8. Neolithisation Processes in the Carpathian Basin

Already from its infancy, research into the advent of the Neolithic in Europe displayed a focus upon the Carpathian Basin. Initially, this was exemplified by the excavations at Starčevo (Fewkes, Goldman, Ehrich 1933) in the southern Banat, soon to be eponymous for the regional expression of the Early Neolithic within the entire central Balkan region and in the Banat (Arandjelović-Garašanin 1954). At the northern end of the Carpathian Basin, it was research in Hungary (Kutzián 1944. – Kutzián 1947) which addressed this period. Thus, the Early Neolithic in the extended region roughly between Pančevo and Debrecen, essentially the entire Vojvodina, the Romanian and Hungarian Banat, Transylvania, and the southern Alföld would remain principally unresearched (cf. Milojčić 1949, 70–94). While this situation tangibly altered within the Serbian portion of the Carpathian Basin in the wake of the Second World War, the Banat continued to be uninvestigated with the exception of the zone immediately along the banks of the Danube. Gheorghe Lazarovici's portrayal of the state of research up to the 1970s very clearly highlights this state of affairs (Lazarovici 1979). He only had recourse to the results of archaeological excavations for the zone along the Danube Gorges. For the territories north of there, he could only evaluate documentation from amateur researchers and small ethnographic collections. His information is accordingly patchy and false in places, should it be examined in detail. This only became clear to the present author upon undertaking his own research project in the northern Banat, a region which had not been investigated in the slightest for Early Neolithic settlement. The most recent register of sites compiled within the Jagiellonian University of Kraków's publication series *The First Neolithic Sites in Central/South-East European Transect* also evidences the discrepancy between, on the one hand, well-researched Transylvania and the region of the southern Banat along the Danube Gorges and, on the other, the few sites within the lowland Banat. In addition to the passage of the Olt, the valley of the Mureș seems to have been of some significance in the neolithisation of the inner-Carpathian regions, as is attested by a concentration of the earliest sites along the river course. The trajectory of the Neolithic within Transylvania has already been the subject of various summarising works (Berciu 1961. – Vlassa 1966. – Lazarovici 1984. – Maxim 1999), and has been specifically treated by Marius-Mihai Ciută not long ago with a focus upon the Early Neolithic, integrating the more recent excavations (Ciută 2005). The discovery of new sites with overwhelmingly monochrome and some white-painted pottery permitted Iuliu Paul to dismantle the Starčevo-Criș culture, a four-stage system developed by Lazarovici on the strength of the sites in the Banat and ultimately based upon divisions made by Vladimir Milojčić (Paul 1995. – cf. Milojčić 1949, 70–71. – Lazarovici 1979, 15–25. – Lazarovici 1984). Paul and (very much in the same vein) Ciută assume as their point of departure an older, so-called "Pre-Criș culture" as the earliest appearance of the Neolithic presaging the actual Criș culture within the Carpathian Basin (Ciută 2000. – Ciută 2005, 26–42). This corresponds to the level Starčevo-Criș I following Lazarovici, and is synchronised with Proto-Starčevo (Ciută 2005, 18). An organic evolution of the 'Pre-Criș' materials to actual Criș pottery is stratigraphically attested at multiple sites and not only at the usual examples, but also at the aforementioned sites in Oltenia, as a result of which, this division comes across as rather

artificial. Certainly, pre-Starčevo-I-period sites were only first discovered in former Yugoslavia following the publication of Milojčić's periodisation, with this providing a sensible rationale for discussion of a Proto-Starčevo phase. For the Romanian Carpathians, such a distinction between 'Pre-Criș' and Criș seems far less meaningful, inasmuch as the earliest so-called 'Pre-Criș' sites number among those longest known.

8.1. The Southern Banat, Bačka, and Srem

The Early Neolithic of the Pannonian Basin displays only weak connections to the north-eastern Bulgarian region, but (conversely) stronger ties to the central Balkans. The four-level division of the Starčevo culture into Stages I–IV first undertaken by Milojčić (Milojčić 1949, 70-81) was thereafter consequently adopted and further substantiated with finds for Yugoslavia by Draga and Milutin Garašanin (Garašanin 1973, 36–42) and for Romania by Lazarovici (Lazarovici 1979, 15–69). To this was later added the Proto-Starčevo culture, a term coined by Dragoslav Srejović on the basis of the finds from Lepenski Vir (Srejović 1971).

The transition from Proto-Starčevo to Starčevo was already stratigraphically understood by Sergej Karmanski at Donja Branjevina in the 1960s (Karmanski 1979. – Karmanski 2005). Three levels were attested there, the lowest of which contained exclusively impression-adorned coarse pottery and a red-slipped fine ware. Following this is a stratum with white-painted pottery which might be parallelised with the earliest material from Gura Baciului (and thereby the phase of Starčevo-Criș I) by means of its spotted motifs and lattice patterns. The latest level at Donja Branjevina displays linear, dark-painted pottery associated by Schubert with Gura Baciului III (Schubert 1999, 86–87). Further supporting this synchronisation are the high foot rims of some of the bowls, which appear from Starčevo-Criș III onwards, although enduring into Stage IV (cf. Lazarovici, Maxim 1995, figs. 45/4; 47/5).

For Lazarovici, fundamental to the subdivision of the later Starčevo-Criș phases of III and IV particularly were the settlement stratigraphies of Dubova-Cuina Turcului, of the Danubian island of Ostrovul Golu, his excavations at Gornea, and, indeed, the typological division of the Criș-period finds from Schela Cladovei from the Romanian side of the Danube Gorges.

The stratigraphies of Gornea and Cuina Turcului already begin in their Phase IIb, of which flat-bottomed vessels such as simple bowls with straight or slightly rounded walls, pots with offset straight edges or with a flaring profile, or narrow-necked, bulbous vessels are typical (cf. Lazarovici 1979, pl. V/A1–12, 14–29).

In clear contradistinction to this, vessels with tall standrings occur from Phase IIIa onwards and the further roughening of the surfaces of the coarse wares with impressed barbotines and crude impressions markedly increases (cf. Lazarovici 1979, pl. VI/A–C). Any development in the painting of vessels is (by means of contrast) hardly perceptible, as a result of which Schubert has his classical Starčevo II encompassed both phases (Schubert 1999, 86–87). A dark painting inventory composed of hashed triangular motives, parallel lines, and hatched bands is attested in both Starčevo-Criș IIb and IIIa (cf. Lazarovici 1979, pls. V/B; VI/B43–46). Nevertheless, the division between these two phases is of vital relevance to the present study as the elements first appearing in Starčevo-Criș IIIa such as high foot rims and crude impression-adornment also occur in the material from Ovcharovo-Gorata, thereby permitting a comparison with the western Pontus for the first time. Lazarovici ascribes the finds from Ostrovul Golu I, Cuina Turcului II, and Schela Cladovei, and the earlier material from Gornea to this stage (cf. Lazarovici 1979, pl. VI/A–B).

Even more striking overlaps in form spectrum result from the finds of Phase Starčevo-Criș IIIb, if (in addition to the aforementioned forms) vessels with small feet, an incised decoration combined with plastic cordons, and numerous ornaments applied to the vessel surface are also considered (see Lazarovici 1979, pl. VII/C22, E–F). Hence, the strongest similarities are displayed with Ostrovul Golu II, Cuina Turcului III, and the later Criș material from Gornea. Comparison of the painted motifs is of little additional aid, as only a very general connection between Ovcharovo-Gorata and phases Starčevo-Criș IIb to IVa may be evidenced in the Banat (cf. Schubert 1999, 86–88).

Also to be associated with Starčevo-Criș III are the finds from Giulvăz already discussed by Lazarovici, which he assigns to his phases of Starčevo-Criș IIIa to IIIb (Lazarovici 1979, 47–49. – Lazarovici 2006, fig. 20). At this juncture, the pottery no longer displays a red slip. Dimples in the lips of vessels, however, are as frequent as before; on the Lower Danube, these might be considered an indication of a very early chronological ascription. In the Banat, this adornment technique seems, nevertheless, to have endured much longer, and thus cannot be assumed to be emblematic of an earlier date. Quite evidently, two levels could be identified within the excavations of the 1960s, of which only a selection of finds from Horizon I has, nevertheless, been presented by Lazarovici (Lazarovici 1979, pl. VII/B6–14, D1–2, F37–45). With their dark-brown linear and spiraloid painting, the vessels to be found there are to be associated with the latest material from Donja Branjevina I and Gura Baciului III according to Schubert, which generally corresponds

to Lazarovici's Starčevo-Criş III phase (Schubert 1999, 86–87. – cf. Lazarovici 2006, fig. 20). To be added to this are the finds from a settlement site at Golokut in the Sremska Gora, south of Novi Sad (Petrović 2006). There, settlement pottery replicating the type spectrum from Donja Branjevina I and Gura Baciului III was unearthed from multiple irregularly formed pits. Coarse vessels adorned with barbotine and impressed adornments, and fine pottery on high foot rims are characteristic. Spiral motifs accomplished with dark pigment on a light background are be found most prominently among the painted wares (Petrović 2006, pls. I–II).

While various previously developed elements endure during the phase of Starčevo-Criş IVa (attested at Ostrovul Golu III and Gornea), the appearance of biconic forms offers a clear typological criterion for delineation. The plastic technique of adornment with incisions, impressions, and appliqué motifs first clearly experiences a floruit at this time, and it is, accordingly, hardly surprising that individual forms among the rich wealth of motifs lend themselves to comparison with those of Ovcharovo-Gorata (cf. Lazarovici 1979, pl. VIII/E–F). Nevertheless, comparison over such great distances based purely upon forms always remains fraught with certain difficulties. In light of the much more pronounced affinity of the material from Ovcharovo-Gorata and Dzhulyunitsa IV with the material from Transylvania and (in particular) Moldavia, a chronological connection with the phase of Starčevo-Criş IIIb in the Banat seems far more likely.

Sharply profiled forms with multiple limbs are characteristic of the phase of Starčevo-Criş IVb as contained in Ostrovul Golu IV, which already point to the Middle Neolithic and must possibly be considered in connection with the Vinča A Complex (Lazarovici 1979, pl. IX/A–C). The forms may clearly be distinguished from earlier examples. A somewhat comparable vessel structure is displayed by layers A–B1 and B2 at Samovodene (Stanev 2002b, pls. 5–10) and Karanovo III (cf. Nikolov 1998, pls. 11–13), this confirming the posterity of this find horizon in comparison to finds from Ovcharovo-Gorata.

8.2. Parța, Tell II

The present author's research in the Romanian Banat is connected to that of the Museum of Banat directed by Florin Drașovean and Dan Ciobotaru. There has been collaboration between the latter and the Eberhard Karls University Tübingen since 2008. Central to this work is the question as to how the Balkan Early Neolithic displays itself in its north-western expansion, and which local expressions occur within this specific environment. Further pertinent is how this concept (developed initially in the Mediterranean) might have developed in respect to the preconditions in that parts of the Banat region with its continental climate and a very precise situation in terms of resources, i.e. possessing good soils but with no sources of stone.

The prehistoric settlements at Parța are to be found to the south-west of Timișoara, only some 16 km from the centre, on the northern bank of the Timiș/Temesh River. Immediately north-west, neighbouring the famous Middle and Late Neolithic settlement of Parța (Tell I) (Lazarovici, Drașovean, Maxim 2001), may be found an Early Neolithic settlement of enormous extent, but with a markedly lower accumulation of levels in comparison to the levels of Tell I. This site was also intensively visited within the context of Lazarovici's excavations on Tell I, and surface finds collected. As yet, excavation has not occurred here. The collection finds are stored in the Museum of Banat, Timișoara.

In August 2009, three strips of land were measured geomagnetically by the company Eastern Atlas, two of which lay on the south-eastern slope of the tell (c. 1 ha), and one on the plain north of the tell (0.2 ha) (Fig. 159). As the field forming the largest part of the tell was planted with maize, and only half of a working day was available for the investigations, the results of the geomagnetic mapping provided only a narrow insight into the expected archaeological structures. The two strips on the southern slope of the settlement (c. 200 m long and 27 m wide) display wildly differing distributions of archaeologically relevant magnetic anomalies. While the northern of these lies almost completely within a settled area and evidences numerous archaeological structures such as pit-houses and ovens, its southern counterpart only tangentially encounters the tell's core area in its westernmost part. The areas with higher concentrations of settlement remains were evidently enclosed by a succession of ditches. Whether these ditches are interrelated, and whether they surround the same tell cannot be deduced from the data on grounds of the limited surface area investigated. The northern strip, some 200 m north of the two southern swathes, displays a marked division into two: in its southern part, relatively strong magnetic anomalies indicating settlement pits might be noted, much as in the other two strips. By means of contrast, the northern portion is marked merely by weak anomalies which (while they may equally be potentially caused by pits) either lie beneath a considerable colluvial accumulation or have been largely destroyed by agricultural landscaping. The former seems more likely as the relief to the north slopes gently. It might thus be assumed that the previously more steeply sloped tell was gradually levelled by agricultural work, with this ultimately causing the differences in the archaeologically relevant magnetic anomalies



Fig. 159: Parța II. Geomagnetic mapping of the northern and southern edge of the Early Neolithic settlement area (Eastern Atlas, Berlin).

along the northern slope. Evidence of graves could not be found in the north.

The relatively small-scale geomagnetic measurements upon the already partially archaeologically investigated Tell II of Parța (Lazarovici, Drașovean, Maxim 2001, 58–59) hardly permit the drawing of any extensive conclusions. Nevertheless, the data demonstrate that the areas settled during prehistory may be distinguished from those likely unsettled. Yet, it must also be noted that transformations in the landscape as a result of agriculture might complicate the interpretation of the geomagnetic data. Additionally, earth removal and levelling can be expected in the vicinity of the dyke construction along the Timiș, as a result of which the utility of geophysical investigations regarding the site's archaeological character must be understood to be further limited.

In addition to Early Neolithic ceramics, surface finds could be identified from the chronological horizon of Vinča C and from the Banat's Late Neolithic Foeni Group (Luca 2006, 192). The geophysically mapped structures may accordingly only be assigned to a specific epoch with difficulty. Decisive for the selection of an alternate area for excavation was ultimately (and most importantly) the destruction in the centre of the suspected prehistoric settlement by a concrete bunker, and the enormous extent of the settlement, which can be estimated at about 18 ha from the geophysical measurements. How large an area of this relates to the Early Neolithic settlement could not be established on the strength of the distribution of surface finds alone.

The find material from Parța II was assigned by Lazarovici to his levels of Starčevo-Criș IIb to IIIb without explanation (most recently Lazarovici 2006, 116, fig. 20). Three ^{14}C dates commissioned by Ciobotaru are decisive here. It may generally be stated that the values of GrN-28460 (6860±60 BP), GrN-28877 (6800±50 BP), and GrN-28459 (6660±60 BP) lie very closely to one another and fall within the period of the first half of the 6th millennium BCE, which is to be expected on grounds of typological considerations in respect of the pottery. This comprises forms from the developed Early Neolithic which cannot be attributed any more precisely for want of closer analysis. The present author was only able to examine a portion of the find material in the depot of the Museum of Banat in 2007.

8.3. Foeni Sălaș and Foeni Gaz

The village of Foeni lies between the Timiș/Temesh River and the recently canalised Bega, some 45 km south of Timișoara. The present author's investigations were focused upon an area north-west of the village at Foeni Stația de Gaz (in short Foeni Gaz) from whence Early Neolithic finds have been known since 1993 (El Susi 2001. – Spataro 2003). Prior to this, excavations had already occurred from 1992 to 1994 at a site 3 km north-west of the locality, immediately by the road to Ionel/Johanisfeld in the field of Sălaș, under the direction of Haskel Greenfield and Florin Drașovean. Various preliminary reports with a geomagnetic mapping of the site by Jean-Michel Maillol exist for the excavation (Greenfield, Drașovean 1994. – Drașovean 2007).

The find material of the excavations at Foeni Sălaș may be attributed to the phases of Starčevo-Criș IIa–b, standing thus at the very beginning of the Neolithic settlement of the plains of Banat. The two presently published ^{14}C dates, GrN-28455 (7510±60 BP) and GrN-28454 (7080±50 BP), indicate the last two centuries prior to 6000 calBC (Biagi, Shennan, Spataro 2005). Some surface finds from Foeni Gaz are typologically comparable to the material from Foeni Sălaș, which is the reason why this site came under academic scrutiny after the conclusion of excavations at Sălaș.

The site of Foeni Gaz lies 2.2 km north-west of the village as the crow flies, only 2.5 km away from the Serbian border. The site received its name from a natural gas extraction installation (Stația de Gaz), whose aboveground structure encompasses some 1.2 ha. Earlier, now silenced extraction facilities originate from the Socialist era. Following the political upheaval of the early 1990s, a new station some 2800 m² in extent was established within the west of the area which continues to be in use today.

From 1998 to 2001, Ciobotaru excavated two sondage trenches immediately east and west of the modern pumping station. These investigations yielded Early Neolithic material from the Starčevo-Criș culture which might be ascribed to Phase IIb within Lazarovici's system (Spataro 2003). Some 20 m north and 150 m west of the natural gas station may also be found two tumuli of presently indeterminable chronological ascription.

In the summer of 2009, we were able to carry out a surface survey and a short excavation campaign at Foeni Gaz in cooperation with the Museum of Banat, the results of which were then published (Krauss, Ciobotaru 2014).

The more precise delineation of the Early Neolithic settlement area was initially accomplished by the Eastern Atlas company through the geomagnetic prospection of two large areas north and east of the natural gas station (Fig. 160). Accessible were two strips, one north (1.95 ha) and the other east (1.3 ha) of the gas installation's access road. The industrial complex demanded a necessary limitation of the geophysical prospections to these surfaces. The area to the north is enclosed by a row of closely-spaced pylons to the east and south interfering with geomagnetic measurements.

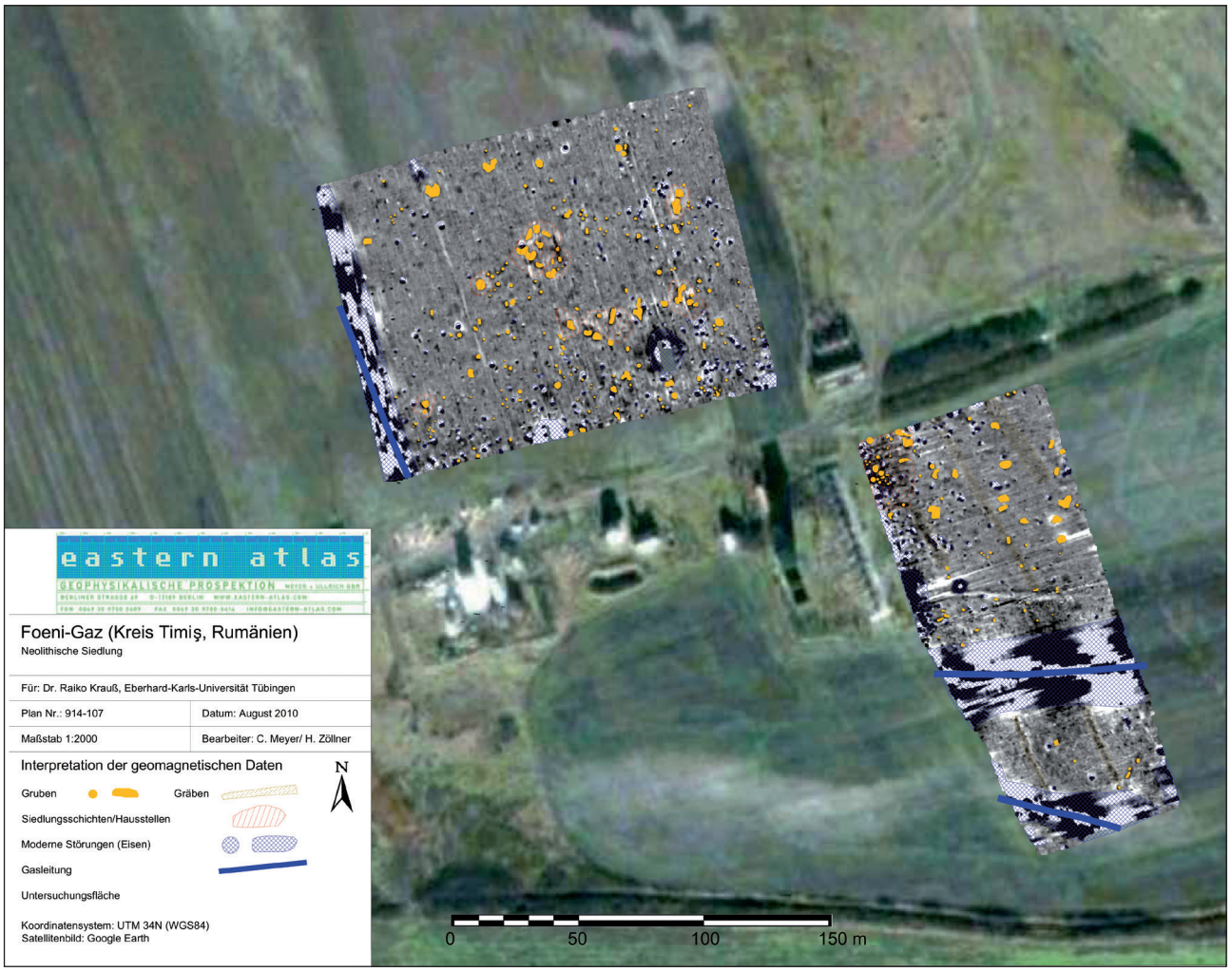


Fig. 160: Foeni Gaz. Geomagnetic mapping of the Early Neolithic settlement area (Eastern Atlas, Berlin).

When, in addition, a strong disturbance caused by a subterranean gas pipe was displayed, the measurements were attuned to the height of the northern tumulus. Also, as a result of the second tumulus, it could hardly be hoped that the earlier levels might be depicted in the geomagnetic mapping to the west. It was also to be expected that the entire southern area would be heavily disturbed by gas pipes, a fact ultimately confirmed by measurements in the area bordering to the east.

In the northern measurement area, the strong disturbances are confined to the westernmost edge and a strip of some 30 m in breadth along the field path. According to the archaeological map, the area should only cover the eastern edge of the site, but many positive magnetic anomalies indicating settlement pits could also be noted outside of the presumed limits of the settlement. In part, the pits are dispersed relatively unevenly across the area, but do form groups suggesting more intensive settlement activities, most noticeably at the centre of the surface measured. There, most of the positive anomalies are clustered within confined zones of weak negative magneticity (between 75 and 300 m² in size) the latter of which could be attributed to thin deposits from the debris of pit-houses, thus marking the sites of prehistoric houses. In the immediate vicinity of the presumed houses may also be found linear and (in part) all but right-angled configurations of smaller positive anomalies which probably originate from rows of postholes.

The large number of finds to be encountered particularly in the vicinity of the subterranean gas pipes nevertheless implies that the trenches dug for these directly cut the prehistoric settlement. In order to encompass a settlement boundary potentially running alongside a gas line, this area was systematically investigated for surface finds within an area of some 3650 m² composed of a grid of 5 × 5 m squares. Somewhat surprising was not only the quantities of finds but also (most noticeably) their diversity. In addition to



Fig. 161: Foeni Gaz. Distribution of Early Neolithic ceramic ware according to the results of the surface survey (R. Krauß/Eastern Atlas, Berlin).

Early Neolithic sherds (Starčevo-Criș), material from the Late Chalcolithic (Baden), the Early and Late Bronze Age (Makó, Nagyrév, Cruceni-Belegiš), the Early Iron Age, and Middle Ages was also recorded. Hence, it became evident that the Early Neolithic features had not only been heavily disturbed by modern incursions into the earth, but also overlaid by the numerous settlement levels of later prehistoric periods. As drastic as the trench cut for the gas lines is, the Neolithic finds would, notwithstanding, never have been visible without this deep incursion into the ground. Quite evidently, the Early Neolithic levels (at the very least) are overlain by a thick colluvium; the regularly recurring flooding from the tributaries of the Tisza must have left sizeable quantities of sediment upon the flat Banat plains before these waters were dyked. Moreover, the overlaying of the Early Neolithic levels by the occupation of later epochs must also be considered in this context (Fig. 161). A small sondage excavation of 3 × 5 m yielded a settlement feature of the late Baden culture cut by an Early Bronze Age well (Krauss, Ciobotaru 2013).

8.4. The Landscape of the Northern Banat

The landscape in the northernmost part of the Romanian Banat is a flat loess plain divided between strongly meandering

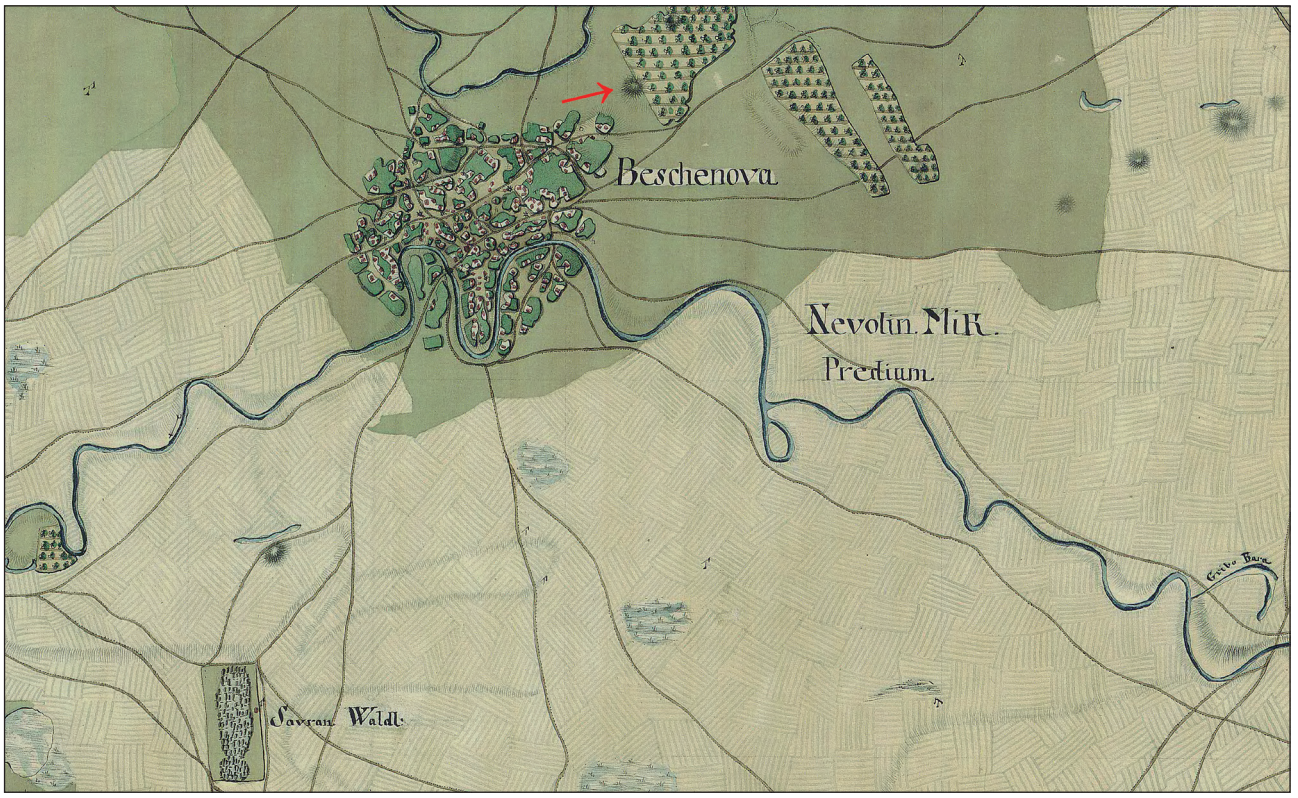


Fig. 162: A bigger settlement or burial mound on the Josephine map from 1769–1772 next to the village of Beschenova (today's Dudeştii Vechi).

river courses converging to the west within the Tisza. The northern edge of the Banat is formed by the Mureş/Maros/Maroš which forms a broad delta prior to its damming with dykes. The current, largely dry landscape was first engendered by its incorporation into the Austrian Danubian Monarchy from the 18th century onwards. As might be noted from historical maps, the delta extended from the present-day estuary of the Mureş into the Tisza at Szeged some 40 km further to the south. The small, present-day river of the Aranka/Zlatica roughly marked its southern boundary. The villages of Sânnicolau Mare, Dudeştii Vechi, and Vălcani may be found on the Aranka's course before the river flows into the Tisza on the Serbian side at Padej. Until the dyking and straightening of the river courses, the landscape between the Aranka and the present course of the Mureş was an extended damp biotope with numerous swamps and woods interspersed with many small bodies of water barely separated from one another. Of the many flowing watercourses only the Ciganska Aranka still transports water for any long distance. It flows north of Sânnicolau Mare up to Dudeştii Vechi, where it joins with the actual Aranka. Until the 18th century, it was only south of the Aranka that the steppe-like landscape which marks the entire region up to the Mureş today actually began. As a result, a transitional zone was presented to the first farmers, yielding optimal conditions for agriculture and good pasturage in its south, with aquatic resources and game (together with ample wood for construction and fuel) in its north. This general image of the landscape is primarily gained from the evaluation of the copious material from historical maps. Diagnostic illustrations are provided most prominently by a 1680 map from Amsterdam by Joannis Janssoni, a map of Hungary made by Thomas Bowles and Robert Sayer from the 18th century, the military map by Reinier and Iasué Ottens from 1740, the *Tabula Bannatus Temesiensis* by Franciscus Griselini from 1776, and, finally, (and most precisely of all) the Josephine land survey compiled in the years 1769–1772.

The transitional zone on the southern edge of the delta estuary of the Mureş also offered settlement conditions following the Neolithic period, which is evident from the striking density of archaeological sites along the Aranka. Most noticeably, numerous mounds still protrude pronouncedly from the flat plain. Between 1903 and 1908, the Hungarian Gyula Kisléghi Nagy undertook field surveys and occasionally excavations at various sites between Óbessenyő/Star Bišnov/Bessenova/Beşenova Veche (today Dudeştii Vechi)

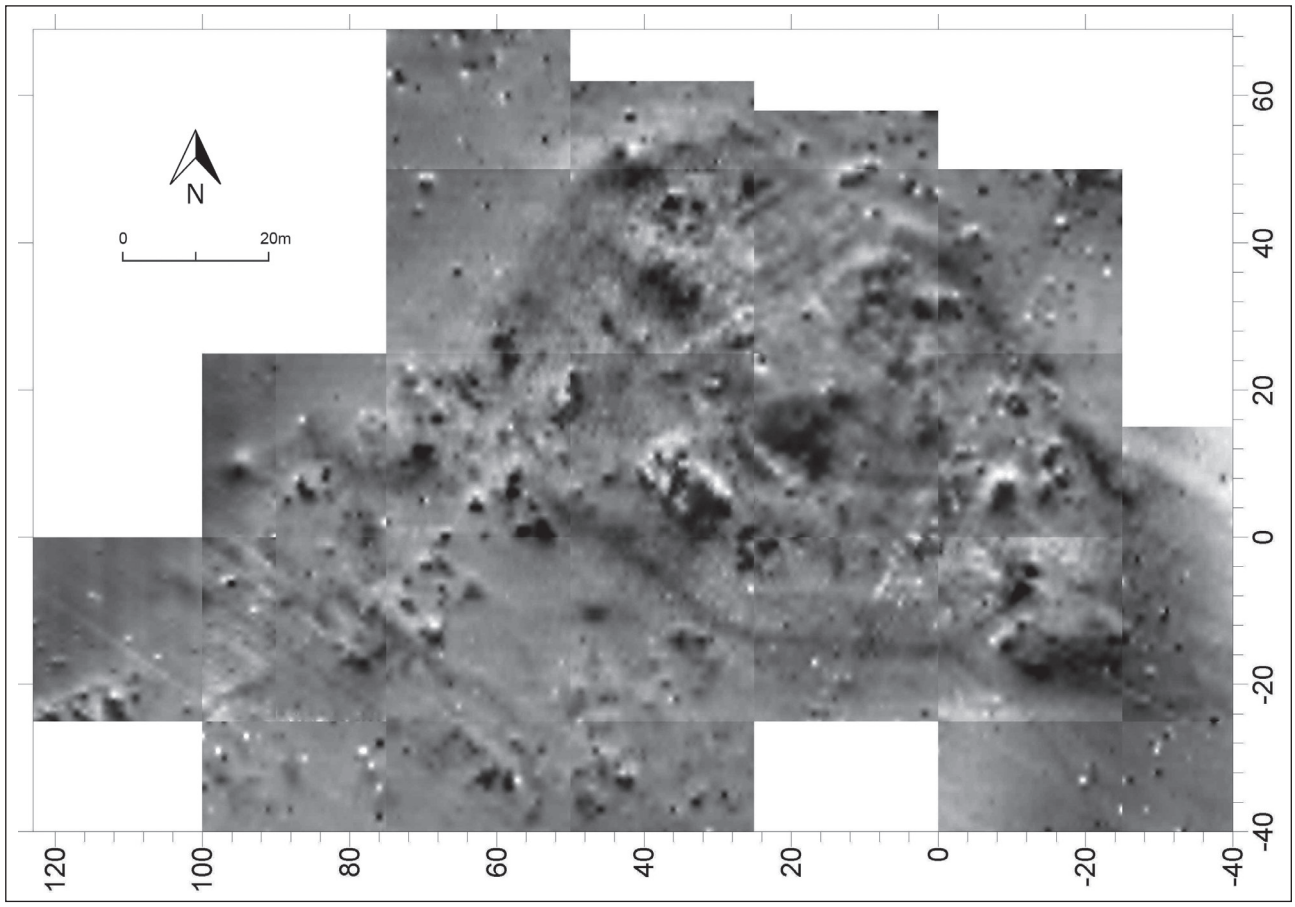


Fig. 163: Movila lui Deciov. Geomagnetic mapping of the Early Neolithic settlement surrounded by a ditch (J.-M. Maillol).

and Nagyszentmiklós/Groß Sankt Nikolaus (today Sânnicolau Mare) (Kisléghi 1907. – Kisléghi 1909. – Gáll, Ciubotariu, Tănase 2010). The first systematic registration of all archaeological sites visible at the time within the region (and most importantly the mounds) may be attributed to him. He recorded 13 sites in the environs of Óbessenyő alone, to which he accorded Roman numerals following the order of his visit or ascribed local toponyms known to him (Gáll, Ciubotariu, Tănase 2010, 147–148). Most importantly, it was between Óbessenyő and Nagyszentmiklós, on the Bukova Puszta (today Bucova Pusta), north of the street connecting the two villages, that he recorded eleven visible mounds (Gáll, Ciubotariu, Tănase 2010, 145). He also numbered these sites with Roman numerals running from I to IX. In addition to these sites, an abandoned village and a La Tène-period cemetery in the vicinity of his mound of Bucova Pusta III should be mentioned.

8.5. Movila lui Deciov/Dečova Mogila

The Movila lui Deciov (Deciov's mound) consists of the largest (and only genuine) settlement mound in the district of the village of Dudeştii Vechi. The tell lies on the northwesternmost edge of the locale, directly north of the road to Cheglevici (Porumbeşti/Keglewitschhausen/Keglevichháza). Within academic literature, the site is often merely referred to generally by the name of Dudeştii Vechi, which is misleading in light of the village's frequent change of names (see above), and the existence of various other archaeological sites in the district. Considering its prominent appearance, its marked visibility within the level plain, and, in turn, its proximity to the village itself, it must be assumed that the local population already understood that the hill was an archaeological site in the wake of the settlement of Catholic Bulgarians (Paulicians) in Óbessenyő in 1738. However, a larger hill indicated on the Josephine map between the village of Beschenova and a small patch of woodland does not seem to be this settlement (Fig. 162). For this area, the map is not orientated towards north, but rather towards the northwest. In the first decade of the 20th century, Kisléghi registered the site under the name of Óbessenyői őstelep, and published the initial finds which he had largely found within private collections held by the local population. Quite

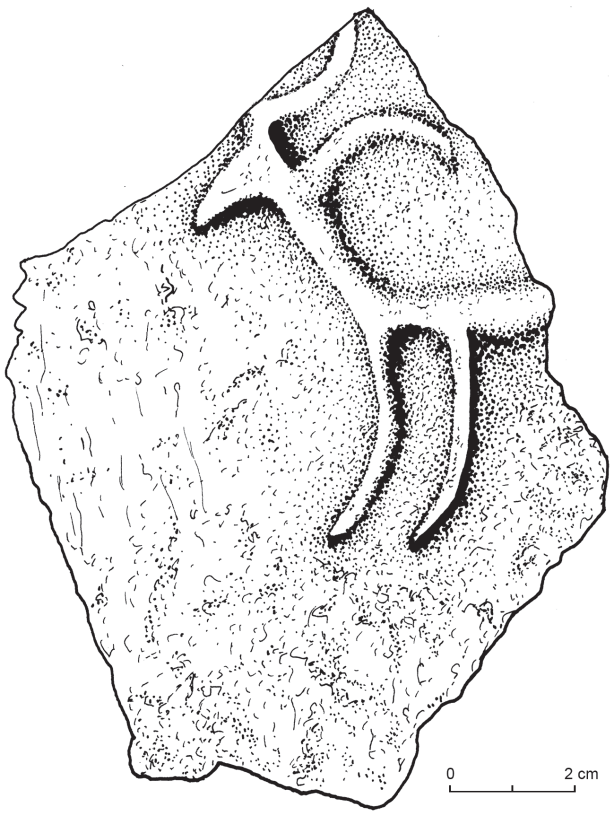


Fig. 164: Movila lui Deciov. Sherd of a big storage vessel with relief decoration of a bovid from the old excavations of Kisléghi Nagy Gyula (redrawing M. Möck).

evidently, he also undertook his own excavations (Kisléghi 1907. – Kisléghi 1909. – Gáll, Ciubotariu, Tănase 2010, 148). Lazarovici was unclear about the location of the individual sites around Dudeștii Vechi. The material from the Kisléghi Collection stored in the Timișoara Museum was registered by him under the name of Beșenova-Sat (Lazarovici 1979, 25). The information has been copied from there time and again, and up until the present day the finds have been referred to within academic literature under the heading of Dudeștii Vechi (or Beșenova). At some juncture following Kisléghi's investigations, the land came into the possession of a farmer named Dečov (Rom. Deciov), from whose name the site's present appellation derives.

In the 1980s, Konstantin Kalcsov, a history teacher at the local high school of St Cyril and Methodius, undertook his own excavations at the site with his students, incorporating the finds into the school's exhibits. In the 1990s, the school's collection was dispersed and discarded. Parts of this returned to Kalcsov's possession by way of alarmed pupils, but these were, in turn, confiscated along with many other archaeological finds in the 2000s, largely finding their way to the Museum of Banat. In 2000 and 2001, Dan Ciobotaru carried out regular excavations on the Movila lui Deciov, although with Kalcsov's participation; the results of these are presently unpublished. Only the findings of concomitant geophysical measurements by Jean-Michel Maillol have appeared within a preliminary report (Maillol, Ciobotaru, Moravetz 2004). The finds from these excavations largely arrived at the Museum of Banat. A small selection of whole vessels is also preserved within the small local historical collection of Dudeștii Vechi.

Ciobotaru's sondage excavations were able to confirm that the hill is largely formed from cultural deposits, and that this is accordingly a genuine tell containing evidence of the greater part of the Early Neolithic trajectory of the region. The geomagnetic measurements demonstrate that the entire hill is enclosed by a simple ditch (Fig. 163). This encompasses a surface of some 3750 m², this, in turn, distinguishing it from all other Early Neolithic sites within the region.

Lazarovici assigned the Kisléghi finds to his periods Starčevo-Criș IIb to IVa (Lazarovici 1979, tab. 5). In the region of the northern Banat, the Neolithic settlement generally only appears to begin with Starčevo-Criș II, inasmuch as earlier finds remain presently unattested. Only the settlement at Foeni Sălaș begins somewhat earlier, already in Starčevo-Criș IIa (see above). To be ascribed to the early material of the Movila lui Deciov is the body sherd of a large vessel with a depiction of a horned animal applied in relief on the upper surface (Fig. 164). This piece hails from Kisléghi's excavations (Kisléghi 1907, 275 and fig. I/2), and is today to be found in the Museum of Banat. The late phase of the development of the tell is marked by a dark-painted sherd with linear motifs which might be compared on a superregional level with the material of the phase of Anzabegovo-Vršnik II in the southern Balkans (Garašanin 1998, 36–37). The material from excavations in 2000 and 2001 under the direction of Ciobotaru, including the old finds from Kisléghi, was the subject of a doctoral dissertation by Andreea Jozsa at the University of Sibiu (Jozsa 2013). By means of a detailed evaluation of the finds, she was able to limit the settlement's occupation of the Movila lui Deciov to the phases Starčevo-Criș from IIa to IIIa (Figs. 165–167).

In 2018, the present author initiated new excavations on the Movila lui Deciov in cooperation with the Museum of Banat. There, a 4.60 × 10.10 m excavation trench was opened on a large geomagnetic signal in the east of the delimited settlement area. Two Early Neolithic settlement layers are clearly visible, which date to around 5800 and 5700 calBC according to the evaluation of the first data series. Additionally, this area contains relocated Middle Neolithic finds

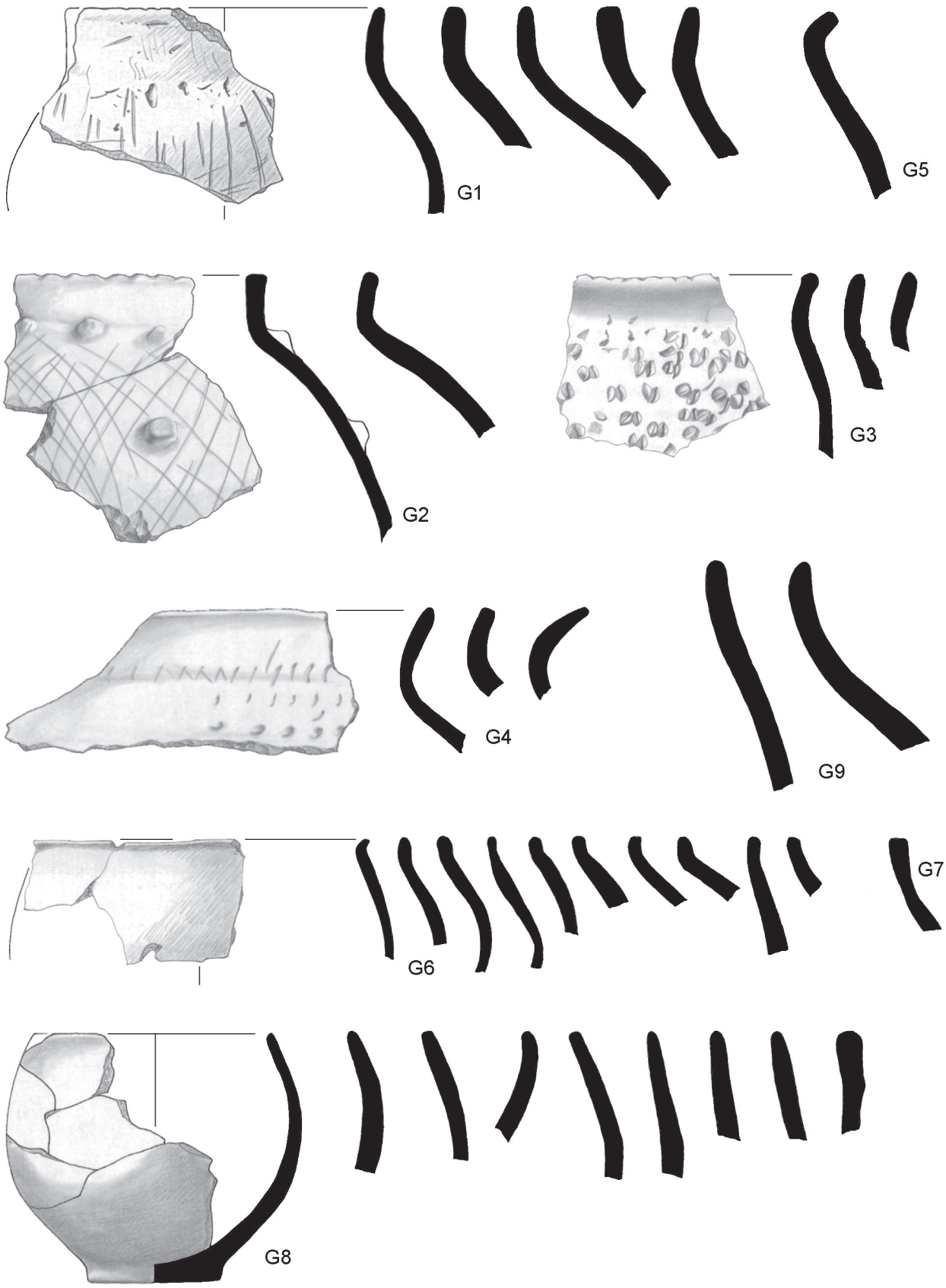


Fig. 165: Movila lui Deciov. Typology of closed ceramic vessels (A. Josza).

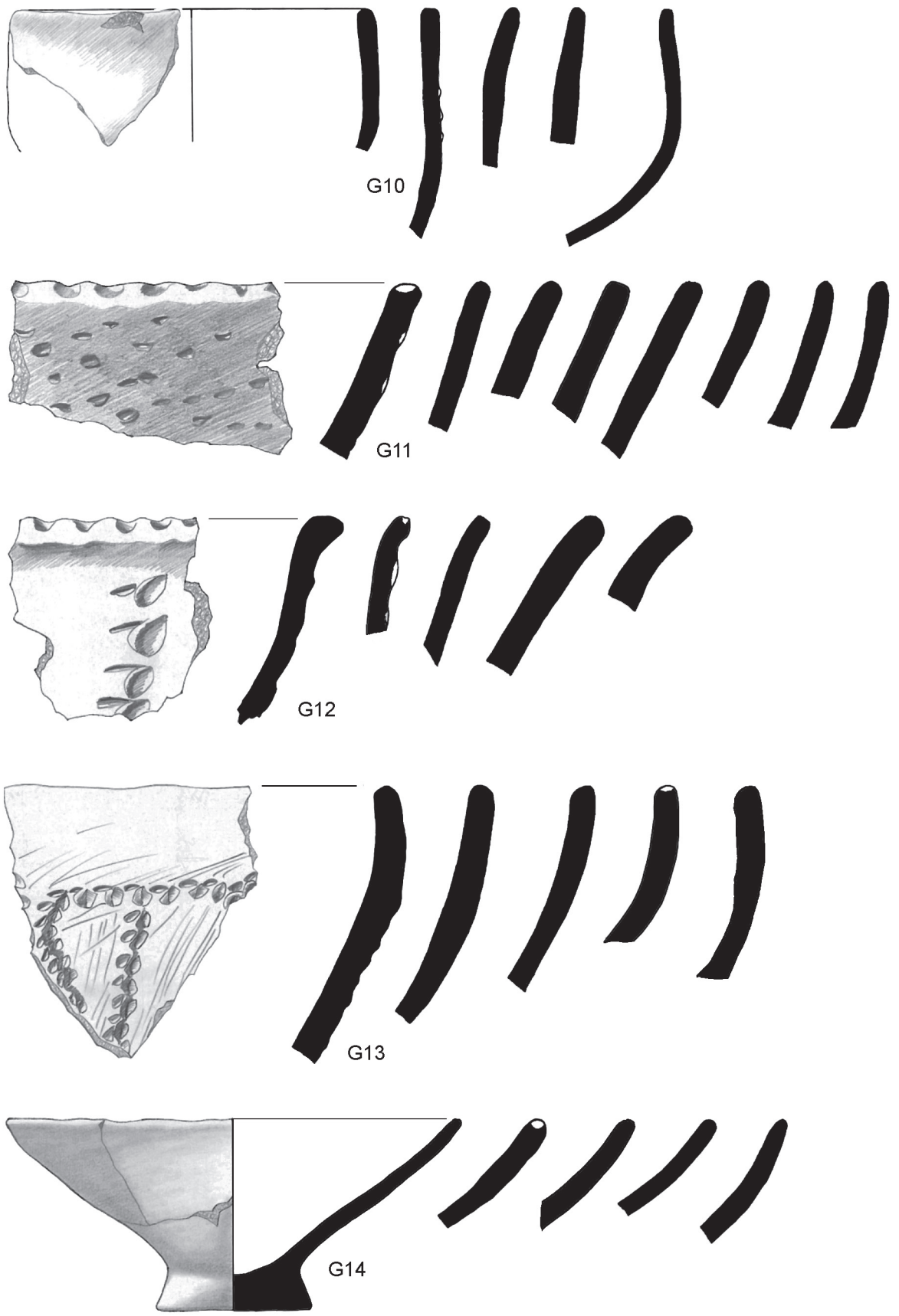


Fig. 166: Movila lui Deciov. Typology of open ceramic vessels (A. Josza).

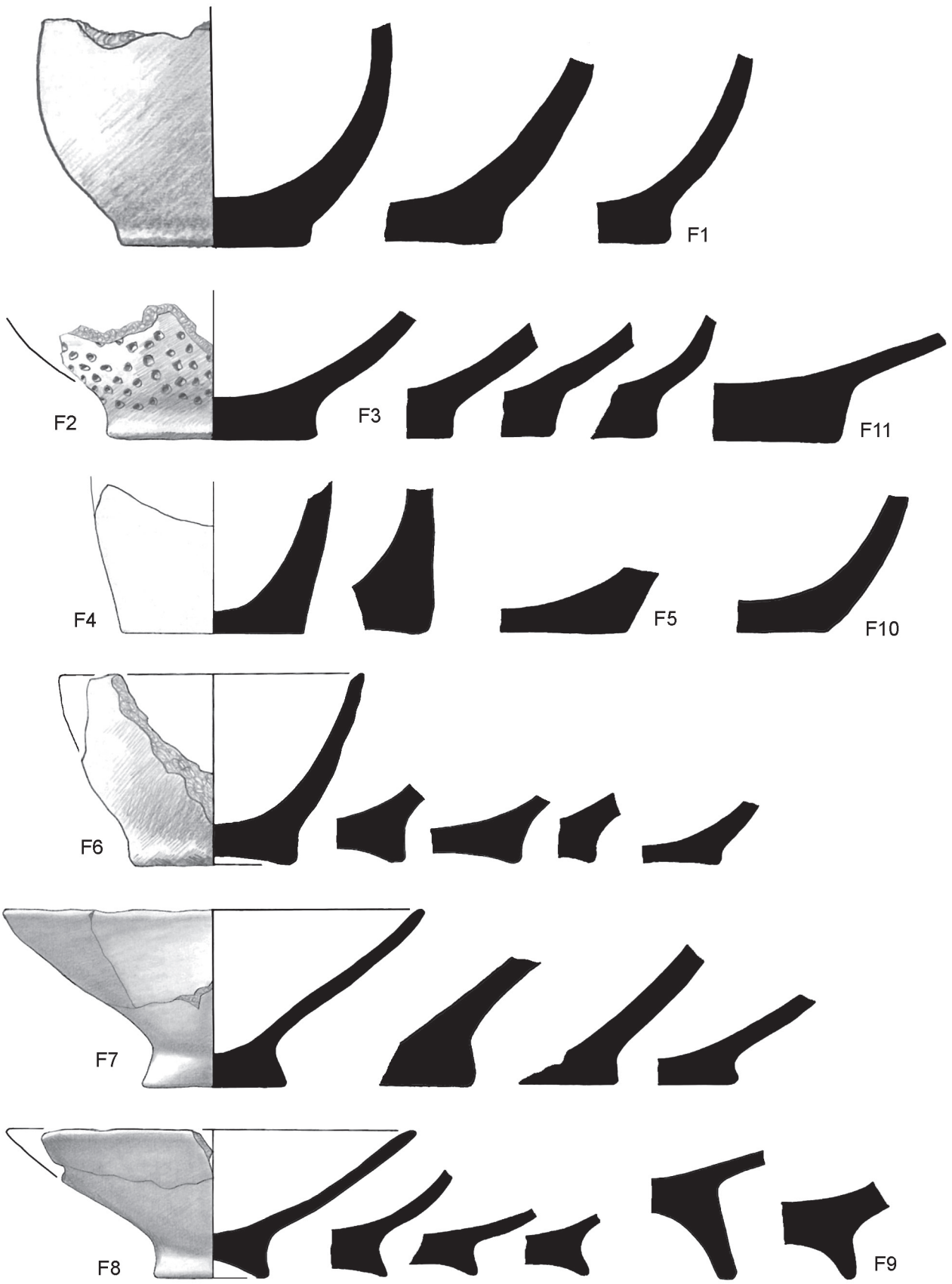


Fig. 167: Movila lui Deciov. Typology of ceramic vessels' feet (A. Josza).

from the period around 5600 calBC. However, clear contextual features from this period are presently missing.

For the older Early Neolithic settlement horizon, we were able to document larger parts of a post-and-beam dwelling in the excavation section. From the evaluation of the radiocarbon data, this feature should be approximately contemporaneous with the settlement's enclosure ditch. In the second Early Neolithic settlement phase, several very large pits were excavated from the upper layer, which penetrated the lower settlement horizon. The largest pit feature so far has a diameter of 6 m in the sections but still continues across the east-northeast profile. The backfill consists of laminated layers which can be macroscopically determined as ash bands, charcoal layers, and strata with burnt clay. Apparently, these pits were repeatedly used for pyrotechnic activities. It is possible that they were very large earth ovens, used, for example, for firing large, relief-decorated storage vessels, of which larger fragments were found in the fill sediment. The largest pit at the Movila lui Deciov is about 2.50 m deep. In addition to numerous pottery and bone finds, charred plant remains, fish bones, and snail and mussel shells were found in the pit fill. Sunk into the Early Neolithic layer were Chalcolithic crouched burials which might be safely attributed to the early Tiszapolgár culture on the strength of their ceramic grave goods, and the burial of a mediaeval mounted warrior with some of his armaments and the fragmentary burial of a horse. That the Early Neolithic find layer in this area is heavily disturbed is the result of not only these later inhumations, but also various animal burrows.

8.6. Kalcsov I

One and a half kilometres east of the signpost for Dudeștii Vechi, immediately north of the road to Sânnicolau Mare, Kalcsov was able to localise a small Early Neolithic site unrecognised by Kisléghi. An extended hollow representing a currently desiccated secondary arm of the Aranka is easily identifiable in the ploughed field. Within the bow of this former river branch, a large quantity of sand had been deposited, elevating it above the otherwise rather clay-like soil, which is why the field is called "Na Pesaka" (on the sand). Emerging from the midst of this sandbar is a tumulus, the numbering of which within Kisléghi's system remains obscure. Kalcsov doubtless noted this burial mound, as it can already be discerned from the flat plain and the lighter surrounding sand from some distance. The centre of the Early Neolithic site (to be termed here 'Kalcsov I' after its discoverer for the sake of ease) lies 300 m south of the tumulus' crest (Fig. 168). The find scatter extends for some 250 m in an eastwesterly direction and 150 m in a northsoutherly



Fig. 168: Kalcsov I. Location of the tumulus "Na Pesaka" and the site on the Google Earth satellite image (R. Krauß).

direction, and is bisected into northern and southern parts roughly in its middle by a field path. Approached from the west, the settlement area may be discerned from its slight elevation above the former river course. This must be the result of a natural river terrace as the find accrual is too little to have engendered such a hill from settlement activities alone.

In the summer of 2013, the site was geomagnetically prospected over a surface area of c. 0.71 ha by the company Eastern Atlas (Fig. 169). Within the geophysical mapping, numerous positive magnetic anomalies could be identified, most noticeably in the region south of the path through the fields. Some of the rectangular to quadratic structures may well pertain to house remains spread very unevenly over the area. The northern sector has been heavily furrowed from deep ploughs (swales). Nevertheless, magnetic anomalies may also be distinguished in the north-eastern area which might be deemed structures of a settlement. A linear feature in this sector might well belong to a ditch system as known from the Movila lui Deciov. It was not expected from the find dispersal that the settlement would extend so far to the north-west. By contrast, the east-west extension seems to be much smaller. Here, the find dispersal alone is somewhat less indicative, as a growth of young wheat covered the northern surface, while the southern surface was conversely ploughed and free of undergrowth. From the results of the geomagnetic survey, a settlement size of less than 1 ha is to be presumed.

The surface find material corresponds to the developed Early Neolithic of the region. The vessel forms to be reconstructed from the ceramic fragments largely reflect



Fig. 169: Kalcsov I. Geomagnetic mapping of the area where Early Neolithic surface finds occur (Eastern Atlas, Berlin).

those from the Bucova Pusta IV. Nevertheless, among the decorated pottery fragments are some pieces with intersecting incised lines indicating a tendentially somewhat later date for the material in comparison to that of Bucova Pusta IV. In order to shed light upon the stratigraphic situation, a small-scale sondage was made. This was positioned

immediately south of a field path bisecting the site in an east-westerly direction, occupying an area of 5 × 5 m. It was first at a depth of 30–40 cm that finds unaffected by ploughing were encountered. In turn, the undisturbed contexts proved to be entirely Iron Age in date. Despite this, large amounts of Early Neolithic pottery (Starčevo-Criș) were to be found in secondary contexts. The distribution of the surface finds indicates that the centre of the Early Neolithic settlement must clearly be localised to the north of the trench excavated.

8.7. Bucova Pusta IV

The naming of this field somewhat halfway between Dudeștii Vechi and Sânnicolau Mare (north of the road connecting these two places) as Bucova Pusta stems from the Catholic Bulgarian settlers who settled in the Banat under Austrian rule in the first half of the 18th century. In contrast to the otherwise open landscape, a hornbeam forest stood here at the time of their arrival. Today, the hornbeam trees have completely vanished, and only individually isolated poplar trees line the way through the fields, these being the remains of a planting of an alley of trees still extant until recently. The microtopography of the landscape was permanently altered once again during the Socialist era by means of the establishment of a linear network of irrigation canals and paths within the fields. The rationale behind this was the collectivisation of agriculture under massive political pressure, and thereby also the agglomeration of previously privately cultivated land into large unified units.

The precise localisation of the hill upon the Bucova Pusta described by Kisléghi also originates from Kalcsov as no map is preserved within Kisléghi's records, and the site was not visited by any of the archaeologists consulting his information thereafter. As a result of modern agricultural activities, Bucova Pusta IV may only be observed as a modest rise within the relief of the terrain. This low hill lies 1.4 km north-east of the 'Bucova Pusta' sheep farm, immediately south of the meander of a desiccated former branch of the Ciganska Aranka (Fig. 170). Today, the stream flows some 1.5 km north-west of the site until it arrives north of Dudeștii Vechi, where it has been dammed into multiple fishing ponds. A kilometre south-west may be found the highest hill of the Bucova Pusta, Hunca Mare (or Bucova Pusta IX according to Kisléghi's notation). Administratively, the western part of the Bucova Pusta (upon which Hill IV also lies) already belongs to Sânnicolau Mare. Despite this, Bucova Pusta IV was erroneously entered into the archaeological find registers under Dudeștii Vechi (Luca 2006, 98–100), which stems from Lazarovici's assignment of it (Lazarovici 1979, 187). Lazarovici noted

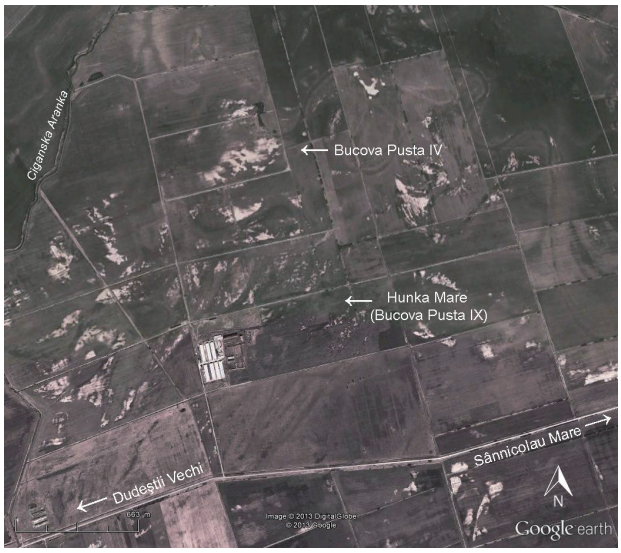


Fig. 170: Bucova Pusta IV. Location of the site on the Google Earth satellite image (R. Krauß).

only tersely that Bucova Pusta IV could be found between Dudeștii Vechi, Sânnicolau Mare, and Cenad, a description doubtlessly applicable to the entire Pusta.

In 1904, Kisléghi investigated the hill itself with multiple sondage trenches within a quadratic expanse of 484 m². During these excavations, he encountered mediaeval graves sunk into the surface of an Early Neolithic settlement (Gáll, Ciubotariu, Tănase 2010, 85–98). As his central interest was in these graves, the evidence of the Neolithic settlement was merely noted in the diary, but no comprehensive documentation was undertaken there. According to his records, he must nevertheless have uncovered large portions of the Early Neolithic settlement. He was also able thereby to unearth entire vessels preserved today in the Museum of Banat. No further excavations occurred at this site in the wake of those of Kisléghi; Bucova Pusta was first revisited quite recently in conjunction with Ciobotaru's excavations at the Movila lui Deciov (Maillol, Ciobotaru, Moravetz 2004).

Various individual surfaces around the hill of Bucova Pusta IV with a total extent of c. 5.66 ha were geomagnetically prospected by the company Eastern Atlas in the years 2009, 2012, and 2013 (Fig. 171). Within the area of the hill itself, notable disturbances and anomalies can be found; these were caused by the backfilled trenches of Kisléghi's excavations. The chief structures of the site are well represented within the data. On the one hand, the actual hill may be recognised in concentrically organised positive anomalies. The centre of the tumulus is marked by overlaid strongly positive and negative anomalies which are probably derived



Fig. 171: Bucova Pusta IV. Geomagnetic mapping of the tumulus and the underlying Early Neolithic settlement. The numerous old river meanders between which the settlement was founded are clearly visible (Eastern Atlas, Berlin).

from the backfilling of the former excavations. Between these, positive anomalies might be recognised which can be interpreted as the remains of the Early Neolithic settlement. South of the tumulus, a weakly negative magnetic structure running from west-south-west to east-south-east could be found, continuing northwards within the satellite image as a bow-shaped discolouration in the ground. An arm of this structure branches off in a north-westerly direction at a fork south of the hill. These weak magnetic anomalies represent former river courses, although there need not necessarily be any temporal correlation between the archaeological site and these river channels. It is only in the case of the river meander running south of the hill through the midst of the archaeological structures that it might be assumed that it already existed before the establishment of the settlement. A further extinct arm of the river borders the settlement area to the north. This channel may still clearly be distinguished in both the landscape and satellite imagery alike as a linear depression in a wide bend. Within certain stretches west of the site, the presence of bushes and reeds evidently denote the former meander of this body of water. Final clarity as to the chronological context and succession of the individual river branches can nevertheless only be achieved by means of the dating of wood charcoal, plant remains, or artefacts from coring within the river sediments. Further traces of human settlement activities may be particularly evidenced north-east and south-west of the hill. Especially significant is an extended settlement area lying in the western sector of the site, enclosed to the east, north, and west by the meander of the middle of the three old branches of the Aranka. Small magnetic anomalies are also visible north of the Bucova Pusta IV all the way to the northern erstwhile channel, these denoting settlement pits. Despite this, the surface finds within this sector indicate settlement activities during the Late Bronze Age and Early Iron Age.

Accordingly, the Early Neolithic settlement seems to be organised into two areas of occupation on the old bend of a river. A larger part lies to the west within a meander in the river course, and a smaller portion to the east in the area of the hill of Bucova Pusta IV. To the south, the geomagnetically visible structures are linearly bordered by a further river course. Our preliminary interpretation is that this water body is younger and has eroded the settlement in this area.

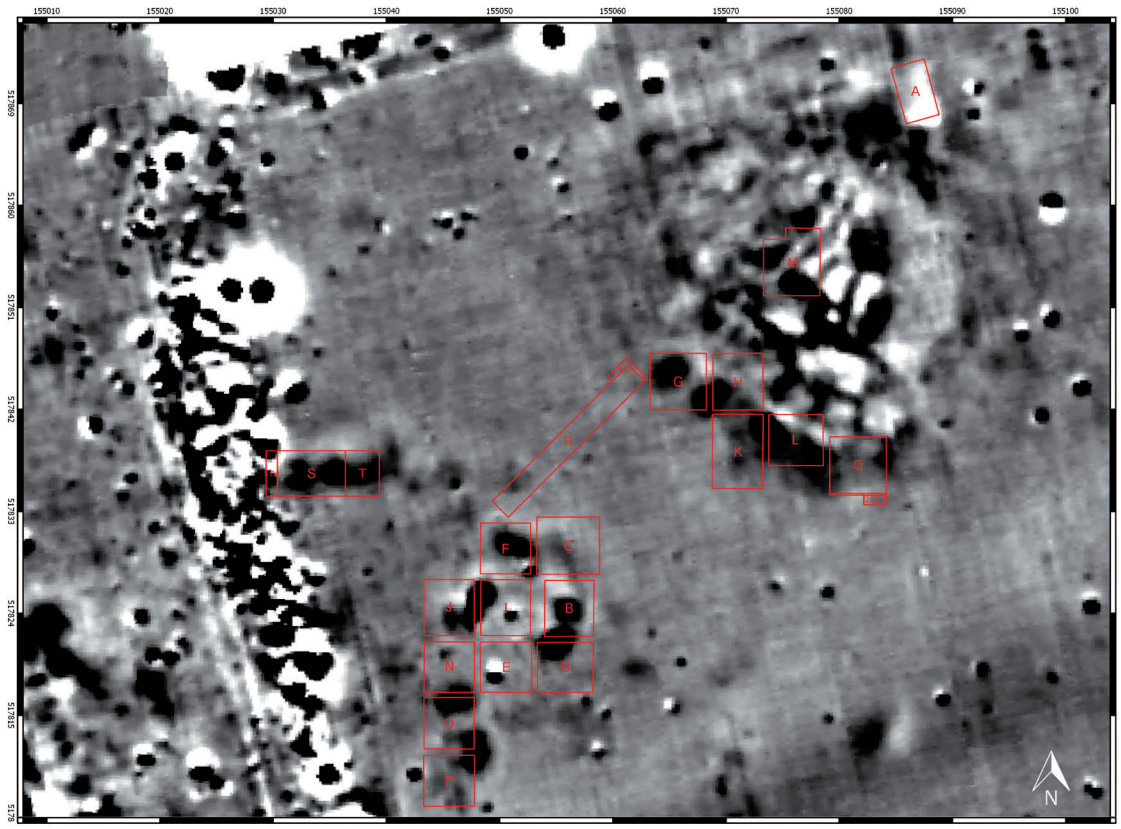


Fig. 172: Bucova Pusta IV. Position of all excavation trenches on the geomagnetic mapping (Eastern Atlas, Berlin, D. Matzig, R. Krauß).

The present author's excavations at Bucova Pusta IV began in summer 2010 with a preliminary campaign and were carried out regularly in summer campaigns from 2012 to 2015. The work was financed first by the University of Tübingen's programme for early-career researchers, and from 2012 onwards by the German Research Foundation. Several trenches named with letters from A to T with a total area of 458.59 m² were opened (Fig. 172). If possible, the features were emptied negatively and numbered within the sections. When necessary, larger features were broken down into artificial spits, each of which was then given its own report number. If required, intermediate plana and profiles were also created.

Among the most surprising discoveries was the one made while studying the stratigraphy of the hill; it was revealed that its formation was largely natural. While the Neolithic settlement had certainly contributed somewhat to the terrain's elevation, this had nevertheless occurred upon a pre-existing rise. The Medieval graves were thus simply sunk into a pre-existing hill.

Within the north-western quarter of Trench G, a strong anomaly within the geomagnetic mapping was excavated. This proved to contain the unusual feature of a single standing oven with dimensions of some 3.4 m in length and 2.8 m in width, oriented in a north-easterly to south-westerly direction (Fig. 173). The oven was entirely formed from earth in situ. First, a work-pit was excavated to the south-east within the loess lying there; from this, a hollow chamber was excavated sideways in the shape of a domed oven. The chamber created thereby was subsequently subjected to firing so as to harden it. The bottom of the oven is very even, and clear traces of the hollowing out of the floor by means of chisel-like, pointed instruments (possibly composed of wood) are identifiable in the walls and what remains of the dome. Within (but most significantly in front of) the oven, ash deposits riven with particles of wood charcoal could still be found. In addition to various ceramic fragments, the find material unearthed from the fill also contained animal bones, among these numerous bones from large fish and the shells of freshwater snails and mussels (Fig. 174). Large earthen ovens may already be attested from the emergence of the LBK in the Carpathian Basin. Free-standing ovens comparable to that from Bucova Pusta IV may also be found, for example, at Alsónyék-Bátaszék in southern Transdanubia



Fig. 173: Bucova Pusta IV. A large dugout earth oven (feature G 7/10) (Team Bucova Pusta IV).



Fig. 174: Bucova Pusta IV. A concentration of snail and mussel shells in front of the oven (feature G 7/10) (Team Bucova Pusta IV).



Fig. 175: Bucova Pusta IV. A freestanding earth oven (feature K 12) (Team Bucova Pusta IV).

(Bánffy, Marton, Osztás 2010, figs. 6–7). These features date to the late Starčevo period.

Another oven in Trench K presents a very good impression of its structure (Fig. 175). This oven was also negatively excavated from the natural soil. The formerly semi-circular dome has collapsed due to earth pressure, but still displays a chimney with a round cross-section in its upper part. This oven cannot be assigned to a house structure either. It is a free-standing structure outside the residential buildings.

Installed parallel to the oven in Trench G, a structure embedded into the ground similarly to the oven was also documented in the south-eastern part, extending into the south-western portion of Trench H (Figs. 176–177). An elongated hole was also initially dug, from which the work proceeded sideways within the standing earth. Nevertheless, the side-on hollowing out was not executed as far as to have formed a proper dome; instead, something more akin to a sheltered earthen hollow was produced. At its base, this feature appeared as kidney-shaped (Fig. 178). The feature also displayed no evidence of any prolonged firing, and the finds themselves intimated an alternate function. This structure is evidently too small to reflect a housing feature. The pit's fill was riddled with abundant settlement refuse, beneath which was found a complete vessel which had already been crumpled while in a leather-like state and thereafter fired until the clay had hardened entirely. This signifies a classic case of misfiring, attesting additionally to the production of pottery on site. The neighbouring oven potentially also served to produce ceramics, although the present author is hesitant to ascribe this as its primary function, inasmuch as scarce indications for this could be found in its surroundings and fill. Furthermore, the cone of a very large bullhorn was found in the pit between Trenches G and H. The form of the feature is reminiscent of a clay extraction pit subsequently filled with settlement refuse. Potentially the pit was also alternatively employed (for example as a storage pit) subsequent to its excavation but prior to its final filling. The highly cohesive loess-soil can be used not only as a building material, but also for the production of pottery vessels. Insofar, it is hardly surprising that an extraction pit might be found in a settlement context. Striking, most certainly, is the feature's kidney-like shape, indicating a specific form of use. Another reniform pit is known from Maroslele-Pana,[27] on the floor of which

27. Earlier, the site was known by the detailed spelling of the name Maroslele-Panahát. Since the monographic publication by Tibor Paluch, however, the short variant Maroslele-Pana has become established (Paluch 2011).



Fig. 176: Bucova Pusta IV. The uppermost filling of the subterranean feature G/H 10 with burned clay chunks and misfired ceramic vessels (Team Bucova Pusta IV).

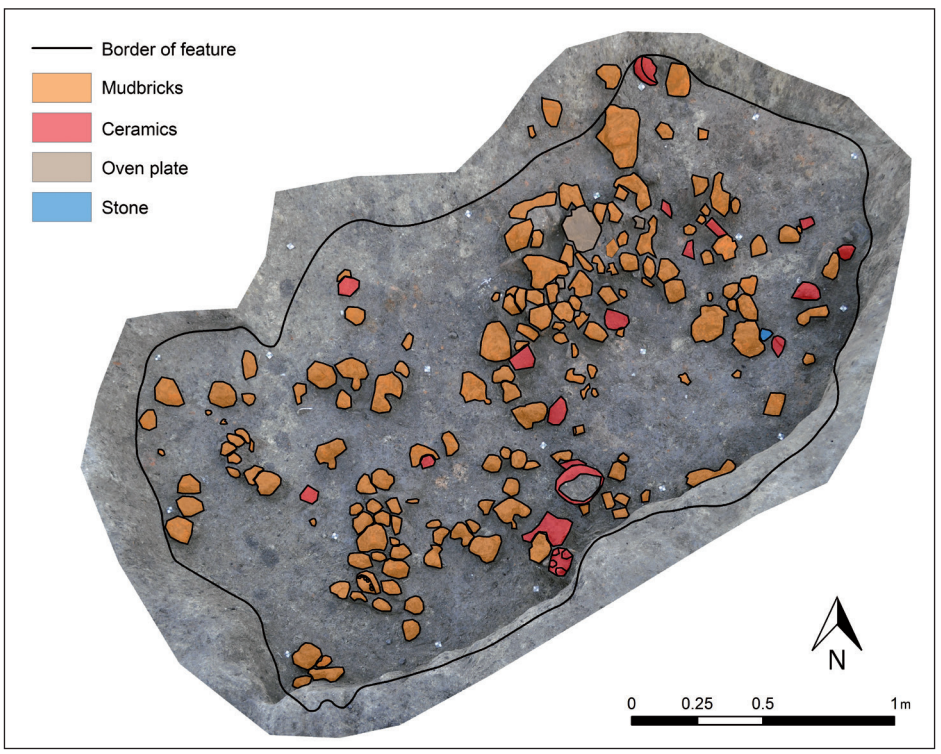


Fig. 177: Bucova Pusta IV. Redrawing of the uppermost layers in feature G/H 10 (D. Matzig).



Fig. 178: Bucova Pusta IV. The emptied feature G/H 10. A kidney-shaped subterranean feature, possibly for clay extraction (Team Bucova Pusta IV).

a pair of horns from an aurochs were additionally found (Paluch 2010, fig. 5). Although this feature may already be dated to the Middle Neolithic (Vinča A2–A3), a structural connection with the present find may be presumed. At only 25 km apart, the geographical distance between these two sites is minimal. Maroslele-Pana and Bucova Pusta IV lie on either side of the former confluence of the Mureş delta into the Tisza.

In the case of Trench S-T, a 6 × 4 m large trench was first created in the north-western part of the site. Its purpose was to examine structures appearing as large black shadows on the geomagnetic scan. At a depth of 60 cm, many Early Neolithic structures already appeared, continuing to the east. For this reason, the decision was made to extend this trench with another 5 × 5 m trench to the east, this new extension being dubbed Trench T. From a depth of 60 cm downwards, two larger settlement-structures sunk into sterile soil were documented (Fig. 179). The eastern of these turned out to be a pit-house containing two ovens (Fig. 180). These ovens were from the western wall dug into the surrounding natural grown soil. The northern example (S07) possessed a collapsed dome, and could only be documented in the field. The other (S06) was in a very good condition and had a chimney within the structure of its dome. This oven was block-lifted, and has been stored since in Dudeştii Vechi's museum for further examination under laboratory conditions. Another pit-house was found west of the first, this also possessing two ovens in its western part. In contrast to the others, these were not dug into the natural soil, but were instead erected as dome structures. In the trench's far west (west of the second pit-house), a north-southerly-orientated child-burial was excavated (Fig. 181). This comprised a westward-facing crouched burial placed above a deposit of over 60



Fig. 179: Bucova Pusta IV. Settlement features in trenches S and T (D. Matzig).



Fig. 180: Bucova Pusta IV. Two ovens with chimneys in trench S (Team Bucova Pusta IV).

Early-Neolithic clay weights (Figs. 182–183). The sediment filling of the grave also contained only Early-Neolithic finds. Two samples were taken in order to perform a ^{14}C-dating. One sample was taken from the child's long bone (Poz-77263: 6700±50 BP) and another one from an animal bone (Poz-76963: 6665±35 BP) found in the burial's sediment filling. A combined calibration gives a date of 5657–5536 calBC in the 2-sigma range. After preliminary studies of the fieldwork, all of Trench S-T's features seem to date to the Early Neolithic.

The ceramic find material presently recovered already permits some statements to be made about the relative chronological placement of the site and the general character of the settlement. This largely comprises coarse wares



Fig. 181: Bucova Pusta IV. Early Neolithic child's burial in trench S above a collection of clay weights (feature S 24) (Team Bucova Pusta IV).

prepared from a clay mixture with many particles of crude organic temper. Whole remains of grain spelt are recognisable within the sherds' breaks; these must have either been added to the clay as remnants of the threshing process, or have indirectly entered the form's mixture by means of animal manure. Only a few vessels were made of a finer ware with only macroscopically visible organic temper particles. In many cases, the surface treatment presents a slip coating and careful smoothing, but no verifiable traces of burnishing. The plastic surface adornment occurs in many forms. These vary from simple incised and impressed decoration to plastic applications of cordons or floral motifs. Identifiable as a chronological marker are elongated vessel feet, which first occur in the developed Balkan Early Neolithic (Karanovo II/Ovcharovo-Gorata, Starčevo II–III) (Figs. 184–185). Remains of painting could be evidenced on two bulbous bowls on slightly offset bases. In both cases, these comprise of a broadly applied wave or zigzag band wound around the vessel body. The original colouration of the paint daubed must clearly have been more striking, as the marked encrustation of the vessel surface hardly permits recognition of the painting traces against the equally faint clay background. The painted motifs may be effortlessly ascribed to Garašanin's horizon of Starčevo III (Garašanin 1998). The undulations and dimples in the mouth represent an archaic detail of adornment. Within the southern and eastern Balkans, comparable plastic modelling of vessel lips may only be found in the earliest phase of the Neolithic (Proto-Starčevo, Pre-Karanovo I). Nevertheless, this manner of adornment may be evidenced for the entire Early Neolithic within the Banat.

In structural terms, the region of the Banat seems not to have received any further impetus from the southern regions following the actual neolithisation, and most certainly not from Anatolian or Aegean quarters. A resultant repercussion is that the general tendencies within the ceramic trajectory which might be noted (such as the heightening of the vessel feet or other fashions identifiable within the Balkans,



Fig. 182: Bucova Pusta IV. The concentration of clay weights under the child's burial (feature S 24) (Team Bucova Pusta IV).



Fig. 183: Bucova Pusta IV. Overview of the cleaned clay weights from feature S 24 IV (R. Krauß).

such as the complex development of painted pottery and, ultimately, also the development of channelled decoration) are all unattested there. Conversely, the time-honoured method of adorning the mouths of vessels with dimples continues in this region. The character of the vessel pottery here also seems to be limited to functionality, should the almost complete absence of representative fine ceramics be considered. The vessel forms reflect a household spectrum of drinking, eating, and storage crockery. Only a few forms such as miniature vessels and fragments of small four-footed tables (Fig. 186) hint at the realms of representation or ritual. Moreover, with only a few anthropomorphic and animal figures, the proportion of figurines is far too low for an Early Neolithic settlement in comparison to the usual find occurrences (Fig. 187). The activities which might be inferred from this are largely confined to the economic sphere within the ecotope between river, woodland, open landscape, and the domestic sphere in the restricted sense.

Striking within the settlement features are multiple large clay weights of varying forms which may well have served as construction elements within structures or as weights. The necessity to fashion these weights is already evident in the fact that the broad loess plains south of the Mureș do not evidence any naturally transported stone at all; even simple weights had to be formed from the standing loess soil. The clay weights may be roughly divided into three categories: trifoliate, cylindrical with finger impressions, and conical (Fig. 188). The latter possess the form of classic loom weights. While visiting the Tübingen excavations during the summer of 2013, a Bulgarian colleague, Kalin Dimitrov, provided an interesting interpretation of the former two categories: the large and strongly profiled weights would be well-suited to weighing down nets, although they would swiftly become bogged down in the morass of slow-flowing waters. For the capturing of large fish (the vertebrae of which were encountered here in vast quantities), rod angling would regardless have been employed over net fishing. Dimitrov considers the objects' forms to be ideal weights for fishing, whose organically-fashioned hooks must have been held just above the waters' bed.

The striking lack of stone is further evident in the tools. The silex artefacts encountered upon Bucova Pusta IV over the course of three field campaigns (Fig. 189) are far too few in comparison to the quantities found in other settlements of the South-eastern European Early Neolithic. As, in turn, no knapping waste has currently been found within the settlement, but instead only finished stone working products, an external production might be assumed. A broad exchange network can be reconstructed by means of the localisation of stone deposits. For example, the nearest deposit for obsidian is first to be found in the northern arc of the Carpathians, in southern Slovakia and the region of Tokaj. In the vast majority of cases, the flint tools are also heavily worn down, in some cases to the very exhaustion of the material. This indicates the economic use of these very few available blades until thoroughly worn out.

We have so far been able to recover several stone axes in different size classes, and fragments of ground stone tools (Fig. 190). Strikingly, all of the pieces were manufactured from precisely the same raw material, a very thick, white-grey limestone. It is also noteworthy here that only two whole pieces with little in the way of traces from work were found. All others were used until they were utterly worn out.

The results from excavations hitherto permit the following preliminary observations on the settlement structure of Bucova Pusta IV: the character of the settlement was determined by its placement within a complex system of currently dried-up tributaries of the Mureș. The settlement was evidently placed on the opposite bank of a watercourse, the resources of which were fundamental to the settlement's economy. With the alteration of the river course and the desiccation of the channel passing through the settlement, its most crucial locational factor also evaporated, this likely explaining the brief period of occupation at the site. It is most probable that the settlement was merely relocated within this small area. Many potential sites have been identified which might represent its preceding or, indeed, succeeding settlements. Somewhat earlier, for example, is the settlement on the Movila lui Deciov, while that at Kalcsov I is probably a little later. The structure of the settlement displays a larger region to the west following the loop of the former river course, and has currently only been excavated at its easternmost extreme, together with a smaller settlement area in the vicinity of the actual mound of Bucova Pusta IV. The realisation that this elevation is probably of natural origin considerably alters perspectives on the microtopography of the site in the Neolithic. Previously, it had been assumed that the elevation postdated the Neolithic. Accordingly, the question now presents itself as to what function this elevated area had within the settlement as a whole. The features currently unearthed at the foot of the low rise and on the bank of the former waterway indicate the site's economic function. Preliminary observations of the animal bone material and plant remains evidence a high proportion of cattle among the domesticated animals, and a prominent role for hunting. Already in the Early Neolithic settlements of the southern Banat, the predominance of cattle among domesticated animals is remarkable, as may also be noted at the settlements of

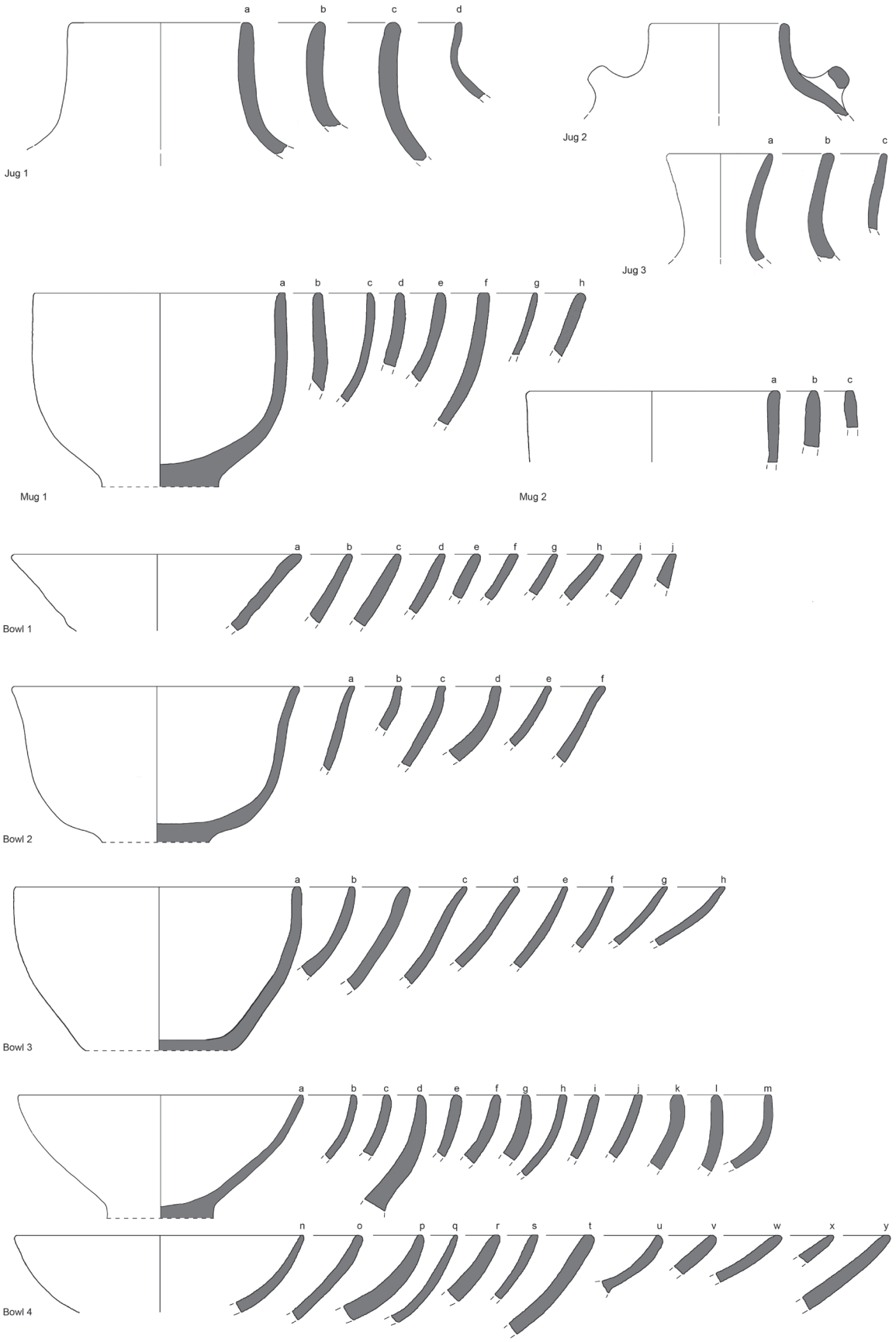


Fig. 184: Bucova Pusta IV. Typology of Early Neolithic jugs, mugs and bowls (R. Krauß).

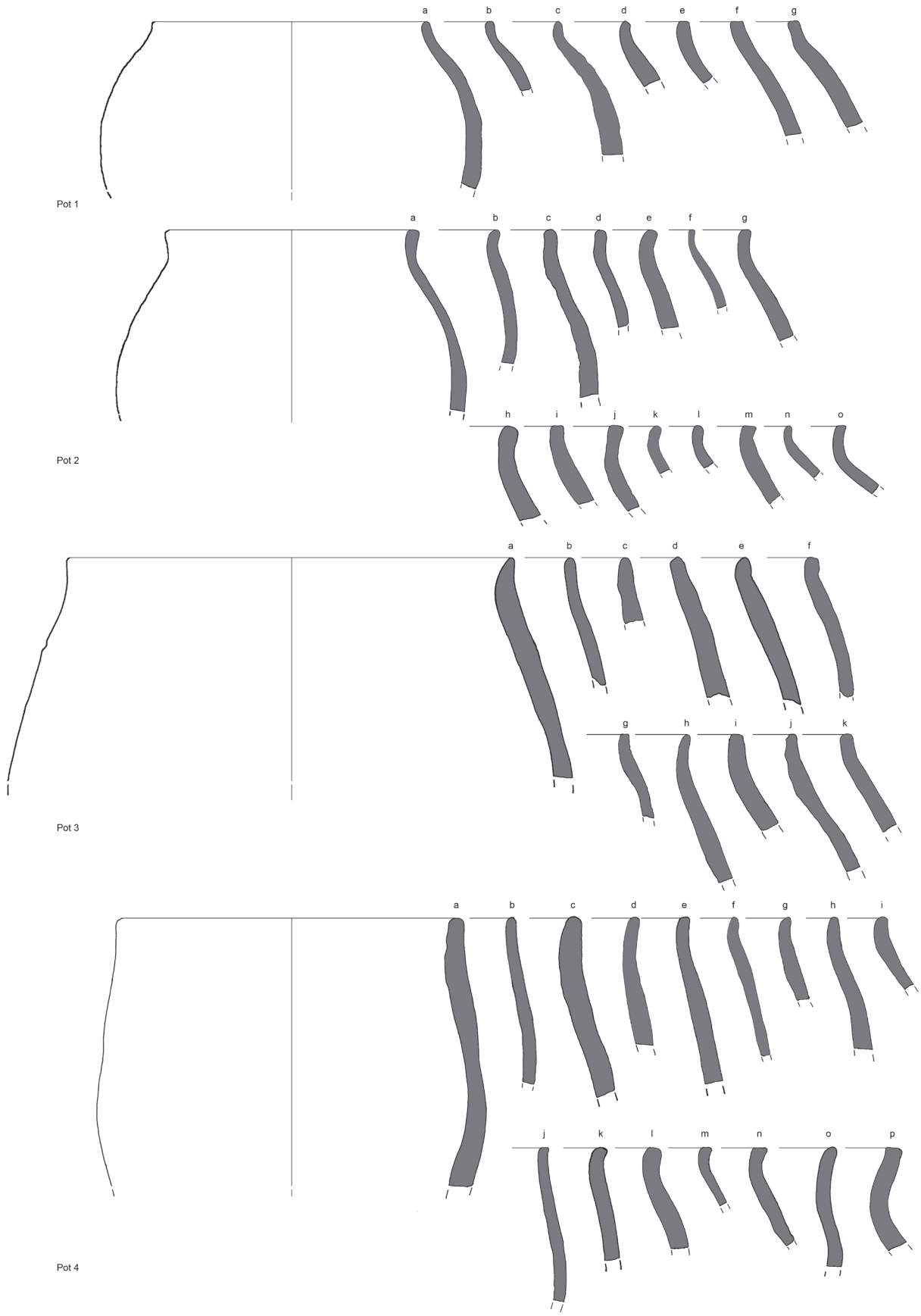


Fig. 185: Bucova Pusta IV. Typology of Early Neolithic pots (R. Krauß).

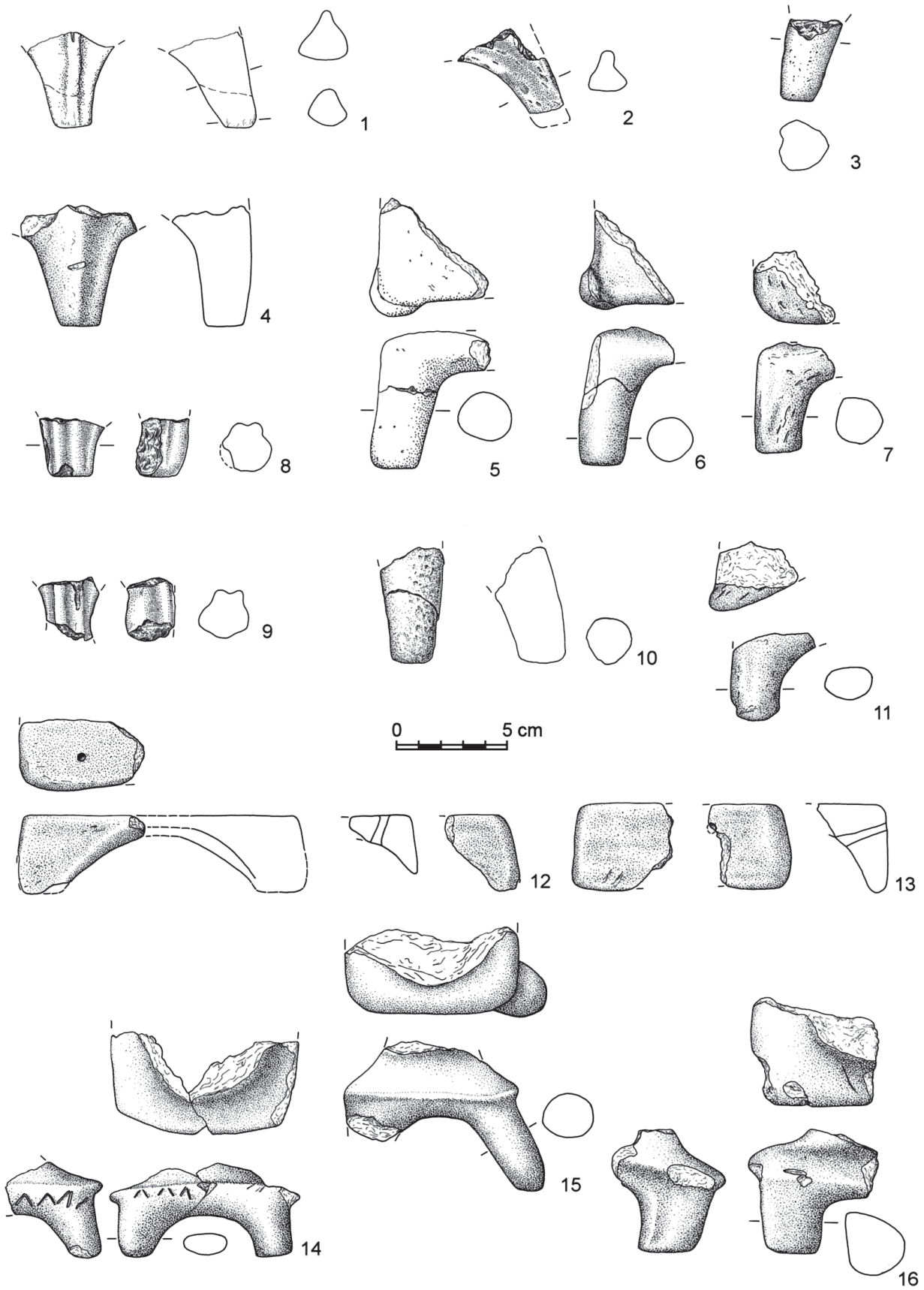


Fig. 186: Bucova Pusta IV. Examples of four-legged miniature tables (drawings: M. Möck, A. Frey, O. Blum).

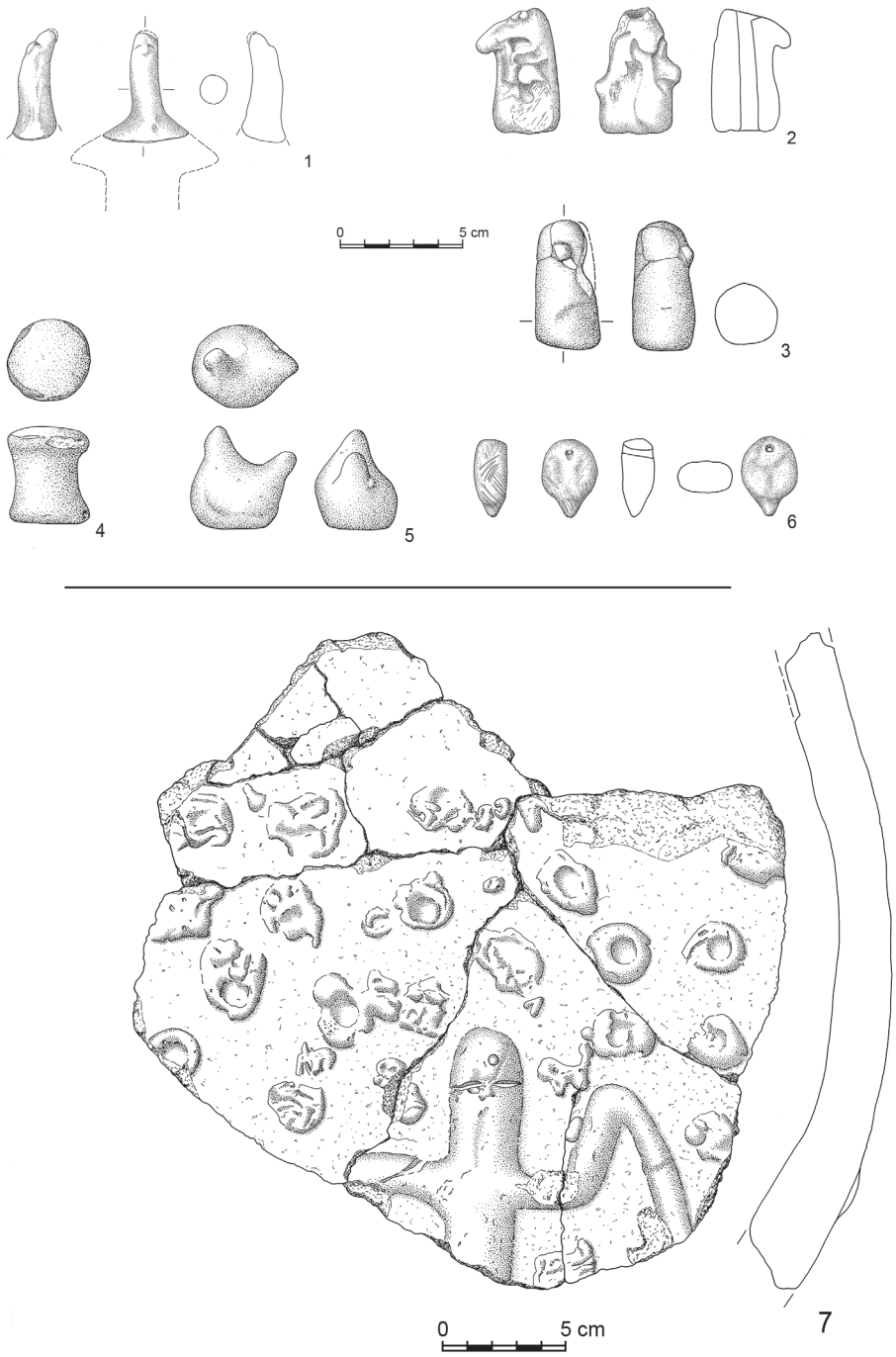


Fig. 187: Bucova Pusta IV. Examples of anthropomorphic and animal figurines (drawings: M. Möck, A. Frey, O. Blum).

Gornea-Locurile Lungi, Moldova Veche-Rât, and Pojejena-Nucet (El Susi 1996, 146–147). Despite this, fishing and the exploitation of further aquatic resources assume centre stage, as is borne out by the massed heaps of mussel and snail shells within the settlement. The scientific dating of the finds on both banks of the former water channel will elucidate the chronological relationship of the two settlement areas with each other, insofar as this is permitted by the resolution of the ^{14}C dates and their projection upon the tolerance span of the calibration curve.

The problem of the absolute dating of Bucova Pusta IV has thus been addressed. The relative date of the Early Neolithic settlement is very well supported by a series of sixteen radiocarbon dates. The data obtained from

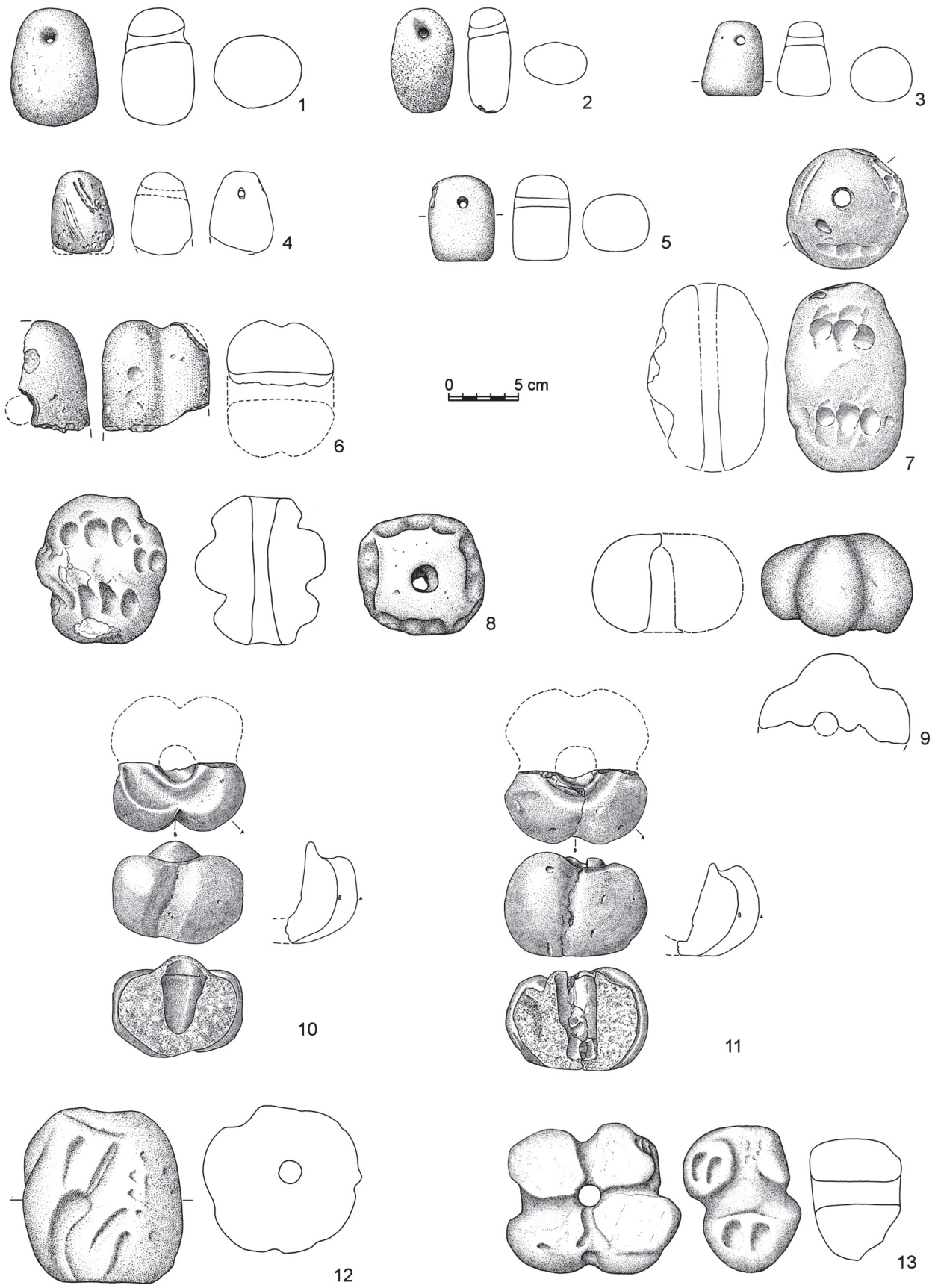


Fig. 188: Bucova Pusta IV. Examples of clay weights (drawings: M. Möck, A. Frey, O. Blum).

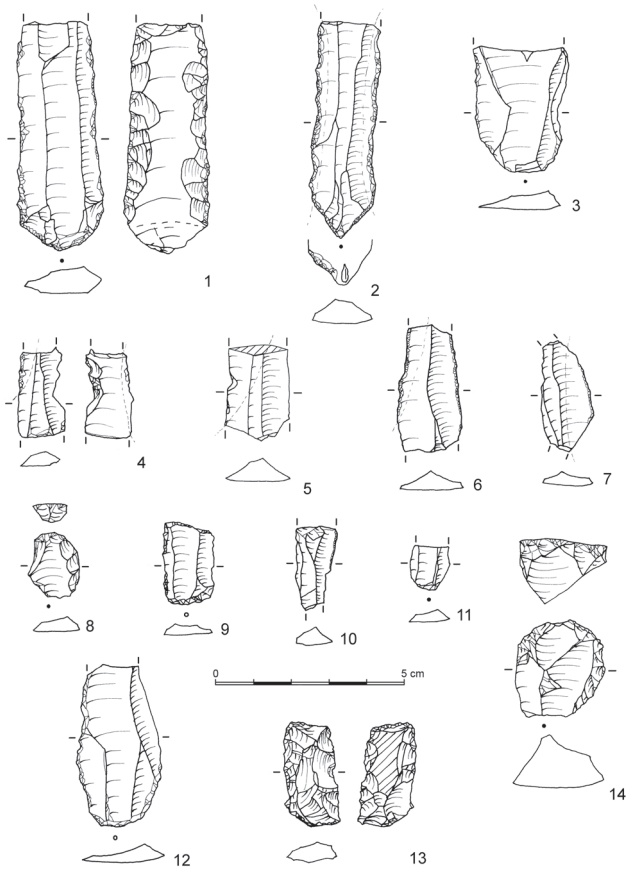


Fig. 189: Bucova Pusta IV. Chipped stone artefacts (drawings: M. Möck, A. Frey, O. Blum).

three charcoal samples displays a characteristic old wood effect. Taking the value of the most recent charcoal date (Poz-51356: 6890±40 BP), the foundation of the site would have taken place after 5780 calBC. The value of the oldest short-lived sample (seeds: Poz-88722: 6840±40) from the same context provides a terminus ante quem of 5720 calBC. Calculated conservatively (if a very short period of a maximum of ten years after the charcoal date and ten years before the oldest short-lived sample is assumed), then the date of the foundation of the settlement can be assumed to be 5750±20 calBC. Supposing that the infant grave in Trench S was dug at the very end of the occupation, then settlement concluded at around 5590 ±20 calBC.

8.8. Superregional Comparison of the Vessel Ceramics from the Northern Banat

The find material from Foeni Sălaș is overwhelmingly composed of red-slipped monochrome pottery, although two fragments of white-painted pottery were also found (Drașovean 2007, fig. 5). Two ceramic wares might be fundamentally distinguished from each other: a heavily organically tempered coarse ware which is always slipped, and a deep black fine ceramic without macroscopically visible organic inclusions respectively. The form spectrum includes wide bowls with undulating rims, and globular pots with narrow mouths and tall, elongated, hollow vessel feet.[28] Decorations encompass crude impressions, finger-grooved barbotines, and vertically-running impressions in the form of wheat ears. The site may be ascribed to the phase of Starčevo-Criș IIa on the strength of the ceramic material.[29]

To be evaluated similarly is the material from Foeni Gaz. The heavily organic tempering of the coarse pottery and the red slip are conspicuous features once more. The fine ceramics have a grey, finely burnished surface, and demonstrate a deep black colour when broken (albeit without visible organic inclusions). Occasionally, a very fine brown slip coating can also be observed upon the fine pottery. On account of applied warts on the coarse pottery, massive feet, and very slightly out-turned lips among the otherwise globularly shaped forms of the fine ceramics, an earlier chronological ascription of this material to a period still anterior to Foeni Sălaș is conceivable.

The 1.80 m deep cultural deposits of the Movila lui Deciov may be ascribed to two consecutive phases of settlement. Monochrome vessels akin to those from Foeni Sălaș may be found from within the earlier settlement, although bowls with cross-shaped bases are also attested. The material from the later level can hardly be distinguished typologically from that preceding it. As common as before are undulating rims among the bowls and plastic adornments of the vessel surface with impressions, knobs, studs, and applied cordons. In addition to the types with massive feet, we now also encounter small-footed vessels and tall, elongated stand-rings. Incised decorations from lines transecting one another on globular bowls are first evidenced in the later level.

The roughly 4 m-deep stratigraphy of the mound of Parța II consists of an earlier Starčevo-period occupation and an overlying Vinča C settlement (Lazarovici, Drașovean, Maxim 2001, 58–59). Furthermore, finds from the Late

28. Cf. Spataro 2004, figs. 2–6; further finds may be viewed at the Museum of Banat.

29. In his latest chronological scheme, Lazarovici already places Foeni Salaș in his Level Ib (Lazarovici 2006, fig. 20) which is evidently connected to two ^{14}C dates which have been published (Biagi, Spataro 2004, tab. 1. – Spataro 2006, tab. 2); these make the site seem older (GrN-28454: 7080±50 BP; GrN-28455: 7510±60 BP).

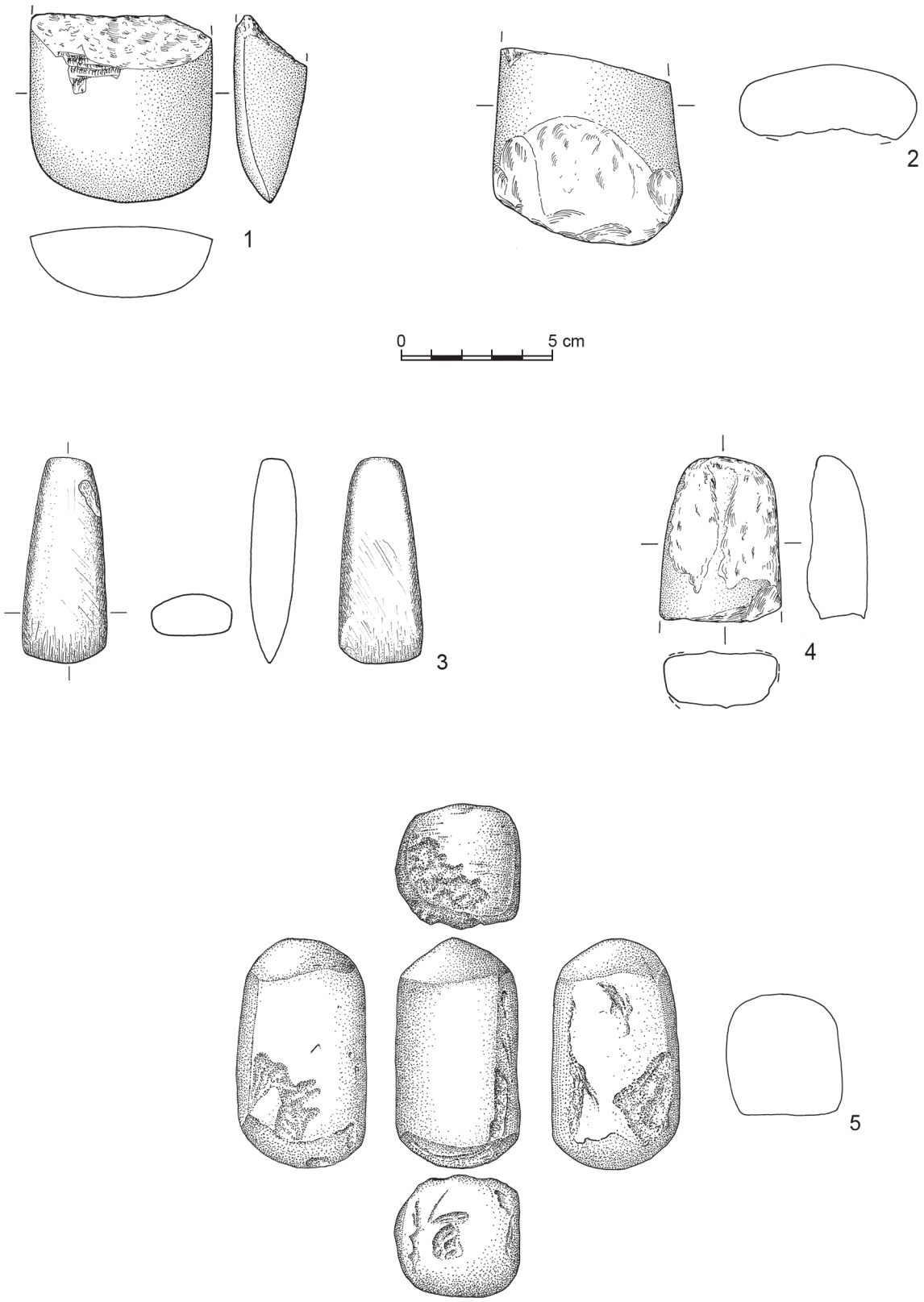


Fig. 190: Bucova Pusta IV. Polished stone tools (drawings: M. Möck, A. Frey, O. Blum).

Neolithic Foeni-Petreşti group have been discovered in the environs of the mound (Luca 2006, 192). To be found within the vessel spectrum are globular pots on massive feet or simply flattened bases with straight or slightly out-turned lips. A dark painting on a red or brown clay background is characteristic. Among the painted motifs may be found linear meanders stacked upon one another and simple line motifs, both of which have prompted an ascription to the phase of Starčevo-Criş IIb (Lazarovici 2006, fig. 20. – cf. Lazarovici 1979, pl. V). Some of the pot forms with markedly offset straight rims, the occurrence of tall vessel feet, and (most noticeably) the numerous fragments with rough impressed decorations all suggest a later chronological ascription, approximately to Phase IIIa or perhaps even to Phase IIIb (Lazarovici 1979, pls. VI–VII). In the present author's mind, this attribution is supported by the fact that the Criş finds from Parţa (Tell II) display similarities with the finds from Ovcharovo-Gorata in precisely those elements which are otherwise only characteristic of the phase of Starčevo-Criş IIIb. Insofar, it would appear that the material from Parţa stands in close proximity to the finds from Ostrovul Golu II and Cuina Turcului III (cf. Lazarovici 1979, pl. VII).

8.9. Transylvania

Decisive in the identification of a "Pre-Criş culture" within the Carpathian Early Neolithic were Paul's excavations in the fields of Triguri near Ocna Sibiului, where he could evidence some six different settlement layers; each of his three phases was assigned two of these layers respectively (Paul 1989). Phases I and II represent levels of the "Pre-Criş culture", while the final phase, Phase III, may be synchronised with the second settlement horizon of the Gura Baciului. Only a few finds from the form spectrum of Phases I and II have been individually published. Regardless, overall, it would also seem that hardly any development may be detected within these two phases. The ceramic inventory is simple, half-spherical bowls and globular bowls with straight or slightly out-turned lips, and forms with short, tapering necks (Ciută 2005, pl. XLVII). The stands are simply flattened, or form very low stand-rings. While globular forms with straight or slightly out-turned lips predominate during Phase I, these decrease in Phase II in favour of S-profiled types (Ciută 2005, pl. XLVIII). In particular, the decorations on the coarse vessels with undulating rims, multiple vertically superimposed kidney bosses and long tunnel loops are highly reminiscent of the material from Dzhulyunitsa I to II and are thus to be assigned to the period prior to Karanovo I (cf. Ciută 2005, pls. XXXV/3–4; XXXVII). Already from Phase I onwards, white painting on a red-slipped background is evidenced on the fine ceramics (cf. Ciută 2005, pls. XXIX; XXX/1–5; XXXI/3–5; XXXII/6–7). The painted motifs consist of simple spots, hatched areas, and parallel vertically running waved lines. During Phase III, painting is no longer attested. By means of contrast, the coarse pottery vessels are frequently plastically adorned. Evidenced are perforated and incised patterns, plastic cordons, and finger-impressed barbotines (cf. Ciută 2005, pls. LV–LIX). Carinated bowls and very tall cylindrical foot-stands now occur within the form repertoire.

The excavation of the multiphase site at Cluj-Gura Baciului began under Nicolae Vlassa in the 1960s and swift publication ensued (Vlassa 1966. – Vlassa 1972). From 1986 onwards, excavation was resumed under the direction of Lazarovici, and published in monograph at the work's conclusion (Lazarovici, Maxim 1995). The stratigraphy reflects the entirety of the Criş trajectory in Transylvania. While the three-phase development originally envisaged by Vlassa is heavily informed by observations made from the levels of a settlement area (Vlassa 1972, 176–179), Lazarovici distributes the material between his four Criş stages (each with multiple subphases), inasmuch as he draws together various individual features which are not clearly associated with one another (Lazarovici, Maxim 1995, 53–61). Hence, this consists of a synthesis of stratigraphic observations and the typological comparison of the find material with other sites. Regarded in its entirety, the articulation nevertheless appears plausible as Lazarovici works by means of a highly interconnected system, which he was able to develop by means of numerous stratigraphic observations, particularly within the Romanian Banat. Yet, his articulation of the form trajectory for the Gura Baciului more strictly comprises a periodisation by means of formal comparisons than a stratigraphically secured sequence of finds. Characteristic of his Phase I (a–c) are bulbous vessel forms on simple, flattened stands or only slightly protruding stand-rings with a very slightly out-turned lip, and globular vessels with a narrowed neck (cf. Lazarovici, Maxim 1995, figs. 39–40, 41/2–4). Some of these forms bear pierced lugs on their bodies. Fragments with white painting on red- to red-brown-slipped background may already be encountered among the earliest ceramics (cf. Lazarovici, Maxim 1995, colour pls. I–III). Painted motifs consist of simple spots forming wide bands and lines either parallel or crossing over one another. In comparison to those of the preceding phase, hardly any changes may be detected in the vessel forms of Phase II (a–b) which follow. Nevertheless, a much broader range of adornments is evident. Impressed and incised decoration together with the excision of vessel lips and feet may now be registered (Lazarovici, Maxim 1995, figs. 42–43). In terms of painting, dark colours are now also realised upon lighter-painted backgrounds, although the tradition of white

painting upon a red background continues (cf. Lazarovici, Maxim 1995, colour pls. VII–IX). Mainly line and parallel angle motifs are painted on using a dark colour, while bands of dots and lines are still applied using white. In Phase III (a–b), new forms occur such as expansive bowls with straight walls, tall, bulbous pots, and extremely low-set carinated bowls (cf. Lazarovici, Maxim 1995, figs. 44–45). In addition to flat feet, high stand-rings and small-footed vessels are present. Finger-grooved barbotine now joins the other methods of surface decoration. Vessel painting with dark pigment is now only rarely attested (cf. Lazarovici, Maxim 1995, colour pl. X/1). During Phase IV, the elongated pots already known from the previous phase now become characteristic (cf. Lazarovici, Maxim 1995, fig. 48). Some globular pots display a markedly offset lip (cf. Lazarovici, Maxim 1995, fig. 49/1–2). Vessel painting has now entirely disappeared in favour of plastic decorative styles. In addition to finger-grooved barbotines, incisions, and plastic applications, forms with flaring and waved, out-swung lips, and pots with applied warts may be encountered (cf. Lazarovici, Maxim 1995, figs. 46/2–3, 5–6; 47/2, 7; 49/1–2; 50/2).

The material from Phases Ic–IIa at Gura Baciului may also be associated with the finds from Şeuşa-La Cărarea Morii near Alba Iulia (Ciută 2000). The appearance of numerous globular forms with markedly offset cylindrical necks, and fragments with impressed decoration would, however, also permit a parallelisation with Phase III or even IV (Ciută 2000, figs. 13, 16, 20. – cf. Lazarovici, Maxim 1995, figs. 44–45, 49). In turn, the Criş finds from the cave of Cauce near Cerişor in the Judeţ Hunedoara may be deemed contemporaneous (Luca, Roman, Diaconescu 2004, 44–45 and pls. XII–XIV; XV/1–2, 4–9; XVI–XVIII; XIX/1–2, 5). Yet, the presence here of numerous fragments with impressed decoration, the appearance of finger-structured barbotines, and a large bowl with an offset funnel rim is more indicative of a later chronological placement (Luca, Roman, Diaconescu 2004, pls. XII/1–8; XIII/1–4; XIV/4; XV/1–2, 6, 9. – cf. Lazarovici 1984, figs. 5, 8). The Early Neolithic find material of southern and northern Transylvania is no longer directly comparable to that of Ovcharovo-Gorata and Dzhulyunitsa IV. As a result of the occurrence of excised rims and feet and, moreover, impressed and incised decoration, the later Criş phases must be considered as chronologically parallel. Very general typological similarities may be found in the elongated stand-rings and some of the vessels from Gura Baciului IIIb to IVb reminiscent of the beaker and pot types B3a, T1a, T2a, and T2c from Ovcharovo-Gorata (cf. Chapter 7.4, Figs. 119–123). However, within this wide range, the vessel painting with a dark colour suggests an affinity with the older phase Gura Baciului IIIb.

The late Criş development which might best be associated with Ovcharovo-Gorata may be followed effectively in the material from Leţ (Zaharia 1962). Wedged between the eastern and southern Carpathians, the site furthermore borders on the north-western Bulgarian sphere. To be parallelised with Gura Baciului III, the Phase Leţ I displays half-spherical bowls and low-set carinated bowls with massive feet or slightly raised stand-rings, expansive bowls with straight walls on high cylindrical or cruciform feet, and globular vessels with conically tapering necks (cf. Zaharia 1962, figs. 4; 7/1–8; 14/17–24). Some fragments are also preserved with a dark, linear painting on a lighter-slipped background (cf. Zaharia 1962, fig. 10/1–5). During Leţ II, carinated forms with a tall, conical upper part, and slightly S-profiled pots and bowls appear (cf. Zaharia 1962, fig. 5). Directly comparable with Ovcharovo-Gorata are a few massive, tall vessel feet with a negatively recessed cross motif in the base (cf. Zaharia 1962, fig. 8/3–4, 7). In turn, an incised decoration consisting of parallel vertically running zigzag lines appears (cf. Zaharia 1962, fig. 5/1–2, 15), which also occurs in Ovcharovo-Gorata and, moreover, is also characteristic of the Criş groups in Moldavia. In addition to the dark painting, the white paint on a red-brown background is still attested (Zaharia 1962, figs. 10/6–13; 11). In contrast to the early Criş phase, the painted motifs are either purely linear or feature entire surfaces coated in paint. The ceramic forms of the phase of Leţ III thereafter increasingly display softer profiling, with a continuation of the earlier types (cf. Zaharia 1962, fig. 6). The vessel painting is linear as before, although a trend towards broader lines is recognisable (cf. Zaharia 1962, fig. 12). Particularly frequent are meander motifs stacked within one another and hanging triangles. In sum, the form repertoire from Leţ is very much comparable to Ovcharovo-Gorata, although the greatest overlaps are to be found in Leţ II's spectrum of types and decorations, a phase which might be located between the phases of Gura Baciului IIIb and IVa within Transylvania (cf. Lazarovici, Maxim 1995, 5. – Lazarovici 2006, fig. 20). To these might be added further finds from Turia-La Silozuri, which display a decorative technique consisting of patterns of notched cordons as known from Ovcharovo-Gorata (cf. Ciută 2000, pls. XI–XII; XV/2) in addition to those forms already known from Leţ II.

8.10. Dynamics of Neolithisation in the Carpathian Basin

The Carpathian Basin most likely also received the impetus for neolithisation from the regions bordering to the south. It is astonishing how quickly the first wave of the neolithisation had already encompassed the entire South-eastern European sphere by 6000 calBC. The Rapid Climate Change (RCC) 8.2 ka event (Weninger et al. 2005) can be considered the

terminus post quem for the spread of the Neolithic into the Carpathian Basin. During this cold and dry phase, it was difficult to venture into these areas in the interior of the continent with a way of life based on agriculture and animal husbandry. At the peak of the event between c. 6200 and 6000 calBC, when the North Atlantic Ocean Current was probably deflected by the Hudson Bay outflow in present-day Canada, temperatures in Europe dropped again and aridity intensified. A leitmotif of this first wave is white-on-red painted pottery which, beginning in western Anatolia, disperses in leaps and bounds across the entire Balkans all the way to Transylvania. The speed of the dispersal cannot be measured with current dating methods. Statistically, all the dates of the complexes with the earliest pottery appear to be of the same age. Although a find horizon prior to the white-on-red painting (Dzhulyunitsa I) is stratigraphically tangible in the eastern Balkans, this cannot be distinguished from the general dispersal phenomenon on the strength of the ^{14}C dates' resolution. In the Carpathian Basin, this first wave of neolithisation had already encompassed the entirety of Transylvania and the Criș region in the southern Great Hungarian Plain. The sites of Gura Baciului, Szarvas-Egyházföld, and Endrőd roughly mark the northernmost limit of this wave, where the expansion would come to a halt. In the west, this further reaches the southern Bačka at the sites of Donja Branjevina, Magareći Mlin, Ludaš-Budžak, and Nosa-Biserna Obala. Although the flatlands of the Banat did not initially number among the preferred settlement landscapes of the first farmers, the find of white-on-red sherds within the settlement of Foeni Sălaș (Drașovean 2007, fig. 5) nevertheless attests to the further arrival of this first wave of neolithisation to this region. Remarkably, the early sites with characteristic white-on-red painted pottery north of the Danube are rare, and almost all lie within large river valleys (for example those of the Olt and the Criș), or in the broad plains of the lower Tisza. Hence, the neolithisation of the Carpathian Basin appears to have followed two main routes: on the one hand, via the corridor of the large river systems of the lower and middle Danube and the Tisza, and, on the other, by means of the passage of the Olt through the southern arc of the Carpathians, initially to Transylvania, and from thence by way of the small river channels feeding into the Tisza to the west into the Banat. The loosely scattered sites with white-on-red painted pottery must certainly still be directly connected with the regions south of the Danube which had been neolithised very early on. Should the model of "leapfrog colonisation" be applied to the Carpathian Basin (Zvelebil 2001, 2), then these sites could be considered the bridgehead for the neolithisation of the region. Also in this case, the impetus for the neolithisation was initially prompted by the immigration of small groups, which then transmitted the Neolithic package to an already resident (Mesolithic) population soon afterwards.

It is only in a second stage from 5800 calBC onwards that sites also become denser in the low-lying regions of the Banat, and the neolithisation encompasses further regions of the Great Hungarian Plain and, moreover, southern Transdanubia. All of the sites in the flatlands of the Banat here investigated belong to this chronological segment. The find material of this period is characterised by overwhelmingly plastic methods of ceramic decoration and vessels with tall, elongated feet. The path taken by this second wave of neolithisation nevertheless appears to have run a somewhat different course to that of the first wave: it may be sketched from the distribution of silex blades fashioned from yellow "Balkan" flint with white speckled inclusions from the Early Neolithic settlements of this period (Kaczanowska, Kozłowski 2008, fig. 5). Recently, a deposit on the lower Danube at Nikopol has been discussed as a possible source for this variety of stone (Biagi, Starnini 2010, 124–131). This raw material seems initially also to have travelled from the eastern Balkans into the Carpathian Basin via exchange along the great rivers such as the southern Morava, the Lower Danube, and the Tisza (Fig. 191). In contrast to the dispersal of the white-on-red painted pottery, however, there is no longer a higher concentration of sites in the zone south of the Danube. Some sites also clearly lie away from the great rivers, and are distributed well into the north of the Carpathian Basin. The image provided by the archaeological record becomes denser still if some northern Bulgarian find sites and the discovery of a blade fragment from Bucova Pusta IV (most likely also fashioned from this flint type) are considered in addition to this new stone source.

8.11. The Central European-Balkan Agro-Ecological Barrier

The line marking the farthest limits of this wave of neolithisation is telling, as this also represents the northernmost extension of the Neolithic lifestyle for the ensuing 500 years. It is only following 5500 calBC that the first communities practising agriculture and husbandry appear in the regions north of this border, along with (western) LBK and (eastern) Alföld-LBK. The northern limit of the dispersal of the Starčevo-Criș-Körös complex runs irregularly from west to east, transecting Transdanubia and the Great Hungarian Plains, and has been introduced as the Central European-Balkan Agro-Ecological Barrier (CEB AEB) model within academic literature (Kertész, Sümegi 2001. – Sümegi, Kertész, Hertelendi 2002. – Kertész 2002). The model is based upon the distribution of Late Mesolithic and Early Neolithic communities in the Carpathian



Fig. 191: Distribution of blade tools with high retouch made of "Balkan" flint and the presumed deposits of the raw material (Upper Cretaceous chalk and chalk-like limestones with siliceous concretions) in northern Bulgaria (according to the information given at Gatsov, Nedelcheva 2009, Gurova 2012 and Biagi, Starnini 2010; additions: R. Krauß).

Basin (Bánffy 2006, fig. 7. – Bánffy, Sümegi 2012), and attempts to explain the mutually exclusive distribution pattern by means of ecological factors. According to this, the environmental factors in the regions north of this line such as the total hours of sunshine a day or the sun's angle of incidence are already no longer suited to the Neolithic economic mode, and the yield of cultivars and increase of domesticated animal populations no longer sufficient to support such communities. This line is roughly charted by the natural limit of the distribution of the silver lime (*Tilia tomentosa*) (Sümegi, Bodor 2000, fig. 4). The Neolithic communities south of this line evidently required the

centuries prior to 5500 calBC to develop a technological packet also permitting the practising of a Neolithic economic mode north of the CEB AEB. After 6000 calBC, the Körös culture emerges within the zone between the Mureș and the upper course of the Tisza (Bánffy 2006, 127–129. – Domboróczki 2010, 156–172), and settles the northeasternmost sector within the CEB AEB (Fig. 192). It is only following a phase of consolidation necessary for the adaptation of the agrarian lifestyle to the altered ecological conditions that the Neolithic groups crossed the CEB AEB after 5600 calBC, also travelling northwards along the Tisza (Domboróczki 2010, 158–159). In Transdanubia, the overcoming of the CEB AEB is accompanied by the development of a novel house type, the longhouse (Bánffy, Sümegi 2011, 251–254). A spiritual transformation evident in the placement of burial grounds outside of settlements also seems to have occurred. It is only with this new Neolithic package which is then so successful that a broad region (extending to the Paris Basin in the west, the Ukrainian steppes in the east, and the northern fringe of the low mountain range in the north of Germany and Poland) can be neolithised. The basis of this expansion of this phenomenon is the emergence of the earliest LBK in Transdanubia and the Alföld-LBK within the Great Hungarian Plain, the *Genesis* of which occurred roughly chronologically parallel to that of the Vinča culture south of this line (Bánffy 2005, 1–2).

Much recent research has concentrated upon the complex processes by which the CEB AEB was overcome and expansion northwards continued. This has demonstrated that the acquisition of resources once again served as a stimulus, and particularly access to obsidian deposits in the northern reaches of the Carpathians (Mester, Rácz 2010. – Kozłowski, Nowak 2010. – Raczky et al. 2010, colour pl. 7/1). A region roughly corresponding to the Tokaj was reached by means of two routes, along the arc of the Carpathians and following the source of the Tisza eastwards (Domboróczki 2010, figs. 10–11), on the one hand, and from the Banat over the middle course of the Tisza northwards, on the other (Raczky et al. 2010, colour pl. 7/1). In the west, Starčevo settlements may be attested as far as the region of the Balaton, these being ascribed to the late trajectory (Starčevo Spiraloid B) (Bánffy 2004, 317–319. – Kalicz 2010, fig. 2). The complex model of a "mental marginal zone" has been developed to explain the circumvention of the alluvial floodplain of the Tisza in the north-eastern portion of the Great Hungarian Plain (Raczky et al. 2010). This zone, heterogeneous in its topography (although waterlogged in wide swathes), would have demanded a swifter economic adaptation. The landscape certainly did not offer anything approaching ideal conditions for the sheep herding characteristic of the southern regions. Some aspects of this adaptation are nevertheless tangible immediately south of the CEB AEB, inasmuch as the percentage of cattle in the animal bone spectra of the settlements markedly increases, as may, for example, be seen at Ibrány-Nagyerdő (Kovács, Gál, Bartosiewicz 2010, 239–242) and Nagykörű (Raczky et al. 2010, 151–158). Preliminary assessment of the faunal spectrum of Bucova Pusta IV by Bea De Cupere also demonstrates an initially clear predominance of cattle among the large mammals (Krauss et al. 2018).

8.12. The Role of Aquatic Resources

In the northernmost settlements along the CEB AEB of the developed Starčevo-Criș and Körös groups, yet another phenomenon becomes visible; the faunal spectra also display an above-standard proportion of nutrition originating from aquatic habitats. At Tiszaszőlős-Domaháza, Ecsegfalva 23, and Szolnok-Szanda, the identifiable taxa from a freshwater milieu form more than half of all species present (Kovács, Gál, Bartosiewicz 2010, fig. 11). At Nagykörű and Ibrány-Nagyerdő, practically all taxa come from aquatic habitats or wetland woods. The preliminary faunal observations at Bucova Pusta IV indicate much the same. In addition to cattle (the only potential domesticated animal which clearly prevails), various species of game may be evidenced. It has not yet been studied whether all of the butchering waste from cattle originates from domesticated animals. A considerable proportion of the bones may, moreover, be attributed to large fishes, and whole bundles of layers of mollusc and snail shells further attest to a preferred exploitation of aquatic resources (Krauss et al. 2018). At the northern fringes of the dispersal of the Starčevo-Criș-Körös complex at its twilight, a transition to a quasi-Mesolithic lifestyle is tangible, this born of a flexible reaction by the Neolithic communities (which had doubtless developed from a thoroughly Neolithic packet, as is borne out by their ceramic production and stone technology). From an economic perspective, however, the subsistence basis no longer comprises exclusively agriculture and animal husbandry. It almost seems as if this was a local Mesolithic population that had merely received an external impulse for neolithisation. But the genetic data show otherwise. Here too, immigrant farmers from the south are the carriers of the neolithisation process. It is not only within the specific confines of the Danube Gorges that a Mesolithic economic mode might be observed well into the Neolithic period; on the northern reaches of the landscape, just about suitable for the Neolithic economic

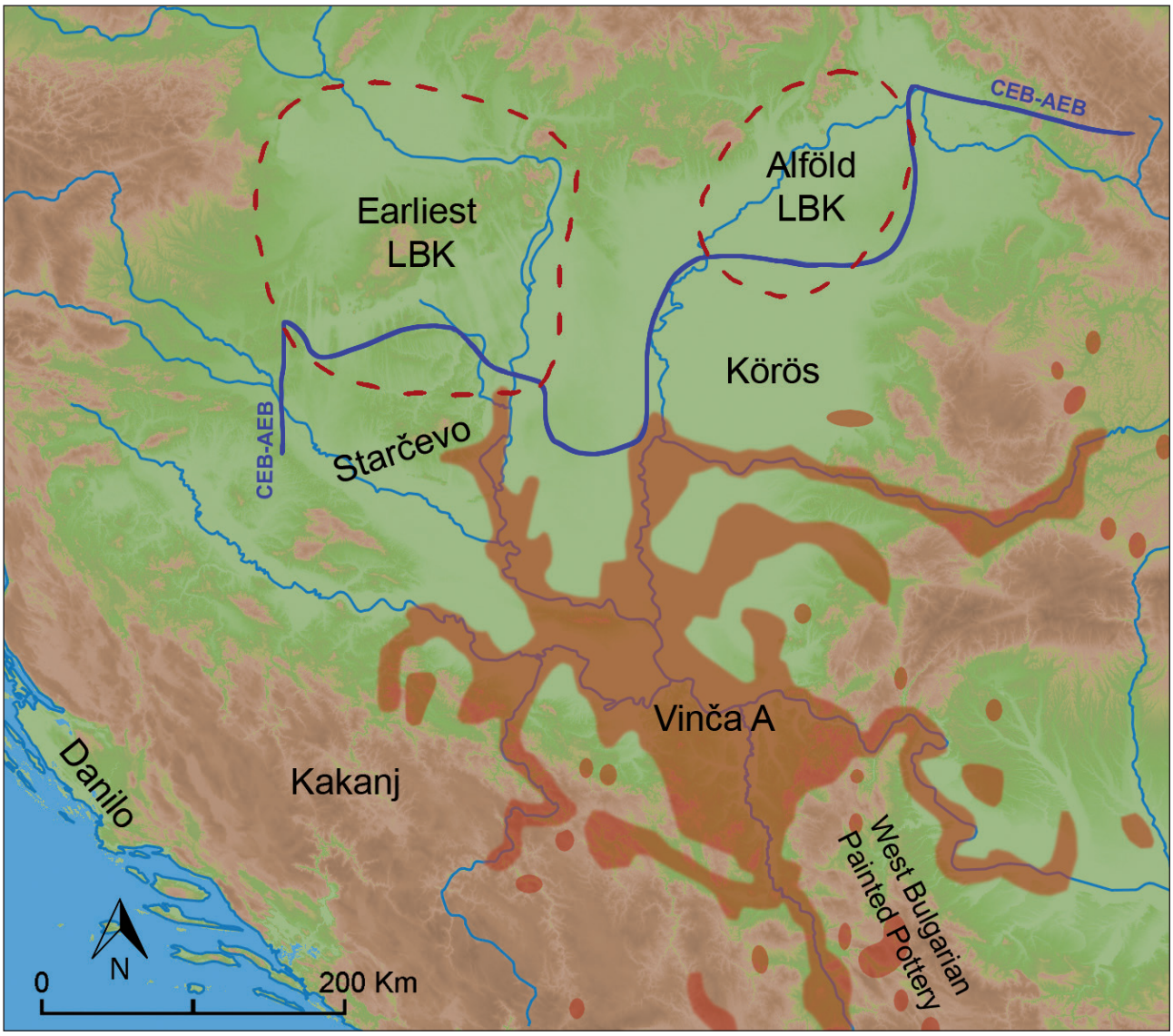


Fig. 192: Historical situation in the mid-6th millennium BCE in the Carpathian Basin. Emergence of western and eastern LBK north of the Agro-Ecological Barrier (R. Krauß).

mode along the CEB AEB, a return to an economy closely tailored to environments marked by bodies of water and damp woodlands may be demonstrated, this representing a shrewd reaction on the part of the resident human societies. In this respect, one of the central questions posed at the outset of this study, namely whether the neolithisation represents an irreversible process, can be answered in the negative with respect to the region of the north-western periphery of the Balkan Neolithic. At the end of the Early Neolithic trajectory, a temporary renunciation (at the very least) of the Neolithic economic mode may be observed along the CEB AEB, with this also bearing repercussions for the general image of settlement. There, a settlement system of smaller occupations shifting along the changing water channels only briefly chronologically removed from one another can be recorded. The appearance of the pre-Neolithic settlement of the region remains currently obscure, although the earliest Neolithic settlements in the Carpathian Basin are nevertheless no longer comparable to those within the Balkans. In contrast to the core regions of the Balkan Neolithic, longer term sites settled for more than four generations are emphatically rare on the north-western periphery. Nevertheless, the vicissitudes of life within this border zone conditioned Neolithic communities to the extent that a new Neolithic bundle could be developed as a result, with this now also permitting a lifestyle based upon agriculture and herding in the regions north and northwest of the CEB AEB.