arises the Esztergom culture of Incrusted Pottery from an earlier substratum and influenced by the Maďarovce culture. The Esztergom culture, however, had shorter duration than the Maďarovce culture and for hitherto unknown reasons in the late phase of the Maďarovce culture it moves to the south, where together with the Gerjén group and with the contribution of the Vatyá culture it gives rise to the Szeremle group (J. B ó n a). The Esztergom group is known in southern Slovakia chiefly from cremation burial fields (M. D u š e k 1969) with two kinds of cremation, i.e. putting the burned bones into urns, or putting them right into pits — these pits, however, were accompanied sometimes by 30–50 pots — on the average by 15 to 20 pots containing charitable gifts. With certain exceptions there is a total absence of bronzes. They were removed from the dead before the cremation.

At the decline of the Maďarovce culture a new ethnic group belonging to the Fűzesabony cultural group is penetrating along the Ipel River to the lower Hron, meeting here people belonging to the Maďarovce culture (T o č í k 1963). This movement is, however, connected with further profound changes, causing the decay of fortified settlements and the destruction of the whole economic basis. In connection with the Maďarovce culture we must add that in spite of intense settlement characterized by numerous fortified settlements on the central territory of the Maďarovce group (the area between the Hron and Nitra Rivers), we have been unable to discover a single burial site, and we can judge only according to the skeletal graves discovered inside the settlements that this culture did not use cremation during the classical phase of its existence. The decay of the Maďarovce culture is connected with the end of BA 3, i.e. with the rise of the Koszider period.



EAST SLOVAKIA  
IN THE EARLY BRONZE AGE

At the beginning of the Early Bronze Age the territory of east Slovakia got under the influence of the territory north of the Carpathians. Within the framework of the mighty ethnic shifts from east Europe to the Carpathian Basin various pastoral tribes penetrated to the East Slovakian Hill Country. These people of the East Slovakian Tumulus culture, burying their dead in biritual way under mounds, in special positions, such as the so-called frog-position (V. Budinský-Krička 1967). The relation of this people to the Nyírség-Zátin, whose origin is in Zók, has not been solved. We have not found the graves of this people neither in east Slovakia, nor in the adjoining upper Tisza region. The formation of the Early Bronze Age in east Slovakia, however, was decisively influenced by the Merzanowice group penetrating through the Carpathian passes to the Hornad Basin and to the east Slovakian lowland — it was obviously a farming-pastoral society. The extensive burial ground in Košice with over 150 graves shows certain relations to the Nitra culture, both in the burial rite and in the material culture (J. Pástor 1971). The burial rite with various orientation of the skeleton according to its sex is an important character and is characteristic of those groups in the Carpathian Basin, which are not of local origin (The Nitra, Merzanowice, Perjámos-Szöreg and Pitvaros groups). Characteristic of the Košice burial ground is the copper industry represented by willow leaf-shaped jewels and by numerous faience finds with various cylindric beads. The pottery, relatively frequent in the graves is exclusively of Merzanowice type — all the local, Carpathian motifs are missing (J. Machník 1971). Thus it differs substantially from the Nitra culture lacking the Merzanowice pottery shapes and there appear local forms of corded ornaments, as well as shapes taken over from the Kosihiy-Čaka group. The Košice burial ground of the Merzanowice culture soon adjusts itself in the cooper industry to the Tisza culture's metal-sheet industry. The Tisza culture of this period is characterized by specific bronze-sheet tutli and rhomboid pendants. The finds of cylindric faiences and of various kinds of sea shells connect it with the 1—2 phases of the Szöreg burial ground. Absent are in the Košice burial ground the so-called Cypriote pins, relatively frequent in Szöreg's 1—2 phases.

At the decline of BA 1 arises in east Slovakia's local substratum the Košťany culture, known only from burials containing exclusively inhumation graves. Similarly as in southwest Slovakia the industry of the willow-leaf shape is gradually disappearing and is replaced by wire jewellery and by Sibiu-type earrings. Besides disk-shaped and cylindrical faiences massively appear necklaces with nacreous beads. As far as tools are concerned let us mention the daggers and axes, also in miniaturized imitations. In the early phase the copper industry is replaced by bronzes. The pottery goes

also through profound changes. Almost entirely disappears the original Merzanowice pottery and is replaced by shapes hitherto called "accompanying pottery of the Bell Beaker culture". It is so obviously thanks to intense contacts with the incipient Hatvan culture, and even more with the Nagyrév culture. Local development, based undoubtedly on Merzanowice models also played an important role. We must suppose that the Košťany culture had also vivid contacts with Transylvania, with the parallelly arising Otomani and Varşand cultures. The Košťany culture lasted up to RBA 2, and it is rather difficult to draw the dividing line between the advancing Varşand culture, decisively influencing the development in east Slovakia in the course of BA 2 and BA 3.

Let us stop for a moment at the terminological problems. Thanks to L. Hájek (L. Hájek 1961), who studied the fortified settlement in Barca the term "Otomani culture" for the Varşand and Füzesabony cultures has been introduced to the Slovak archaeological literature too. As follows from the latest achievements of the archaeological research and from the need to put the Slovak terms in accord with the Rumanian and Hungarian ones, it is necessary to replace the term "Otomani culture" for the earlier phase following the Košťany culture in BA 2 by the term "Varşand" culture, and to call the later phase, corresponding to BA 3 "Füzesabony group", and we must bear in mind that the two cultures have a common basis.

The Varşand culture is known in east Slovakia only from burial grounds. It is represented by the large burial ground in Čaňa near Košice, where besides the 200 studied graves there are some 600 destroyed graves. The burial ground is of exclusively inhumation type. The graves form regular rows, the skeletons are in contracted position and have different orientation according to their sex — indicating towards the influence of an earlier substratum. Its material culture is closely connected with the culture of the eastern part of the Tisza Basin and with the culture in the valleys of Tisza's tributaries from Rumania. It is very conspicuous on pottery comprising a wide scope of shapes. The pottery is excellently worked and fired, quite in keeping with the standard of the Varşand (Gyula-Varşand) finds and of the lower layers of the fortified settlement in Békés. The graves contain besides pottery also high-standard bronze industry, without doubt connected with the rich copper mines in the nearby Gemer County. Besides traditional Tisza-type metal sheet industry very frequent are also Transylvanian motifs, especially the gold jewellery bears traces of Transylvanian influence. The finds in Čaňa show that this population, in contrast to the previous stage, went through deep economic-social changes. These changes are expressed by the existence of fortified settlements, centres of specialized handicrafts and commerce. This development culminates in the subsequent period, i.e. in BA 3, when from the Varşand group arises the independent Füzesabony group, gradually subduing the northeastern part of the Carpathian

Basin, including the adjoining regions of Slovakia. This group is represented in Slovakia chiefly by fortified and urbanistically highly developed settlements, with high-standard handicrafts and long-distance trade. This is one of the most developed prehistoric cultures at all and shows strong southern and southeastern influence. The long-distance (transcontinental) trade explains the strong influence of the eastern Mediterranean Basin, namely the important share of Mycenae, which is sometimes overestimated. According to the present state of research we can say that the high standard of specialization in the mining and processing of copper, the improved weapons and transcontinental trade led to the rise of a clan aristocracy, dominating the sphere of production and trade. The new structure of the society is well reflected by the above-mentioned fortified settlements, protected by perfect fortification system built of stones (Vl ad á r 1973) and boasting organized construction, system of streets and developed architecture (L. H á j e k 1961). In Barca near Košice and in Spišský Štvrtok direct documents of ore melting and metallurgy have been discovered. The local bronze products influenced the development of metallurgy in the whole of central Europe. The people of this culture buried their dead in extensive burial grounds in traditional way, i.e. in contracted position, orienting them according to the sex. Besides pottery they put to the graves also a rich choice of implements, weapons, tools and jewels. The bronze products were decorated with similar motifs as the pottery. The pottery has beautiful shapes and its ornaments remind of the so-called Baroque style. Besides spiral bosses they often used also fluted decoration, frequently imitated by the neighbouring cultures. In its late phase this culture underwent profound changes, partially expressed by the changes in the burial ritual. The inhumation rite is gradually replaced by cremation (Streda nad Bodrogom) and the other contemporary burial sites of the Carpathian Basin are also characterized by biritual burials. The fortified settlements in east Slovakia were destroyed by a disaster, causing the decay of the whole culture. It is still an open problem what kind of populations caused this historic break. The Hungarian researchers ascribe it to a new occupation by a population belonging to the Middle Danubian Tumulus culture. The results of the research in southwest Slovakia, however, indicate that the disaster was not caused by migration and occupation, but more likely by deep economic and social changes, namely by changes in the orientation from east and southeast to west, as well as deep changes in the production, connected with the change of the basic orientation of the production, i.e. by transition to cattle-grazing. The decisive changes in east Slovakia were caused most probably by the rise of the Carpathian Tumulus culture, contributing decisively also to the rise of the Piliny and Suciul de Sus cultures. These two cultures replaced the Fűzesabony culture in the Middle Bronze Age.

## THE MIDDLE AND LATE BRONZE AGE IN SLOVAKIA

The western and southeastern parts of the Carpathian Basin in the Middle Bronze Age.

The uniting element of the western and southeastern regions of the Carpathian Basin in the Middle Bronze Age was the Tumulus culture, recently called also Carpathian Tumulus culture (A. To č í k 1962, To č í k — Vl ad á r 1971). The eastern and northern parts of the Carpathian Basin were inhabited by Urnfield culture populations — in Slovakia they were represented by the Lusatian, Piliny and Suciul de Sus cultures. Typical of the Carpathian Tumulus culture are biritual burials, with the graves situated in groups. In some cases there were perhaps smaller or larger mounds over the graves. According to Reinecke's dating this culture belongs to BB 1 and BC and can be divided into early, middle and late phases (A. To č í k — J. Vl ad á r, 1971). Since it extends over a large territory the Hungarian scholars tried to divide the Carpathian Tumulus culture into regional groups (Igric, Egyek, Tápé, Tiszafüred and Hantos). In southwest Slovakia the Carpathian Tumulus culture had relatively close contacts with the Middle-Danubian Tumulus culture, penetrating through the Bratislava Gate to Žitný Ostrov (the Large Danube Island) and through the passes in the Carpathians also to the Váh Valley. This central-European Tumulus culture was also biritual, with inhumation burials prevailing. The tumuli in southwestern Slovakia (Smolenice, Buková), as to the burial rite and material culture do not differ from the tumuli in Lower Austria.

The Carpathian Tumulus culture is characterized by special pottery, while its bronze industry is uniform (with some exceptions) for the whole territory stretching from the Rhine to the Tisza River. The difference between the Carpathian Tumulus culture and western cultures lies in their different social structures. The Carpathian Tumulus culture has the character of a settled farming society, documented by extensive burial sites comprising several hundred graves. The groups of graves correspond to the clan structure and the absence of weapons indicate that these people lived a peaceful life. It is more than probable that the Carpathian Basin maintains its leading position in the mining and processing of copper, but there are considerable differences in the character and in the purpose of the products. Very conspicuous is the minimal production of cutting weapons (swords). We do not know any fortified settlements from this period, neither in Slovakia, nor in the Carpathian Basin as a whole, and compared with the previous periods it is a step backwards. There is a recession also in transcontinental trade — trade relations are limited to the Carpathian Basin and there are some connections to the west. At the decline of the Middle Bronze Age (BC), i.e. around 1200 B.C. the western part of the Carpathian Basin undergoes violent changes, connected with the influx of new population and with an upswing of the



specialized production namely of the manufacture of bronze industry and cattle-grazing. These new changes in Slovakia and adjoining parts of Moravia are reflected also by the new Velatice, respectively Čaka cultures (J. Paulík, 1963), represented by the tumuli of tribal chiefs, documenting the newly arising class society. In this period burials prevail absolutely in the Carpathian Basin.

## URNFIELD CULTURES

Towards the end of BB 1 arise new Urnfield cultures over large areas of central, southern and east Slovakia. The genesis of these cultures is still at the stage of studying (Z. Pivovarová 1972 and V. Furmánek 1972). We know these cultures, especially in their early period practically from the burial sites only. From the late period we know also several settlements, both open and fortified ones on hills. The development of the Lusatian culture in Slovakia is similar to that in Moravia. The share of the Carpathian cultures, including the Middle Danubian Tumulus culture in their origin is a generally accepted fact. The colonization of the mountaineous regions of Slovakia and the penetration of these cultures to areas which are at present not inhabited is connected not only with climatic changes and with the pastoral life, but also with the extension of the copper mining to hitherto inaccessible areas. There arise also regional metallurgical workshops, whose products are represented e.g. by the Liptov-type sword. The uninterrupted chain of settlements in north and central Slovakia continues up to the Roman times. Parallely with the Lusatian culture is developing also the Piliny culture (V. Furmánek 1976), whose origin is in BB 2 in south Slovakia. Its beginnings develop parallely with the Carpathian Tumulus culture, contributing greatly also to its material culture. The highly raw material basis gave it the necessary impuls for becoming independent and also for the rise of a specific industry, the successor of the industry of the Koszider period. It is based on the ore deposits in the Spiš-Gemer Ore Mountains and it had influenced greatly also the Lusatian industry. The Piliny culture at the outset occupied a limited area in the former Gemer County and adjoining regions. In its classical phase it penetrates to the valleys of east Slovakia and in the contact areas with the Lusatian culture arise several mixed groups. The pottery of Piliny culture is relatively well-known, thanks to the extensive research of the burial sites in Nagybatony, Hungary, and in Radzovce and Šafárikovo in Slovakia. Its development is influenced besides the Füzesabony and Vátya groups also by the Koszider horizon, and last but not least by the Carpathian Tumulus culture. The urnfield burial is more likely connected with the Carpathian Tumulus culture than with the Vátya group. Many details indicate that the Piliny burial rite has a lot of elements common with the Lusatian burial rite, but the characteristic circular mounds are missing. The Piliny

culture disappears in the Late Bronze Age when strong Lusatian influence gave rise to the Kyjatice group, the direct successor of the Piliny culture in Slovakia.

In the Middle Bronze Age BB 2 the Füzesabony group in east Slovakia was replaced by the Suciul de Sus culture, characterized by specific features in our territory. This group reaching here from the east Tisza region an adjoining parts of Rumania has not been properly studied in this country. Intense settlements of this group have been found also in the adjoining Transcarpathian Ukraine. The cremation graves under mounds contain noteworthy pottery with incrustation and with characteristic fluting. The origin of this pottery, namely of the decoration, should be looked for in the Wietenberg culture in Rumania, but traces of the Füzesabony, Tumulus and Piliny cultures are also well perceptible. The burial sites in Kopčany and Raškovce (J. Vizdal 1972) begin in BB 2 and disembugue in the Gáva horizon, BD — HA, when east Slovakia is directly influenced by the Lower Tisza region. The Suciul de Sus culture — similiary as the Piliny group, was based on well developed metallurgy, well documented in our territory by numerous scrap heaps and less by burial sites.

While the research of burial sites of the Middle and Late Bronze Age in Slovakia has greatly advanced, we cannot be satisfied with the research of the dwelling sites. There are many indices that in the Late Bronze Age fortified villages and strongholds appear in Slovakia. Especially the research of east Slovakia is lagging behind, where the situation in the Late Bronze Age is especially complicated.

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