

Eötvös Loránd University of Sciences, Faculty of Humanities

## PHD THESIS

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Late groups of the Alföld Linear Pottery culture  
in North-eastern Hungary

(New results of the research in Borsod–Abaúj–Zemplén County)

### Summary

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## **AIMS OF THE DISSERTATION**

Principal aims of the dissertation have been to introduce new data in connection with the late groups of the Alföld Linear Pottery culture (ALP culture) – Tiszadob, Bükk, Szakálhát – from Borsod–Abaúj–Zemplén County (B.-A.-Z. County, North-eastern Hungary) and to analyse their archaeological sites and find materials in a broader scale. Main reason for selecting this theme has been the considerable time (more than 30 years) that passed from the presenting of the monography of N. Kalicz and J. Makkay J. (1977). Numbers of Middle Neolithic sites have grown up in a significant manner in this time interval. Larger settlements have been excavated thanks to the earthworks of constructional investments than earlier in the last 20 years (*e.g.* Sajószentpéter-Kövecses, leader of the excavation: J. S. Koós, 2001; Mezőkövesd-Nagy-fertő, leader of the excavation: the author, 2002; Garadna-Elkerülő út, site No. 2, leader of the excavation: the author, 2003). These large scale excavations have made an opportunity to widen our knowledge concerning Middle Neolithic patterns and to apply new examination methods in our studies.

Among the late groups of ALP culture there has been emphasized the investigation of the sites and find materials of the Bükk culture from B.-A.-Z. County in the dissertation.

## **METHODS OF THE STUDY**

First step of the study has been to make a textual (Excel) and a GIS (ArcMap) databases of the known Middle Neolithic sites and find materials of B.-A.-Z. County. At the time of creating these databases have been respected some standpoints that thought to be useful for later researchers (*e.g.* entering the names of small geographical districts, determining the locations of the sites as exact as possible, entering EOV coordinates in every case, entering data of heights above Baltic sea level). Among the main informations of the sites and find materials (records) have been summarized the research history, the archaeological literature as well as inventory numbers and the identifying numbers of documents of the individual Museum's.

Since there has been needed to study the relations between sites in a broader scale, it was necessary to work larger units than single settlements. There have been used the conventional names of the groups of ALP culture (Tiszadob group, Bükk culture, Szakálhát culture, Esztár culture) in the dissertation. The analysis has based on the differences of potteries and decoration styles, and the gathering of settlements through these ones, so the meaning of the concept culture/group has always been “the communities that characterized by pottery and decoration style of Tiszadob, Bükk, Szakálhát or Esztár” here.

The Neolithic find materials of B.-A.-Z. County have been examined by standardized way and have been classified through the features of ceramic styles as precise as possible. After investigation of numerous items it has become evident that the Tiszadob decoration style was transformed to Bükk style continually, so it has been difficult to rank the materials to either of them. Therefore the concept of “Tiszadob–Bükk transitional phase” has been introduced in the dissertation. The materials of supposed latest Tiszadob and earliest Bükk styles have been referred to this phase apart from the ratio of Tiszadob and Bükk style elements that appeared in them.

First time there has been analysed detailly the settlement of Sajószentpéter-Kövecses among the sites and find materials of the Bükk culture. The reason of this has been the fact that at the beginning of the research it was the only known larger settlement part of the culture that had been excavated in modern times. To classifying the 5016 sherds from the site has been devised a method that was suitable to analyse other material finds of the culture in B.-A.-Z. County and to compare them with each other after widening with some new categories. The basis of the method has been used by the system of J. Lichardus (1974) with his ceramic types, decoration elements and decoration systems. Although this system has been criticized many times in the last decades, the critics tended towards only his chronological consequences. His system has been competent to describe the decorations of vessels of Bükk culture, unlike the other descriptive systems that were evolved to typify the linear pottery ceramics. Naturally, the number of find materials of the Bükk culture increased considerably in the last years, so new “main decoration styles” (*Verzierungsstils*) and new variants of the known styles appeared in them.

At the examining of ceramic finds of the Bükk culture of B.-A.-Z. County, the settlement features with more than 500 sherds have been analysed and have been compared with each other by correspondence analysis (in *Past* programme).

## **RESULTS**

There were analyzed 189 Middle Neolithic sites by N. Kalicz and J. Makkay (1977) from the boundary of 358 modern settlements of B.-A.-Z. County. In the database of the dissertation there have been 473 sites and find materials that were classified surely or with great probability to the Middle Neolithic. In the case of 259 sites and find materials the most accurate category has only been the Neolithic. But based on empirical observations of this research it might be said that 80–90 % of these ones had been belonged to the Middle Neolithic with great possibility. So it's probable that more than 600 Middle Neolithic settlements have been known in B.-A.-Z. County nowadays.

There were informations from Middle Neolithic sites at the boundary of 93 modern settlements of B.-A.-Z. County in the monography of N. Kalicz and J. Makkay (1977). In the database of the dissertation have been found Neolithic and Middle Neolithic sites and find materials from the boundary of 195 modern settlements. It reveals that the areas without known Neolithic settlements significantly reduced in the last decades.

On the grounds of this collection it has become established that beyond the settlements of the Tiszadob group and the Bükk culture the communities characterized by Szakálhát pottery style had been lived in the territory of B.-A.-Z. County in the Middle Neolithic, too. N. Kalicz and J. Makkay determined the northern boundary of Szakálhát culture at the line of Füzesabony–Tiszafüred in 1977, but they mentioned two uncertain sites far north from this line in B.-A.-Z. County (Tard, Bogács-Pázsagpuszta), so the presence of Szakálhát culture have been expected in this area. It has also been thought that some sites of formerly “Szilmeg group” perhaps had been belonged to the Szakálhát culture. After the study of the find materials 13 sites may have been ranked to this pottery style surely or with a high chance. These sites have been located mainly in the territory of the Miskolci-Bükkalja, the Egri-Bükkalja, the north-western part of the Sajó–Hernád plain and the northern part of the Borsodi-Mezőség, overall in the western part of South Borsod.

After the analysis of the site of Bükk culture at Sajószentpéter-Kövecses it became possible to reconstruct the inner structure of this Neolithic settlement. It has been established that the houses were located relatively sparse at a distance 45–50 meters from each other and they constituted units with the settlement features besides them. These blocks perhaps have been equal with economical-social units: with households. At the remains of house No. 13 have been noticed the unit of a house – a large, clay-extracting pit – and a grave. On the basis of these observations it may be said that the settlement of the Bükk culture at Sajószentpéter has the characteristic inner structure that have been observed at other ALP culture’s settlements that had been free from the changes of late Middle Neolithic. On the basis of the lack of the traces of later disturbings and rebuildings it is possible to say that there was a relatively short-life settlement of the Bükk culture here. This conclusion has been supported by the uniformity of ceramic material and the results of ceramic petrographical analyses.

The analysis of the ceramic finds of Sajószentpéter has been made with the categories of *decorated fine ware, undecorated fine ware, house ware and house ware with ALP decoration*. Beside the main data of the finds there have been recorded the vessel and decoration categories of them by the mentioned new analysing method. The occurrence and frequency of these categories in each settlement features have been analysed. On the basis of fine ware it may be said, that the settlement part of Sajószentpéter has been belonged to Bükk I phase of N. Kalicz and J. Makkay’s or to Bükk AB phase of J. Lichardus’s inner chronology. Among the main decoration styles (*Verzierungsstils*) of fine ceramics in largest quantity have

been occurred the  $\beta 1$  and  $\beta 2$  styles with their bounds of arched lines as well as the  $\zeta 1$ ,  $\eta 1$  and  $\eta 2$  styles. Only the decoration of some sherds may have associated to the  $\alpha 1$  and  $\alpha 2$  styles. The decorations with fields have been also characteristic and there have been a new style (S-11 category) that was builded up from separate decoration elements. The absence of the  $\beta 3 - \beta 5$  styles with their “gothic window” motifs and the lack of  $\gamma 1 - \gamma 3$ ,  $\delta 1 - \delta 4$  and  $\varepsilon 1 - \varepsilon 2$  styles could be explained by chronological reasons most likely.

Radiocarbon measurement of a human bone remain from the grave No. 22 of the Bükk AB phase from Sajószentpéter-Kövecses may has dated this settlement part between 5214 cal BC (68.2 %) 5068 cal BC. The uncalibrated BP date of the grave (6190±40) has been almost identical with the measurement data of the human remains of the burials from Garadna-Elkerülő út, site No. 2 (S191: 6200±40; S20: 6220±40) that were ranked to the Tiszadob–Bükk transitional phase by their grave-goods (decorated vessels). On the base of these results some interpretations may have been yielded: 1. It has been possible that the “phases” of the Bükk culture based on decoration styles (Tiszadob–Bükk transitional phase and Bükk AB in this case) had not been equal with real chronological periods. 2. The change of decorations from the Tiszadob–Bükk transitional phase to the Bükk AB phase had happened in a relatively short time interval (although the great number of the sites of Tiszadob–Bükk transitional phase had contradicted this explanation). 3. The changes in ceramic styles have passed off different times in the individual territories – while the styles of Tiszadob–Bükk transitional phase were used in the Hernád valley, the Bükk AB styles had already been introduced in the Sajó valley (this is the most probable version).

In a broader scale, the analysis of the settlements and find materials of the Bükk culture from B.-A.-Z. County has showed that the Bükk pottery style occurred clear and without blending in them in this area. It has been joined with painted pottery style only in the territory of Bodroghöz which could be a contact zone between the communities of different groups (with different pottery styles). The evidence of this explanation may has been Bodroghalom-Medvetanya site where a Bükk and an Esztár style vessel were found in the same context. The other contact zone – between Bükk and Szakálhát cultures – has probably been located in the area of Miskolci-Bükkalja where have been turned up both Bükk and Szakálhát style potteries in larger quantities at Bükkaranyos-Földvár.

On the basis of the numerous sites of the Bükk culture in B.-A.-Z. County it may be said that there were found more settlements from the supposed earlier periods of the culture (Tiszadob–Bükk transitional phase, Bükk AB) than from the classical and late ones (Bükk B, Bükk C). The whole number of the sites is 184 currently, but there are a lot of them without exact dating. Find materials of the earlier periods have occurred in 94 locations while the ones of the classical–late phases have only been in 57 sites (among them there have been settlements with more than one ceramic phase, naturally). Although the inner chronology

of the Bükk culture has not been supported enough by new radiocarbon dates. On the basis of differences in the quality and decoration system of their ceramics these two basic periods may have been distinguished. Nevertheless territorial differences couldn't be detected between the spread of their sites. The decrease of the number of their settlements has most probably referred to settlement concentration (see the sites at the environment of Polgár), but other explanations have also been thinkable (e.g. decrease in population number between these periods, differing duration of these main phases). The thick cultural layers of the settlements may have referred to settlement concentration, but in the case of the sites of classical and late phases of the Bükk culture the situation has not been unambiguous. Namely, these sites have been mostly on high elevations (*Höhensiedlungen*) or in haunted position so the disturbance of later periods has been significant (like the fortifications of Bronze Age and Middle Ages).

The burials of the Bükk culture are known from 14 sites nowadays. 41 graves and 3 double burials can be connected to the communities of Bükk pottery style while earlier only 5 graves were known. Most important of them from Hungary have been 12 burials of Garadna-Elkerülő út, site No. 2. On the basis of new results it may have said that the most frequent were the SE–NW orientation (with low deviation) and the contracted position on link side at these communities, the same manner as N. Kalicz and J. Makkay had stated at the case of ALP culture and of its groups. Ocher has occurred only in one third or one fourth of burials, but grave-goods have been found in half of them. It may have been that the graves of the Bükk culture were supplied with grave-goods “richer” than the burials of the other groups of ALP, but it may have been the consequence of the low, not representative number of the graves, too. The locations of the “richest” sites – Šarišské Michal'any and Garadna-Elkerülő út, site No 2. – may have given another possible explanation because they were in the valley of Torysa/Tarca and Hernád rivers at the route of the north-west directed exchange.

There has been made an attempt to determine the main characteristics of the ceramics of the Bükk culture with chronological importance in the dissertation. The rectangular mouths and lobed rim may have referred to the early period as J. Lichardus's  $\alpha 1$ ,  $\beta 1 - \beta 2$  (and their new variants),  $\alpha 2$ ,  $\zeta 1 - \zeta 2$ ,  $\eta 1$  and  $\eta 2$  main decoration styles (*Verzierungsstils*) furthermore the new S-11 category (that may have been the result of the decomposition of some Tiszadob decoration styles). Characteristics of these ones have been the sparse lines and the absence of “negative decoration”.

The variant of bomb-shaped vessels with S-profile may have belonged to the classical–late period of the Bükk culture as the “negative decoration” and the J. Lichardus's  $\beta 3 - \beta 5$  styles (*Verzierungsstils*) with “gothic window” motif and their new variants, together with the  $\gamma 1 - \gamma 3$  styles, the  $\delta 1 - \delta 4$  styles (usually with yellow or red incrustation), the  $\epsilon 1 - \epsilon 2$

styles and their new variants and the styles with fields characterized by “negative decorations”. Characteristics of these ones have been the thick/fine lines and the presence of “negative decoration”.

There has also been made an attempt to determine the main decoration styles (*Verzierungsstils*) of each phase (Tiszadob–Bükk transitional phase, Bükk AB, Bükk B, Bükk C) on the basis of the find materials of B.-A.-Z. County in the dissertation. However without radiocarbon data this trying just has been tentative. It can be stated that some styles determined by J. Lichardus had been used from the time of the change from Tiszadob to Bükk style and they also were used in the whole time of the Bükk culture with some alterations.

For the statistical comparison of Bükk ceramic finds have been available vessels and sherds of 7 settlement features from 4 archaeological sites: the feature of Sajóvámos-Coop that has been belonged to the Tiszadob–Bükk transitional phase, the features of Sajószentpéter-Kövecses and Sajószentpéter-Vasúti őrház from the Bükk AB phase just as the feature of Felsővadász-Várdomb of the Bükk B–C phase. There have been two wattle-and-doub house remnants (Sajószentpéter-Kövecses, features No. 13 and No. 15), three medium-sized clay-extracting pits (Sajószentpéter-Kövecses, feature No. 17, Sajószentpéter-Vasúti őrház, feature No. 64, Neolithic feature of Sajóvámos-Coop) and two small-sized storage pits (Sajószentpéter-Kövecses, feature No. 24., Felsővadász-Várdomb, feature No. 14). Beside the functional differences the examined settlement features have been differed by the amount of their finds and the ratio of the fine ceramics in them. So their material finds also might be different aside from their chronological position. Because of these reasons statistical comparison of them may have been served only as a first experiment in this theme.

For the analysing of fine ceramics have been suitable 6 settlement features while for the house ware 7 features. In both cases have been examined the vessel categories and the decoration categories, too (that were mentioned earlier in the chapter of *Methods of the study*). A comparison also has been made by some selected categories with chronological importance and some (on the basis of their similarities) contracted ones. The results of the correspondence analyses have revealed that the main vessel forms of fine ceramics perhaps were slightly changed at the time of the use of Bükk pottery style and the find material of examined settlement features rather connects with their function. But the analyses of decorations of fine ware have pointed out differences between find materials of the features that were classified in different phases by typochronology. It might has referred that the statistical analyses of decorations of fine ceramics were suitable for the help to work out the inner chronology of the Bükk culture if we had sufficient find material from new settlement features of every supposed chronological phases.

The comparison of the house ware based on vessel categories has showed three “groups”:  
1. features No. 13, 17 and 24 of Sajószentpéter-Kövecses that have supposed to be from the same household, 2. house remain No. 15 from Sajószentpéter-Kövecses and the small pit from Felsővadász-Várdomb, 3. clay-extracting pits of Sajóvámos and Sajószentpéter-Vasúti őrház. But the deviation between these “groups” have been so little that it might be said that – such as at the fine ceramics – the house ware forms probably may have not been adequate for chronological consequences. Contrary to these ones some categories of the “decorations” of house ware may have importance respect to inner chronology. So it would be worthy to repeat the examination if we had find materials from settlement features with different type (function) and from different phases in sufficient number in the future.

Archaeometric analyses of the ceramics of the Bükk culture have been made at the time of the third DAAD–MÖB project (with the author as a member). In the programme were examined almost 200 ceramic samples from 10 sites of B.-A.-Z. County. On the basis of the results of the geochemical analyses the fine ceramics have seemed to be extreme heterogeneous. This outcome has reconfirmed our presumption that beside their house ware each community also made their fine ceramics on their own and there were not settlements specialized for pottery making in the Bükk culture. In contrast to these results the petrographic analyses have alluded to be a local and a “regional” (named by the geologists in the project) ceramic raw material in every examined settlements. But the “regional” components of the latter ones have been in evidence on larger territories of B.-A.-Z. County in the valley of the rivers that derived from the same geological units (because of the carrying activity of them), so they were available for the communities as the “local” raw materials widely. In fact they have been local raw materials either, but in contrary to the previous ones they were accessible in several microregions. The analysis of the samples from the supposed long-lasting settlement of the Bükk culture, Garadna-Elkerülő út, site No. 2 (with samples from the Tiszadob–Bükk transitional phase, from the Bükk AB and from the Bükk C), may have been considered as very important. Equally on the basis of petrographic and geochemical analyses the raw materials of fine ceramics have seemed to be uniform and only little differences may have been noticed between the certain phases. As the part of the project have been examined white, yellow and red incrustations of the fine ceramics by microanalytical methods. On the basis of the results the raw material of the incrustations may has been kaolinite in most cases that were stained by goethite to achieve yellow colour and by hematite to the red one. Namely, the earlier supposals have been proved by scientific analyses in detail.

Radiocarbon dates in connection with the time of the use of the Bükk ceramic style have been in low number from B.-A.-Z. County. They have been originated from the early period and have marked out broad time interval (see above at the results of the research of Sajószentpéter-Kövecses site). The analyses of some bone samples of the Tiszadob group and

the Szakálhát culture just as the one of the Bükk C phase have been proceeding currently, so more precise dating within the second half of the Middle Neolithic will be allowed soon.

At the research of the settlements and find materials of the late groups of ALP culture in B.-A.-Z. County it has emphasized on their location, settlement areas and contact zones of them. From the time of the development of late groups of ALP culture (regional ceramic styles) have been known not more than 17 sites and find materials from B.-A.-Z. County. Among these site of the ALP 3<sup>rd</sup> phase may have registered ones with material similar to Szarvas-Érpart type (e.g. Nyékládháza-III. sz. kavicsbánya), material with the signs of the transition of ALP and Tiszadob styles (e.g. Csincse-M3-site No. 14-15-16), and in two cases perhaps the signs of the transition of ALP and Szakálhát styles (Bükkábrány-Bánya, site No. II, Szentistván-Vermes-part). These settlements have been located mainly in the plains of the County.

The Tiszadob group that has also been taken into the ALP 3<sup>rd</sup> phase has got 72 known sites in B.-A.-Z. County on the basis of this research. There have been settlements with early Tiszadob style (e.g. Mezőkeresztes-Cet-halom/M3-site No. 10, Hejőkürt-LIDL logisztikai központ), ones with classical Tiszadob characteristics (recently Hejce-Püspöktábla, Mezőzombor-Temető, Novajdrány-Terpesz Kelet, Szentistvánbaksa-Kossuth u. 37.) and some ones with late Tiszadob style (Hernádszurdok-Tükör-domb, Monaj-Kendi-tanya). The supposed latest find materials have already been classified into the Tiszadob-Bükk transitional phase namely into the 4<sup>th</sup> period of the Middle Neolithic. The settlements of the Tiszadob group have been located in the Alföld plain, in the main river valleys, in the hilly regions and in the low mountaineous regions of the North-Hungarian Mid-mountains in B.-A.-Z. County. Their absence has been conspicuous in the southern part of South-Borsod and it may have referred to presence of the communities used Szakálhát pottery style in this region. The sites of the microregions Hernád valley and Cserehát have revealed a methodological problem, too. Some settlements of the Tiszadob group have been buried at a depth 140–200 cm beside the beds of watercourses here, so it has been beyond possibility to register their remains by surface surveys.

The spread of the settlements of the Bükk culture have a broader spectrum than the sites of the Tiszadob group – they have also appeared in high-mountaineous areas. Furthermore in the case of the detailed investigated Hernád valley and Cserehát microregions the communities have seemed to take their close-to-watercourses settlements to a position with higher relief at the time of the Tiszadob-Bükk transition and in the Bükk AB phase. Due to the low numbers of the sites of the Szakálhát culture in B.-A.-Z. County it has not been allowed some conclusions in that case.

Although the dissertation has focused on the 3<sup>rd</sup> and 4<sup>th</sup> phases of ALP culture, the site database has colligated the sites and find materials of the whole Middle Neolithic period of B.-A.-Z. County. So it may have established that the location of these sites supported the theory of R. Kertész and P. Sümegi about “agroecological barriers” (1999; 2001).

Investigation of the find materials of the Tiszadob group in B.-A.-Z. County has revealed that they had only the characteristics of the Tiszadob style (like in the case of the Bükk culture, just Bükk style) and there have been merely some sherds with the features of other late groups of ALP culture (ceramic styles) among them. However the Bodrogköz might already have been a contact zone at this time proved by mixed find material (with Tiszadob and Raškovce styles) of Sátoraljaújhely-Ronyva-part site.

The interaction between Bükk and Szakálhát pottery may have been observed in the find materials of the Szakálhát culture of B.-A.-Z. County but their fine ware had marked Szakálhát style characteristics. The most important sites have been Mezőkövesd-Nagy-fertő (M3-site No. 76), Mezőnagymihály-Salamon-tanya and Mezőkeresztes-Cet-halom (M3-site No. 10). Their finds have close similarities with each other and with the finds of Kompolt-Kistér, site No. 14 (Heves County). In the vicinity of these settlements of the Szakálhát pottery in the Bükkalja there have been cave settlements of the Bükk culture in the Bükk Mountains with more Szakálhát style fine and house ware in their material (but no more than 10 sherds/per site) than in the other parts of its territory. The presence of this type of finds has already been referred by F. Losits (1976) as well as N. Kalicz and J. Makkay (1977). Accordingly, both areas (Bükkalja, Bükk Mountains) may have been a contact zone of the neighbouring communities with different pottery styles.

Particular site of the region has been Bükkaranyos-Földvár of which fine ware had mixed style characteristics and it has not been possible to tie them to a certain pottery style (like the finds of Kompolt-Kistér, site No. 14). Beside the Szakálhát style fine ceramics there have been sherds with classical or late Bükk style (Bükk B–C) there and the duality may have been observed for example within the decoration of one single vessel.

The Esztár and the Raškovce or Diakovo style sherds that appeared at the sites of B.-A.-Z. County (e.g. Hejőkürt-LIDL logisztikai központ, Mezőzombor-Temető, Mezőkeresztes-Cet-halom/M3-site No. 10, Mezőnagymihály-Salamon-tanya) may have referred to the interactions of the late groups of ALP culture with each other. The contacts with the linear pottery settlements of Transdanubia have been showed by ceramic material of the sites of ALP 3<sup>rd</sup> and 4<sup>th</sup> phases in B.-A.-Z. County sparsely. Apart from the well-known Zseliz type sherds of Edelény-Borsod-Derékegyháza and Miskolc-Büdöspeszt cave only three sherds (from probably one vessel) of late *Notenkopf* or early Zseliz phases from Mezőkövesd-Nagy-fertő may have been mentioned. Among the finds and raw materials that were indicated the rela-

tionships between the cultural groups the *Spondylus* jewels have been more significant. It may have supposed that the settlements with relatively notable amount of *Spondylus* finds were in a “central” place and played important role in the exchange. At the same time these settlements may have indicated the exchange routes, too. The finds of B.-A.-Z. County have referred to the Hernád valley and the area at the border of the Alföld plain and the mountainous regions as the places of exchange routes.

The results of the dissertation may have proposed the directions for the further research in B.-A.-Z. County. From the excavated Middle Neolithic settlements has been needed to treat Hejőkürt-LIDL logisztikai központ site with its numerous settlement features and 45 burials of the early Tiszadob period. Regarding the Bükk culture it has been necessary to research some sites with classical and late ceramic styles systematically. Sufficient ceramic material for statistical examinations and radiocarbon samples for measurements from their closed features have been wanted to become comparable with the early find materials and settlement parts that were analysed in this work. Beside them it would be substantial to investigate the sites of the Szakálhát culture in B.-A.-Z. County and to determine characteristic style of the late Middle Neolithic settlements of the eastern part of South Borsod.

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