

Thesis of PhD dissertation

**Cultural Connections and Use of Landscape at the End of the 2nd
Millenium BC in the Upper Tisza Region**

Gyurka Orsolya

Supervisor:

Dr. habil. Péter Forisek

Dr. habil. Zsolt Molnár-Kovács



UNIVERSITY OF DEBRECEN

Doctoral School of History and Ethnology

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State of research, main goals of the PhD dissertation

In my doctoral thesis I undertake a complex analysis of the historical processes in the Upper Tisza region in the second half of the 2nd millennium BC (the beginning of the Late Bronze Age /period BB2–BD according to the Central European Reinecke chronological system, ca. 1550–1200/1150 BC), for which I primarily analyse archaeological source material, using the methods of spatial analysis and statistics.

From a cultural-historical point of view, the period under study is marked by the material culture of the Hajdúbajos–Cehăluț pottery style. The territory of the communities in question was located in the Nyírség region, in the Érmellék region up to Pocsaj, and in north-western Romania, in the area delimited by the Szamos/Someș river basin, the Meszes/Meseș Mountains and the Sebes-Körös/Crișul repede river. The Hajdúbajos–Cehăluț pottery style can be traced from the beginning of the middle phase of the Tumulus culture to the beginning of the late Urnfield culture, in the first two periods of the Late Bronze Age in the Carpathian Basin. The focus of my PhD thesis is on the cultural relations and landscape use of the communities.

No comprehensive, interdisciplinary research on the Hajdúbajos–Cehăluț ceramic style has been carried out so far, only thematic publications and site reports have been published on the subject. These include the two largest published settlements, Nyíregyháza–Oros–Úr csere and Marca/Markaszék–Husău, which provide an excellent cross-section of the lifestyle and material culture of the two communities of the ceramic style living in different environments. Ioan Bejinariu's work synthesising the early Late Bronze Age of Sălaj area/Szilágyság and Anna Szigeti's research on the Hajdúság region have made progress in this field.

In the view of Halbwachsian memory theory and postprocessualist archaeology, our reconstruction of the societies of the past is only one of many narratives about the past. The key to resolving the various methodological and hermeneutical contradictions may lie in a multi-perspective analysis of the Late Bronze Age world. In my doctoral research, I have attempted to do just that. My thesis does not and cannot claim to be exhaustive, but merely seeks to shed light on the Late Bronze Age networks on the periphery of the Carpathian Basin through the specific methods of archaeology, inevitably pointing out the differences with the picture that emerges in the publications.

The structure of the thesis and the applied methodology

The thesis is divided into 3 major structural units, in addition to the subsections in the introductory section.

The first of these serves to clarify the theoretical framework of the research. The second chapter summarises the analysis of Homer's poems and their impact on the European Late Bronze Age worldview. As a counterpoint to the general approach of the ancient history literature, the chapter also discusses the picture of the Mycenaean world's connections with the Carpathian Basin as outlined in the archaeological literature. The third chapter is intended to present general theoretical models for the archaeological study of network systems.

The second section presents the results of my own research. The fourth chapter, entitled "Specific issues of the Late Bronze Age in the Tisza Basin", presents the history of archaeological research of the period and discusses the chronological problems. The fifth chapter contains an analysis of the Late Bronze Age landscape and settlement archaeology of the Upper Tisza region, including the north-western Transylvanian area. The study area selected for the landscape and spatial analysis does not cover the entire distribution area of the Hajdúbajos–Cehăluț pottery style, but only the Nagykárolyi/Carei plain and the Ér/Ier valley, as well as the Ecsedi-síkság/Câmpia Ecedea, the Csög-síkság/Câmpia Cigului, the Érbogyoszlói-síkság/Câmpia Buduslău, the Tasnádi dombvidék/Câmpia Tășnadului and the Kraszna-síkság/Câmpia Crasnei. The quality of the data from this area justified my choice, as they allowed both the Middle and Late Bronze Age settlements to be located accurately with geographic coordinates. This also provided a basis for comparing the settlement systems of the two periods.

The network research of the Late Bronze Age cultural relations between the North-Western Transylvanian region and the Upper Tisza Basin is based on the analysis of the communities' pottery. Therefore, in chapter six, I have tried to highlight the characteristics of the material heritage of the Hajdúbajos–Cehăluț communities through a multifaceted analysis of the bronze objects and pottery material.

The third unit discusses the Late Bronze Age contact system of the Upper Tisza area. In addition to a general outline of the trade and communication routes of the period, I summarise in separate chapters the cultural relations of the Hajdúbajos–Cehăluț communities, using traditional archaeological methods.

The archaeological analysis of the settlement of Tasnád/Tășnad–Sere is presented in the Appendix, which contributes with new data to our knowledge of the material culture of the

period and, consequently, of the Late Bronze Age living. Also in the appendix can be found the pottery catalogue, describing the typology of the Hajdúbajos–Cehăluț type ceramic vessels and their parallels in the Carpathian Basin. This is followed by a list of catalogues and databases related to the settlements and metalwork, as well as the ^{14}C data of the Late Bronze Age contexts from the Carpathian Basin. The second volume of the dissertation concludes with a database of the ceramic material of the settlement of Tasnád/Tășnad and the drawings and photographs of the processed finds arranged in plates.

The socio-economic processes of the interactions examined in this thesis have been the subject of numerous methodological approaches in archaeological research, and as a result, a number of theories have been put forward. However, the interaction between communities and individuals does not always leave traces in material culture. The changes in the style of objects or the appearance of foreign elements in the area under study may be the result of migration or simply of intense interaction between communities. Linked to migration can be mentioned the *fremde Frau* theory, which explains the changes in material culture by exogamy. A broader interpretation can also be provided by the value system theory, according to which a common European value system has made possible a high degree of mobility of people, objects and information. The now much-debated model of centre-periphery and peer polity interaction can also be interpreted at the macro-regional and micro-regional level.

Another interregional process is globalisation, glocalization and cultural hybridisation, and its projection on the late Bronze Age, the so-called "bronzization". These can be achieved through a complex system of individual and collective identities, which can be either receptive or rejective of innovation and 'otherness'. Landscape provides the frame for the establishment of cultural and economic relations, and the use of landscape also determines the context in which information flows. The economy of the communities and the way they use the land and the available resources, can have a significant influence on the direction and nature of these relationships. The most obvious evidence of this can be seen in the import of raw materials or finished goods.

Results: landscape use of the Hajdúbajos-Cehăluț communities

I analysed the landscape use of the Hajdúbajos–Cehăluț communities in comparison with the landscape use of earlier Middle Bronze Age Otomani–Füzesabony communities. In the area, I identified 25 settlements dating to the last phase of the Otomani–Füzesabony cultural complex and 64 settlements established in the first two phases of the Late Bronze Age.

The wetter and cooler climate of the early Late Bronze Age is becoming increasingly arid, providing less favourable conditions for the former mixed farming communities. The gradual abandonment of tell settlements was accompanied by a process of decentralisation, characterised by increasing population mobility. The stylistic changes in material culture at the beginning of the Late Bronze Age can also be traced in the transformation of the settlement system. The system of tell settlements is replaced by a series of integrative units consisting of single-layer horizontal settlements. This also marks a reorganisation of the structure of Bronze Age society.

When comparing the settlement systems and environmental conditions of the Otomani–Füzesabony III and Hajdúbajos–Cehăluț communities, differences in landscape use between the two periods can be observed. In both periods, the majority of the sites are located on the first terraces of the Ér/Ier river, but in the Late Bronze Age several settlements were founded in hilly areas, too. The sites of the Otomani III period are missing here. In the Ér/Ier valley, most settlements of both periods were founded on low fertility soils, mainly suitable for meadows and pastures, and on Cambrian chernozem soils, which are highly suitable for crop production. Middle Bronze Age settlements are mostly found on fertile or moderately fertile soils, while Late Bronze Age communities may have settled on less fertile soils such as stagnosols, luvisols or solonetz. Both in the Middle Bronze Age and in the following period, settlements are located near permanent water sources. In the Late Bronze Age, however, the exploitation of more distant sites is also occasionally observed. The increase in the number of settlements in the Late Bronze Age, the occupation of higher ground, the use of less fertile soils or the distance from permanent water sources may indicate an economic structure different from that of the Middle Bronze Age communities.

The sporadic archaeozoological and archaeobotanical data from the Tumulus sites in the Carpathian Basin, contrary to previous ideas, show no change in subsistence and economic strategies compared to the Middle Bronze Age.

Middle Bronze Age tell settlements were located along trade routes, probably to control the movement of resources. In the following period, most of the settlements appear to have been similarly aligned with trade routes: a cluster of Hajdúbajos–Cehăluț sites can be observed in the areas of Szilágypér/Pir, Mezőterem/Tiream, Nagykároly/Carei and Piskolt/Pișcolt, near Magyarcsaholy/Cehăluț and Tasnád/Tășnad, and on the sand dunes of Bere/Berea, Szaniszló/Sanislău and Csomaköz/Ciumești.

Results: the participants in the cultural network of relationships based on the imported product spectrum

The cultural and trade relations of the Upper Tisza region have been implemented on two levels. The trans-regional, long-distance network of metalworking, amber and glass trade was complemented by a regional and sub-regional network of contacts. The pattern of the latter can be traced archaeologically through the pottery and salt trade. While the contacts established through the spread of metals may have been occasional and mostly indirect, the stylistic features of pottery reveal direct and everyday contacts between the population as a whole. The two types of relationships are parallel but not necessarily independent.

The communities of the Middle Bronze Age Carpathian Basin may have been involved in long-distance trade. During this period, they maintained a lively cultural relationship with the Aegean, which is reflected in the decoration of many bone and bronze artefacts and ceramics. During the Koszider period, the south-eastern part of the Carpathian Basin remained in close contact with the southern parts of Europe, while the rest of the region was embedded in the Tumulus network. Between ca. 1500 and 1300 BC, there was a active contact mainly between northern Europe and southern Germany, while the Mycenaean world was mainly in contact with the western Mediterranean. This was not the case in the northern areas of the Carpathian Basin. Around 1300 BC, this is replaced by a network linking northern Europe with east-central Europe and the Aegean, which can be traced by the distribution of the various types of swords. The glass beads found in the graves of Tumulus communities may indicate southern contacts as well, but the material type was not found in Hajdúbágos–Cehăluț areas. In the first two periods of the Late Bronze Age, both Baltic and presumably Eastern Romanian amber reached the Carpathian Basin, so that the communities living here maintained a network of contacts to the east and west, as is also reflected in the ceramic material. Although fortifications reflecting the idea of Mycenaean palaces have developed in the lower Mures, there is no similar situation in the Upper Tisza. The only fortified settlement definitely linked to the Hajdúbágos–Cehăluț communities is Szilágysomlyó/Șimleu Silvaniei, which probably controlled the trade routes of the Kraszna/Crasna valley.

The communities of the Upper Tisza region were characterised by strong connectivity. In most of the Hajdúbágos–Cehăluț settlements, pottery from the surrounding areas can be found. The best documented are the pottery fragments from Suciú de Sus/Felsőszőcs, which are numerous in the area. The richly decorated vessels may have been of aesthetic value in themselves, but their presence may also be linked to the salt trade, as the Suciú communities

are found near salt sources in Sălaj and Central Transylvania, too. The increased number of settlements in the eastern regions of the Hajdúbagos–Cehăluț distribution area is probably similarly linked to the salt trade, since the Szamos/Someș was a trade route for the transport of salt to the Upper Tisza. It can be observed that after the Wietenberg III phase, the Hajdúbagos–Cehăluț communities settled in the Transylvanian areas east of the Meszes/Meseș Mountains, but the possibility has also been raised that only a large number of imported objects were introduced into the area. It is conceivable that the mass occurrence of Hajdúbagos–Cehăluț-type artefacts in Central Transylvania is a trace of communities settling near the raw material deposits.

The eastern connections with the Hajdúbagos–Cehăluț community and the Upper Tisza region were through the Noua communities, via the Szamos/Someș valley and its tributaries, such as the Kraszna/Crasna valley. As evidence of this, a number of bronze deposits containing 'oriental' type objects from outside the Carpathians have been found in the valley of the Szamos/Someș River. The research carried out so far does not indicate any connection with the communities from the Ér/Ier valley, although the finds from the northern areas of the Nyírség, dating from the 2nd period of the Late Bronze Age, often contain typical Noua pottery elements. The Noua communities may have had less intensive, mainly occasional contacts with north-western Romania. The westernmost Noua settlement is the site of Sutoru-Borșovei in Sălaj county, located east of the Meszes/Meseș Mountains. It is found in the immediate vicinity of the area of distribution of the Hajdúbagos–Cehăluț ceramic style, containing also scattered Hajdúbagos–Cehăluț artefacts. Cultural links are obviously more intense in the so called *gateway* communities located on the borders of cultural provinces, as is indicated by the higher frequency of imported objects.

Results: transregional networks as evidenced by bronze artefacts

The first two phases of the Late Bronze Age, the period covering the 16th–13th centuries BC, also witnessed a change in metalworking. Compared to previous periods, the amount of bronze increased and new forms appeared. The appearance of bronze casting forms in the Hajdúbagos–Cehăluț settlements suggests a boom in the local bronze industry, which enabled communities to produce their own bronze objects. However, bronze-working also required long-distance, intensive trade links, as tin could not be extracted using prehistoric technology in the ore deposits of the Carpathian Basin. Due to the topography of their habitat, the communities settled in the lowland areas could also have obtained the raw copper by trade.

Because of the generally marshy nature of the lowland areas, it is likely that the large quantities of raw material needed to produce bronze were transported by boat. From the second half of the Late Bronze Age, from about 1300 BC onwards, the importance of the river network for communication, travel and trade declined compared to the Middle Bronze Age. During the Late Bronze Age, the increasing aridity of the climate probably also freed up previously flowed areas, so that new overland routes were also developed. One of these may have been the northward land route across the hilly areas of the Érbogyoszló/Buduslău plain near the settlement of Szilágypér/Pir. After crossing the valley of the Ér/Ier, the road could have continued to the border of the Piskolt/Piskolt plain, passing through the town of Nagykároly/Carei and on to the Ecsedi/Ecedea plain. It can be observed that the Hajdúbagosa–Cehăluț bronze deposits are concentrated along the routes. A further opportunity to study the overland routes is the route of the medieval salt transport, which affected the settlements of Szalacs/Sălacea, Szilagyér/Pir, Mezöterem/Tiream, Nagykároly/Carei, Tasnád/Tășnad and Magyarcsaholy/Cehăluț, near which Late Bronze Age settlement clusters are concentrated.

Despite the relatively small number of bronze artefacts from both tombs and settlements, the analysis of the bronze artefacts has shown that the Hajdúbago–Cehăluț communities were economically well organised. The members of the communities were able to obtain the necessary raw materials and, at the same time, they had the technical knowledge to produce objects. The low number of casts and its varied forms, may also indicate that some of the metal objects were not produced locally.

The objects from in the bronze deposits show a greater variety than the artefacts from the settlements and cemeteries. From the Upper Tisza region, I examined 38 bronze deposits of the Uriu–Ópályi type, which are presumably related to the deposition practices of the Hajdúbagosa–Cehăluț communities. Depositing was probably carried out for economic purposes, as larger deposits of more varied composition tend to cluster along presumed trade routes. In the study area, tools and jewellery/clothing items were most commonly deposited in the hoards, but unlike in Central Transylvania, weapons also appear in large numbers. Swords and daggers may have had a high prestige value, as indicated by their reduced number of occurrences: only 6 swords dating to the BzD–HaA period are known from the entire distribution area.

Botond Rezi's research in Central Transylvania can serve as a basis for comparison. The differences in depositing traditions in the two areas are probably due to different socio-economic strategies. A reduced number of weapons may indicate a more peaceful atmosphere, but it may also mean more difficult access to raw materials. This hypothesis is supported by

the fact that 73 hoards in central Transylvania contains similar quantity of artefacts as the 38 analysed hoards. A distant relationship can be established mainly on the basis of the prevalence of daggers. The metal objects may have been distributed by chain exchange, but it can also be assumed that there were several small-scale metalworking centres, such as Recea–Valea Sulduba (metalworking workshop) or Nyíregyháza–Oros–Úr csere (finds indicating metalworking). Smaller settlements may have obtained bronze objects from larger sites, which had easier access to raw materials and technological knowledge through their trade and communication networks. Through a chain of exchanges between settlements, the objects may have been transported to more distant points in the region.

Results: local cultural relations based on ceramic material

The pottery of the so called Hajdúbajos–Cehăluț style is the result of the hybridisation of the Otomani – Füzesabont Cultural Complex and the Tumulus pottery, as a significant proportion of Middle Bronze Age forms and decorative elements remain in use at the beginning of the Late Bronze Age, with a few previously unknown forms but a large number of ornamental motifs. The unification process observed in the ceramic material can be considered as a hybridisation and globalisation phenomenon. The local Otomani–Füzesabony communities in the Koszider period adopted the Tumulus elements and reinterpreted them in their own material culture (e.g. the characteristic amphora shapes and spiral motifs). As the intensity of the relationship increased, and as a result of the lasting interaction, a process of hybridisation began, whereby a third style of pottery was created combining the characteristics of the two. This cannot be explained by a mere technological transfer, and we should probably expect to see the emergence of Tumulus groups.

In the Late Bronze Age, the pottery of the Tumulus communities in the Great Hungarian Plain has many elements in common and shows a high degree of similarity. Most of the elements of the Hajdúbajos-Cehăluț pottery are also part of the ceramic assemblages of the surrounding areas. No distinctive identity markers can be identified, the authentic elements being the hatched arcades and perhaps the bowl types with lobed rim. Fluidity and constant change characterise the ceramic style of the period. In the periphery of the distribution area, Wietenberg and Noua style elements can be observed, but decorative motifs are also common, especially in the former Egyek and Piliny area. In the LBA II, pre-Gáva features appear as a precursor to the process of uniformization that would lead to the emergence of the Gáva cultural complex. Recent research in Banat and in Central Transylvania is unanimous in the view that

the relative chronology based on pottery needs to be reinterpreted. A similar conclusion can be drawn for the Hajdúbajos–Cehăluț ceramic material. The temporal variation in the appearance of forms and decorations may also reflect the adherence of different communities to their traditions or their openness to new technologies and innovation, as each community adopts new cultural and economic trends at a different pace.

The results of the network analysis assume that the Hajdúbajos–Cehăluț ceramic style can be considered relatively uniform on a regional level. Certain types of finds may have remained in use for a long time, only minor differences can be observed by in time. The statistical analyses also show the homogeneity of the finds, regional groups cannot be clearly distinguished. At the same time, it can be seen that certain style features are more common per territorial unit: e.g. in the Szilágyság/Sălaj area, in the Somlyó/Șimleu basin, typical Wietenberg decorative elements as *weite absatzstich* are more common. At the same time, in the Körös-Berettyó region and Nyírség, the stylistic features of the Tumulus pottery appear more often. Most of the elements of the rich decorative style observed at the beginning of the Late Bronze Age appear even in the second phase of the period, but in smaller quantities than before and in a simpler design. Although the low arcades almost completely disappear in the second phase of the Late Bronze Age of the Upper Tisza region, they remain in use in the Bánság/Banat sites.

The Hajdúbajos–Cehăluț areas are also part of the network supposed by M. Przybyła. The elements of the ceramic style found here also spread within a wider, transregional network, as analogies of individual forms and decorations can be found in the entire Tumulus area, from Poland to the Carpathian Basin, which mainly takes place in the valleys of the rivers. Presumably, the vessels are transported mainly for their contents and not for their appearance. It seems improbable that settlements located hundreds of kilometers apart would have maintained direct and regular contact. This can be all the more so, since the infrastructure of the time and the swampy nature of the region certainly - at least temporarily - isolated the settlements from each other. The exchange of ordinary economic goods and the necessities of everyday life (ceramic dishes) could be carried out on local level, or a chain exchange of these can be assumed. The formation of the Hajdúbajos–Cehăluț ceramic style itself could have been the result of intense regional relations, since it can be considered a regional group of the Tumulus culture.

Results: the significance of the Hajdúbajos–Cehăluț territories in Late Bronze Age Europe

Our knowledge of the Late Bronze Age of the Upper Tisza region is still quite incomplete. The area was clearly involved in the mass graves, and thus in the European trade network, but at the same time, the connection with the eastern periphery of the Carpathian basin and the eastern areas outside the Carpathians can also be demonstrated. The region of the Upper Tisza served as a meeting point for Eastern and Western communities and cultural entities. It is probably due to this that the Hajdúbajos–Cehăluț communities had richer metalwork compared to the Central Transylvanian region. The picture of the social structure formed in the area is not clear: although central organization can be observed in the creation of large-scale settlements, compared to the general picture of Middle Bronze Age society, it still shows a more decentralized character. The representation of the elite is also rarely observed. Only one fortified settlement is known from the distribution area.

In the absence of large-scale excavations, no hierarchical settlement system can be observed in the Hajdúbajos–Cehăluț areas. Significant centers could be Nyíregyháza–Oros–Úr exchange or Șimleu Silvaniei/Szilágysomlyó–Observator settlements. These can probably be considered regional centers that participated and organized the trade. Perhaps the exploration and interpretation of additional cemeteries, large-scale excavations, radiocarbon dating and archeogenetical studies can provide progress in this matter.



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List of publications related to the dissertation

Hungarian book chapters (1)

1. **Gyurka, O.**, Hágó, A. N., Nagy, N., Romát, S., Molnár, Z.: Régészeti kutatások Nagykároly-Bobáld 2B lelőhelyen.
In: Kőbe zárt történelem : Tanulmányok Emődi János 80. születésnapjára = Istoria închisă în piatră: studii în onoarea lui János Emődi, la 80 de ani. Szerk.: Katócz Zoltán; Emődi András; Lakatos Attila, Editura Collegium Varadinum, Oradea, 138-185, 2021, (Studia Historica Transylvaniensia ; 3) ISBN: 9786069537701

Foreign language international book chapters (1)

2. **Gyurka, O.**, Molnár, Z.: Schimbările peisajului cultural la începutul Epocii Bronzului târziu în nord-vestul României. Un studiu comparativ = The changes of the cultural landscape at the beginning of the Late Bronze Age in northwestern Romania. A comparative study.
In: 150 de ani de muzeografie orădeană / red. Moisa Gabriel; Chiriac Aurel; Fazecaș Gruia; Ciure Florina; Toma Corina; Goman Ioan; Abrudan Cornel; Ciorba Ioan; Heredea Florian, Editura Muzeului Țării Crișurilor, Oradea, 58-91, 2023, (Crisia, ISSN 1016-2798 ; 52.)

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3. Molnár, Z., **Gyurka, O.**: Adatok a középső bronzkori tell társadalom tájhasználatához és gazdaságához északnyugat-Erdélyben.
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