ZIRIDAVA

STUDIA ARCHAEOLOGICA

31

2017

MUSEUM OF ARAD

ZIRIDAVA
STUDIA ARCHAEOLOGICA

31
2017

Editura MEGA
Cluj-Napoca
2017

MUSEUM OF ARAD

In Romania, the periodical can be obtained through subscription or exchange, sent as post shipment,
from Museum of Arad, Arad, Piata G. Enescu 1, 310131, Romania.
Tel. 0040–257–281847.

ZIRIDAVA
STUDIA ARCHAEOLOGICA

Any correspondence will be sent to the editor:
Museum of Arad
Piata George Enescu 1, 310131 Arad, RO
e-mail: ziridava2012@gmail.com

Layout: Francisc Baja, Florin Mărginean, Victor Sava

ISSN 2392–8786

Editura Mega | www.edituramega.ro
e-mail: mega@edituramega.ro

Contents

Exploring Divergent Trajectories in Bronze Age Landscapes: Tell Settlement in the Hungarian Borsod Plain and the Romanian Ier Valley

Tobias L. Kienlin, Klára P. Fischl, Liviu Marta

Abstract: Drawing on data from ongoing projects in the Hungarian Borsod plain, occupied by Hatvan and subsequent (Otomani-)Füzesabony communities, and the Romanian Carei plain, occupied by Sanislău and following Otomani communities, it is argued in this paper that the traditional modelling of Bronze Age tell sites as proto-urban, chiefly settlements falls short of a more complex ancient reality. Rather than being a weak reflection of Mediterranean palatial society, it can be shown that tell settlement in the Carpathian Basin is a complex and variable phenomenon – in chronological and regional terms as well as in socio-political and cultural ones. Our modern perception that such sites were dominating the landscape is partly misleading and impoverishes our understanding of the communities under study. Instead, it can be shown that there were different trajectories taken by 'tell-building' communities throughout the Carpathian Basin. There is a wide range of organisational options and divergent regional trajectories that should not be subsumed under covering models of the "Rise of Bronze Age Society".

Keywords: Early and Middle Bronze Age, tell settlement, settlement patterns, centre and periphery

Much Bronze Age research is dominated by a top-down approach, i. e. a specific interest taken in the evolution of stratified society and the socio-political impact of metalworking. In this context Bronze Age tell sites of the Carpathian Basin are interpreted as (proto-) urban settlements that more or less successfully drew upon agricultural and other resources from their surroundings and controlled the exchange in valuable objects and raw materials from abroad. They were home, supposedly, to some kind of functionally and politically differentiated population with peasants, craft specialists – and some in charge of all this[1].

This modelling of Bronze Age society involves considerable extrapolation from the archaeological record, and it heavily depends upon acceptance of two closely related concepts. First, some kind of core and periphery model with prehistoric Europe situated on the margin of Mediterranean urban or palatial centres. Second, acceptance that demonstration of contemporaneity is a meaningful statement on the relation of both areas, and that the movement of objects between some group or site in the Carpathian Basin and, say, Myceneae is proof of structured interaction and dependency[2].

A prominent example of this approach is K. Kristiansen and L. Larsson's magisterial study "The Rise of Bronze Age Society", from which the following passage is taken:[3] "Visitors to the chiefly courts in the northwestern Carpathians during the seventeenth and sixteenth centuries BC would have met a shining world of painted/decorated houses in east Mediterranean imitation, chariots, new weapons and new exotic rituals of drinking and feasting [...] The chiefly courts of the tell cultures combined a

1 See, for example, Hänsel 1996, 244; Hänsel 1998, 22; Hänsel 2002, 80–83; Németi, Molnár 2007, 55–69, 177–183, 486; Earle, Kristiansen 2010b, 25–26; Earle, Kolb 2010, 59; Earle *et al*. 2015, 641–642. Compare also Jockenhövel 1990, 211–213; David 1998; Gogâltan 2010.

2 See, for example, Vladár 1973, 273–293; Vladár 1977, 186; Vladár 1981; Bader 1990. See also Hänsel 1996, 244–250; Hänsel 2002, 79–83, 96–97; Kristiansen 1998; David 1998, 244–251; David 2001; David 2007; Furmánek *et al*. 1999, 120; Gancarski 2002; Earle 2002; Kristiansen, Larsson 2005, 128–129, 161–162; Gogâltan 2008, 52; Gogâltan 2010, 19–40; Earle, Kristiansen 2010c, 239–256; Kristiansen, Suchowska-Ducke 2015 for more recent reformulations of this position. With a more differentiated approach emphasising structural differences for example Jockenhövel 1990, 211–216, 228; Harding 2000, 418–422; Harding 2006a, 465; Harding 2006b, 105–107; Bartelheim 2007; Primas 2008; Bartelheim, Stäuble 2009; Fokkens, Harding 2013; Duffy 2014; Brück, Fontijn 2013; Jaeger 2015; Jaeger 2016.

3 For a critical assessment of this work, the problems it poses both on the empirical side and on the theoretical one see, for example, Harding 2006a; Harding 2013; Nordquist, Whittaker 2007; Galaty *et al*. 2014; Kienlin 2015b; Kienlin 2017.

strong innovative local tradition in pottery and metalwork with exotic cultural traits from the Minoans and Mycenaeans, whom they met regularly at some of the trading points. Even script – the mysterious powerful script – did they want to adopt. Not for recording their possessions or tribute payments [...] but as a powerful, esoteric ritual."[4]

World-view, clearly, is involved here: Although European communities and elites never quite reached the core area's scale and splendour, prehistoric Europe is seen to develop along broadly the same lines previously taken by the ancient Near East or the Aegean Bronze Age. Structural similarity is assumed, when in fact there were fundamental differences in social and cultural development[5]. What chiefly courts, one may ask here, and what evidence of social differentiation, be it economic inequality, political hierarchies or craft specialisation? The meaning of exotic objects is taken for given, and no attempt is made to study the recontextualisation and appropriation of foreign elements in 'Barbarian' Europe. 'Systemic' interrelation and the effect of contact on peripheral culture and society is taken for given instead of being demonstrated[6].

Curiously, this falls short of recent interaction studies in Mediterranean and Near Eastern Archaeology, where there is a growing awareness that even politically centralised and economically strong 'core' states lacked the ability to project their power over large distances[7]. Instead, local traditions, systems of knowledge and notions of the world or society are understood to delay or forestall core dominance over peripheral groups[8]. Attention is drawn to the differential outcomes of contact and exchange depending on local valuations, specific historical trajectories and peripheral agency opposite outside 'influence'[9]. It is increasingly agreed upon, that neither comprehensive concepts such as an ideology of legitimate political power, nor symbolically charged objects such as valuables or prestige goods are likely to remain unaffected in their specific meaning and potential to be drawn upon in local discourse when transfered from 'core' to 'periphery'[10]. 'Import' by whatever means and local emulation are taken to involve a transformation of meaning[11]. And it is realised that contact will not automatically take the form of systemic interdependence or asymmetry of exchange[12]. The effect of contact and exchange, that is to say, must not be taken for granted. The occurence of foreign derived immaterial notions and material culture has to be studied by reference to their actual use in a new context. Foreign elements have to be understood in terms of their specific reworking by local communities and individuals. Their potential to destabilise local traditions and social order must not be unduly emphasised[13]. It is somewhat amazing, then, that the presence of a Mycenaean sword or spiral motiv in the Carpathian Basin can still be said to indicate the adoption of Mycenaean warrior ideology, while, for example, in Minoan studies Egyptian scarabs in Cretean tombs are understood to be drawn upon in a specifically Minoan way to express local identities[14].

For this reason, it is argued here, that the traditional modelling of Bronze Age tell sites – ultimately in likeness of Mediterranean civilisation – falls short of a more complex ancient reality. It is taken to be established, that the beginnings of Bronze Age tells pre-date the Mycenaean palaces and even the shaft grave period, and it is assumed that previous contact with Minoan palatial society, if any direct contact existed at all, was such that it did not significantly affect local trajectories[15]. It is further assumed that there is no break in local development say from the Early to the Middle

4 Kristiansen, Larsson 2005, 167.

5 See Kienlin 2012a; Kienlin 2012b; Kienlin 2015a.

6 Kienlin 2015b; Kienlin 2017.

7 Stein 1999a, 55–64; Stein 1999b, 160–165.

8 E. g. Wengrow 2011, 136–137; Bachhuber 2011, 164–171.

9 E. g. Dietler 1989, 127–128, 134–136; Dietler 1998, 297–301; Dietler 2006, 224–227; Broodbank 2011, 28–29.

10 E. g. Dietler 2006, 228–229; Herrero 2011, 268–269, 276–277; Maran 2011, 282–284.

11 E. g. Stein 1999a, 66.

12 E. g. Dietler 1989, 135–136; Stein 1999b, 157; Stein 2002, 907–908; Kohl 2011, 80–81.

13 See also various papers in Maran, Stockhammer 2012.

14 Herrero 2011, 269–271.

15 *Contra* approaches like the one of Hänsel 2002, 96, who modifies traditional diffusionism to a broadly parallel development of both areas in order to allow for the results of radiocarbon dating. *Contra*, as well, the different horizons of Minoan and subsequent Mycenaean influence distinguished by Kristiansen, Larsson 2005. See, for example, Vulpe 2001; Kiss 2011, 226; Kiss 2012; Fischl 2012, 46–47; Jaeger, Kulcsár 2013, 302–313; Fischl *et al.* 2013, 364; Gogâltan 2015 on the absolute chronology of the Early to Middle Bronze Age tell communities; the resulting problems with the notion of Mycenaean (even shaft grave period) 'predecessors' or 'influence' are obvious.

Bronze Age in Hungarian terms that may be related to a gradual expansion of Mycenaean influence and interest north. In other words, the position taken here is that Early and Middle Bronze Age societies of the Carpathian Basin developed largely on their own. We must refer, therefore, to the internal logic of these groups for an understanding of their settlement, their use of material culture or their construction of social space, not to their foreign contacts south. The latter may be established by sporadic imports, but they did not result in convergence – social, ideological or otherwise[16].

Rather than being a weak reflection of palatial society, it can be shown that Bronze Age tell settlement is a complex and variable phenomenon – in chronological and regional terms as well as in socio-political and cultural ones. This tends to ignored when likeness with Mediterranean developments is expected and "[…] otherwise sensible scholars [start] to see things that are not there and to ignore crucial developments […] in an effort to impose [foreign] structures […]"[17]. In particular, development towards site hierarchies, differentiation in social relations and political ranking often are assumed rather than convincingly demonstrated. There is much variability in settlement size and continuity, internal organisation and architecture as well as with regard to the integration of multi-layer tell sites into wider settlement systems. Our modern perception that such sites were dominating the landscape is partly misleading. Instead, it can be shown that there were different trajectories taken by 'tell-building' communities throughout the Carpathian Basin. Such regional variation in settlement patterns is often neglected, and the dynamics of such settlement systems and their individual sites through time is often ignored as well.

This will be illustrated by reference to Early to Middle Bronze Age (Hungarian terminology) 'tell-building' communities in two micro-regions of the northern and north-eastern part of the Carpathian Basin: the Hungarian Borsod plain, occupied by Hatvan and subsequent (Otomani-)Füzesabony communities; and the Romanian Carei plain occupied by Sanislău and following Otomani communities during the period under consideration. Drawing on data from ongoing projects in both micro-regions, it will be suggested we better leave behind essentialising concepts of 'centre' and 'periphery' in a Bronze Age world. We have to allow for the variability and historicity of potentially interacting local groups – both in the Bronze Age Aegean and in 'Barbarian' Europe. There were different local trajectories. In the Mediterranean and Southeastern Europe we find divergent concepts of materiality and social space. Communities in both regions expose cultural complexity, but it was only in the Mediterranean that this translates into the development of explicitely politically stratified societies.

Case Study 1: Hatvan Settlement on the Hungarian Borsod Plain

By way of example, let us first consider a group of Hatvan and Füzesabony sites situated along the foothills of the Hungarian Bükk mountains and on the adjacent flatlands of the Borsod plain (Fig. 1). Most sites of this micro-region, that is located on the northern periphery of the Hatvan culture, were already mentioned in N. Kalicz'[18] classic monograph on the Early Bronze Age in north-eastern Hungary. However, it was only with a recent intensive survey programme that more detailed information on the structure of these sites and the settlement pattern in general has become available (BORBAS project)[19]. Starting on the micro-level, it is our aim to explore the inner structure of these settlements, to establish the location and the structure of households, to see if there are settlement parts with specialised function, and to compare the architecture and activity patterns of the various parts of these sites. On a macro-level an attempt is made to define the factors that determined the choice of site location and to understand the spatial organisation of settlement in environmental, economic and social terms. In the long-run, it is asked what role the individual sites examined played in the settlement network of the Hatvan and Füzesabony cultures, and an attempt will be made at comparing the land use, economy and society of both groups.

---

16 Kienlin 2015a.

17 Dietler 1998, 297.

18 Kalicz 1968.

19 Borsod Region Bronze Age Settlement; see Fischl *et al*. 2012; Fischl, Kienlin 2013; Fischl *et al*. 2014; Fischl *et a*l. 2015; Fischl, Kienlin 2015; Fischl *et al*. 2016; Kienlin *et al*. in print.

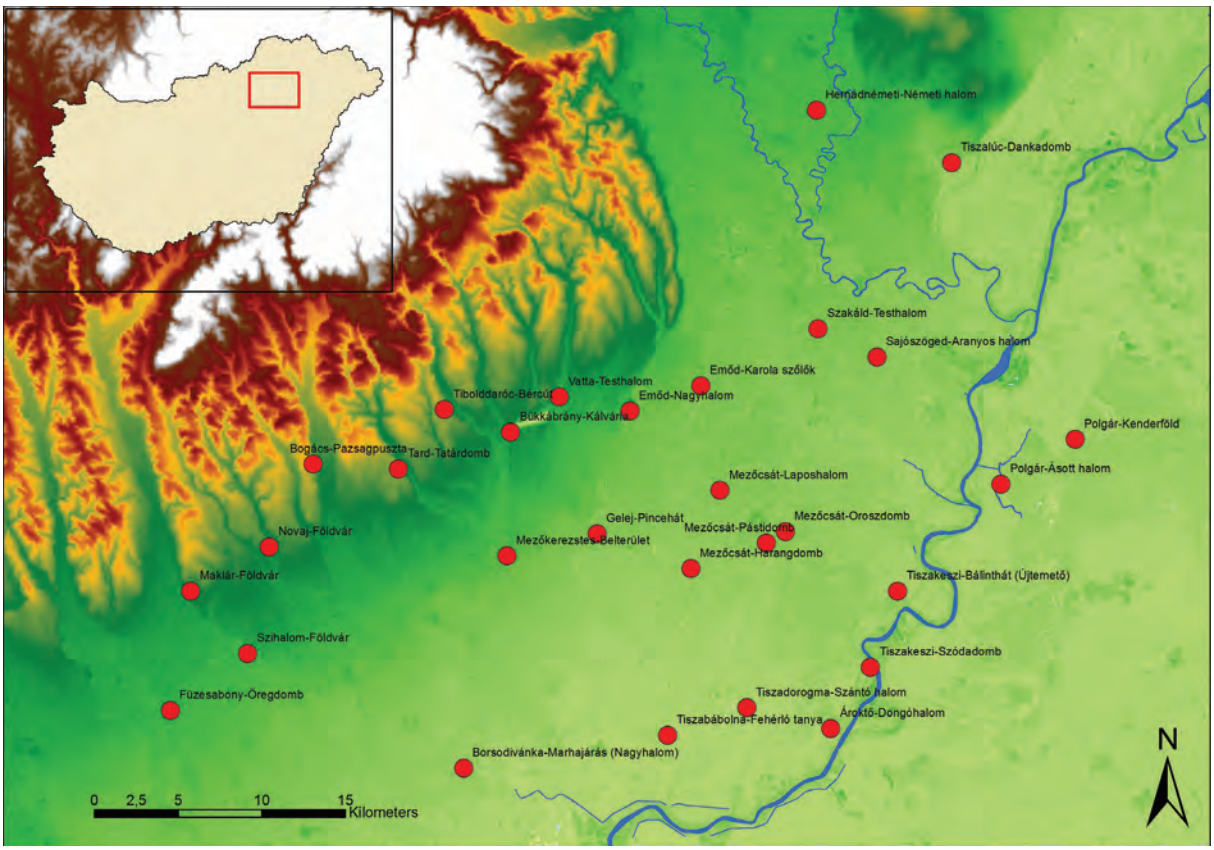

Fig. 1. Map of Hatvan and Füzesabony period settlements on the Borsod plain and foothill zone of the Bükk mountains.

Tard-Tatárdomb

One of these sites, Tard-Tatárdomb is situated on the first heights of the foothills, where the Bükk mountains run into the Borsod plain (Fig. 2). These foothills are characterised by a number of small river valleys that run in north-south direction and drain into the previously swampy plain. The Bronze Age site of Tard-Tatárdomb occupies the edge of the high terrace above one of these streams. It is situated some 50 m above the modern village of Tard. N. Kalicz, in his catalogue of Hatvan sites, lists a 'very large settlement' of the Hatvan culture at Tard-Tatárdomb, but without further information on the structure of the occupation etc.[20] More recently, all available information on the history of research on the prehistoric fortified settlement of Tard-Tatárdomb has been collected in a monograph on the castles of the Komitat Borsod-Abaúj-Zemplén[21].

From aerial photographs it is apparent that Tard-Tatárdomb follows the general pattern observed on Hatvan sites throughout the study area with a central tell or tell-like part, a fairly massive ditch that enclosed the inner section of the site and an outer settlement of substantial size (Fig. 3). Given its limited height, Tard-Tatardomb is a tell-like multi-layer settlement rather than a proper tell (Fig. 4). Surface finds of pottery confirm that both parts of the site were settled in Hatvan and subsequent Füzesabony times. Beyond this first impression, however, our geophysical prospection and intensive archaeological survey imply that the history of the site was more complex in terms of its different phases and settlement dynamics than previously expected[22].

The central part of Tard-Tatárdomb is enclosed by a U-shaped ditch that is visible in the magnetogram as a darkish (i. e. positive) magnetic anomaly of variable intensity (c. 5 nT to 8 nT down to c. 1 nT to 4 nT in less well-defined zones; Fig. 5). The course of this anomaly corresponds well with the surface evidence for the existence of a trench, i. e. the depression left on the surface and the different

[20] Kalicz 1968, 119, no. 41.
[21] Nováki *et al*. 2007, 125–126.
[22] Fischl *et al*. 2012, 27–29; Fischl, Kienlin 2013, 18–27; Fischl *et al*. 2014; Kienlin *et al*. in print.

Fig. 2. Tard-Tatárdomb. Location of the site on the high bank of the river Lator; in the background the Bükk Mountains. Aerial photograph 2012.

Fig. 3. Tard-Tatárdomb. Aerial photograph from 2010 showing the different parts of the Bronze Age settlement visible on the surface by the different colour of the soil.

soil colour of its infill (Figs. 3 and 4). Magnetometer data are not well suited to determine the exact width and volume of such subterranean structures. So it is only an approximation that this (inner) ditch at Tard-Tatárdomb – as defined by the magnetic signal and the surface evidence – is approximately 8 m to 17 m wide, i. e. with some variation in its different parts. Coring indicates a depth of c. 4 m.

Fig. 4. Tard-Tatárdomb. View of the central part of the settlement and ditch seen from the south.

Unlike other Hatvan sites[23], the ditch at Tard-Tatárdomb seems to have broadly linear sections and rounded 'corners' rather than forming a more or less circular structure. This layout may be the consequence of the specific history of this site, with an original Hatvan time nucleus and a Füzesabony phase expansion to the central part of the settlement. Future excavations are necessary to be sure on this point. However, from the data at hand it is possible that the older (Hatvan) core of the site was originally enclosed by a roundish ditch (Fig. 6). At some later stage, the northern part of this older structure was apparently refilled, since it is overlain by some (pit) anomalies that may correspond to the younger Füzesabony occupation of the site. Possibly during broadly the same younger phase an extension to the ditch was dug towards the north in order to enclose a somewhat larger core area. Surface finds confirm this interpretation, since from the northern 'extension' of the central area there is mainly pottery attributable to the Füzesabony period, while the smaller 'original' core yields material from both the Hatvan and Füzesabony times (Figs. 7 and 8). If this interpretation is confirmed by subsequent work on the site, there was an older, roundish core (c. 0.2 ha) of the settlement dating from Hatvan times onwards, and an enlargement in Füzesabony times that brought the central part of the site up to c. 0.44 ha.

The original core, according to the above interpretation, c. 46 m on 57 m in diameter is set apart in the magnetometer data by its slightly negative (i. e. lighter) background readings in the c. -0.5 nT to -2 nT range (Fig. 5). In this area there is evidence of some two to three houses that show up as broadly rectangular structures (c. 5 nT to 10 nT up to readings in the c. 30 nT to 40 nT range) orientated along

[23] E. g. the neighbouring site of Emőd-Nagyhalom (Fischl, Kienlin 2013, 11–14, figs. 4A, 4B and 5); see also Anders *et al.* 2010, 150, fig. 3, 154, fig. 7, 155, fig. 8; Czajlik 2002, 162, 164, fig. 2; Miklós 2006, 138–141, 143, fig. 4, 145, fig. 7, 146, fig. 9.

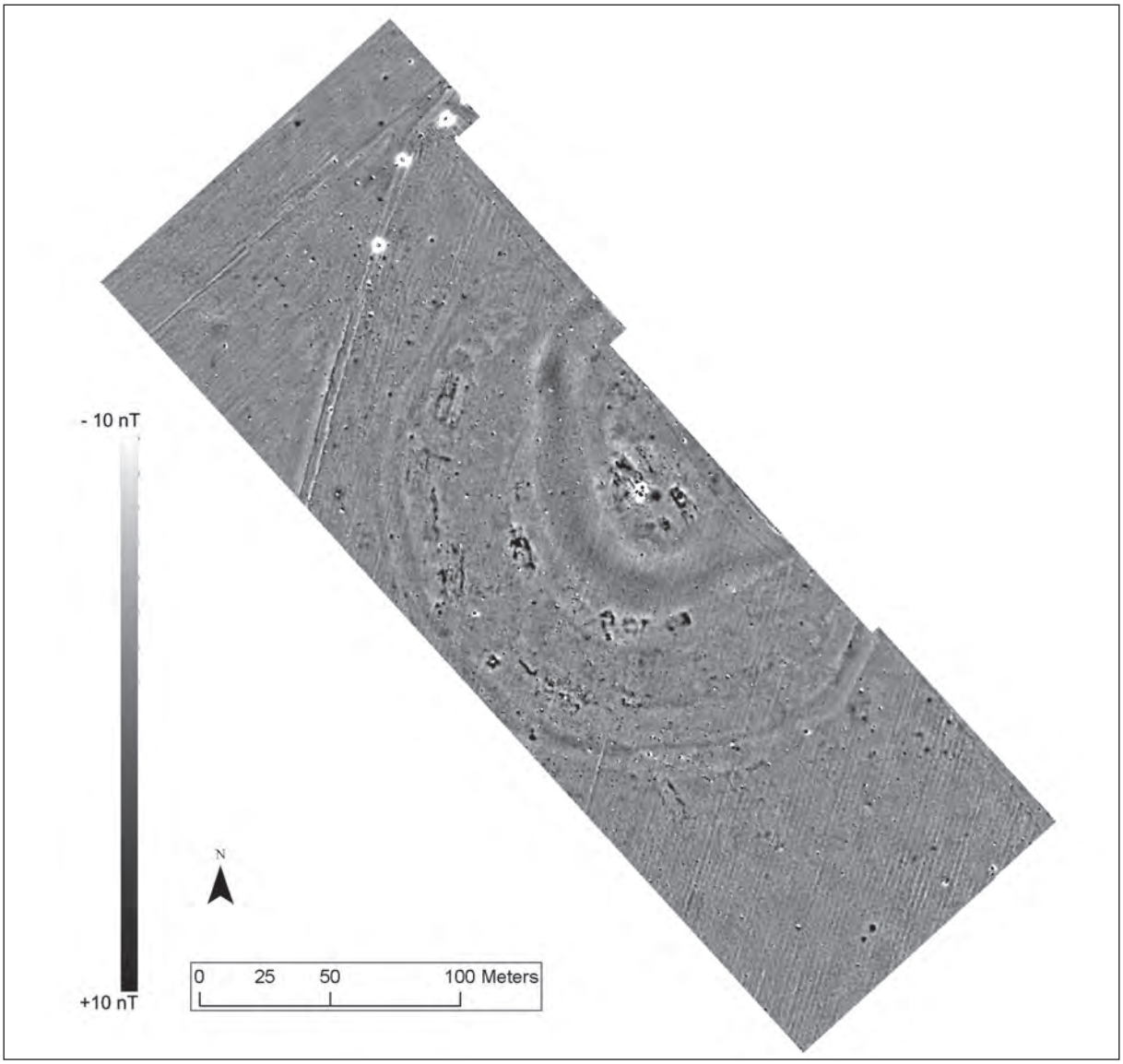

Fig. 5. Tard-Tatárdomb. Greyscale plot (+/- 10 nT) of the magnetometer data of the central part of the site and part of the outer settlement surveyed in 2012.

the north-west to south-east axis (Fig. 6). These houses range in size from c. 5–6 m on 14–16 m (or more) and may have had two rooms. This corresponds well with the geophysical results from neighbouring sites[24] and houses known from the excavation of Bronze Age tell sites in adjacent areas[25]. A number of general 'pit' anomalies may point to additional houses that are less well preserved or not visible in the magnetogram due to their construction material or lack of burning etc. However, space is limited in this central part of Tard-Tatárdomb, and the maximum number of houses possibly coexisting at the same time was certainly rather small.

By comparison, the northern extension to the central part (as discussed above) has somewhat higher background values (Fig. 5). Such differences in susceptibility are potentially due to the different nature and the different amount of settlement debris that accumulated in the course of time. Judging by the contour lines and the different magnetic properties of the soil it is possible that the cultural layers in this area are less thick and occupation was less intense. This would nicely match the above observation that surface finds imply a shorter (Füzesabony only) history of intense occupation in this area (Fig. 8). Interestingly, in this zone there are just some general settlement pit anomalies of various size and magnetic strength (c. 1 m to 1.5 m in diameter; c. 6 nT to 15 nT, rarely up to c. 25 nT). For the

[24] Kienlin *et al*. in print.

[25] For an overview see Fischl 2006, 185–187; Kienlin 2012b, 287–289; Kienlin 2015a, 53–56.

time being, the reasons of this finding remain unclear (Fig. 6). Potential houses in this area may simply be less well preserved; there may have been differences in architecture and building materials used during a younger occupation phase that affect magnetic visibility; or by mere chance houses in this area were not affected and improved in magnetic visibility by fire. From the anomalies encountered it is unlikely, however, that the newly enclosed area remained open and devoid of settlement activity. Thus, the Füzesabony period expansion postulated above would have provided space for a limited number of additional households in the enclosed central part of the site.

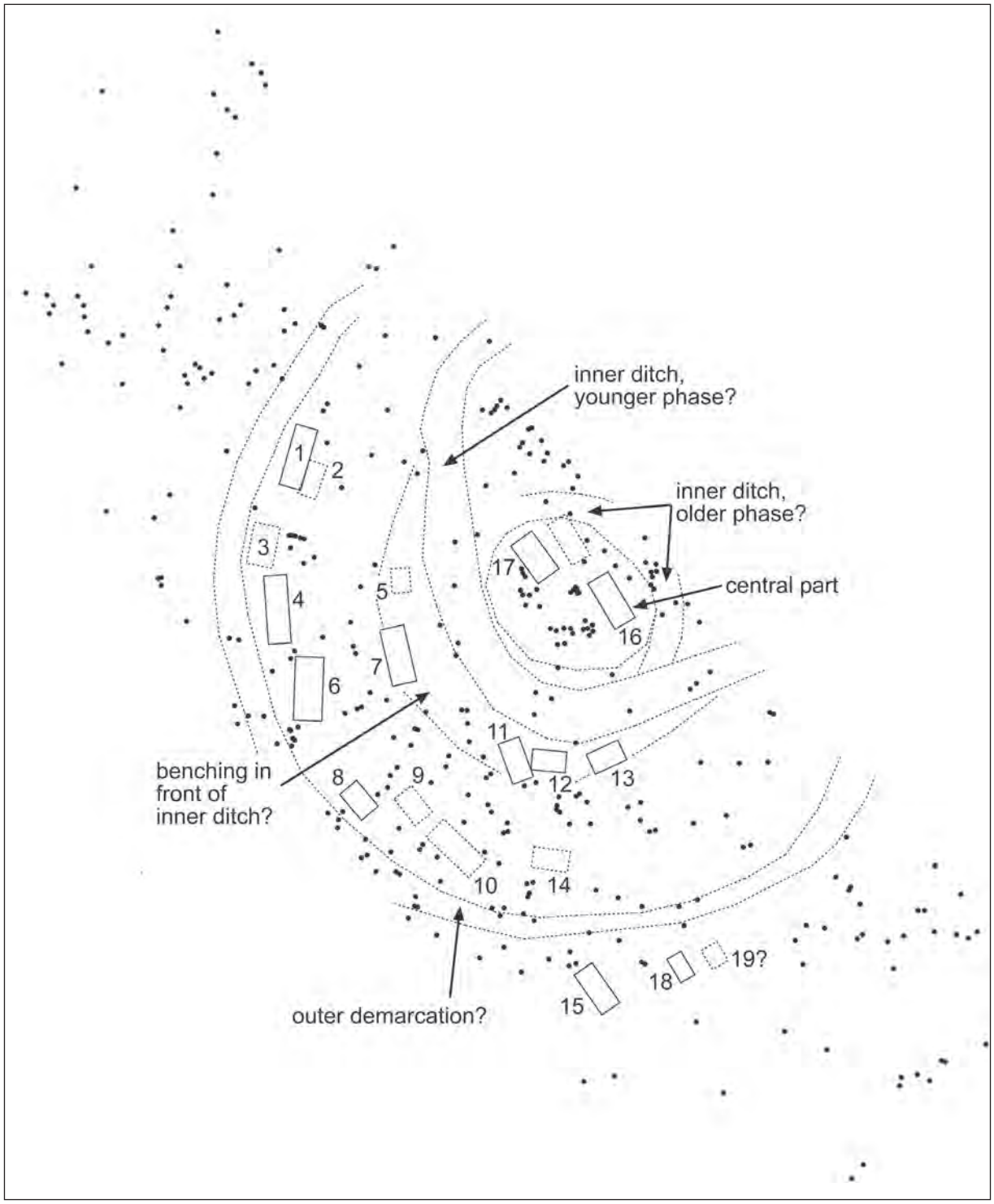

Fig. 6. Tard-Tatárdomb. Interpretation of the magnetometer data and tentative plan of the settlement with houses and enclosures.

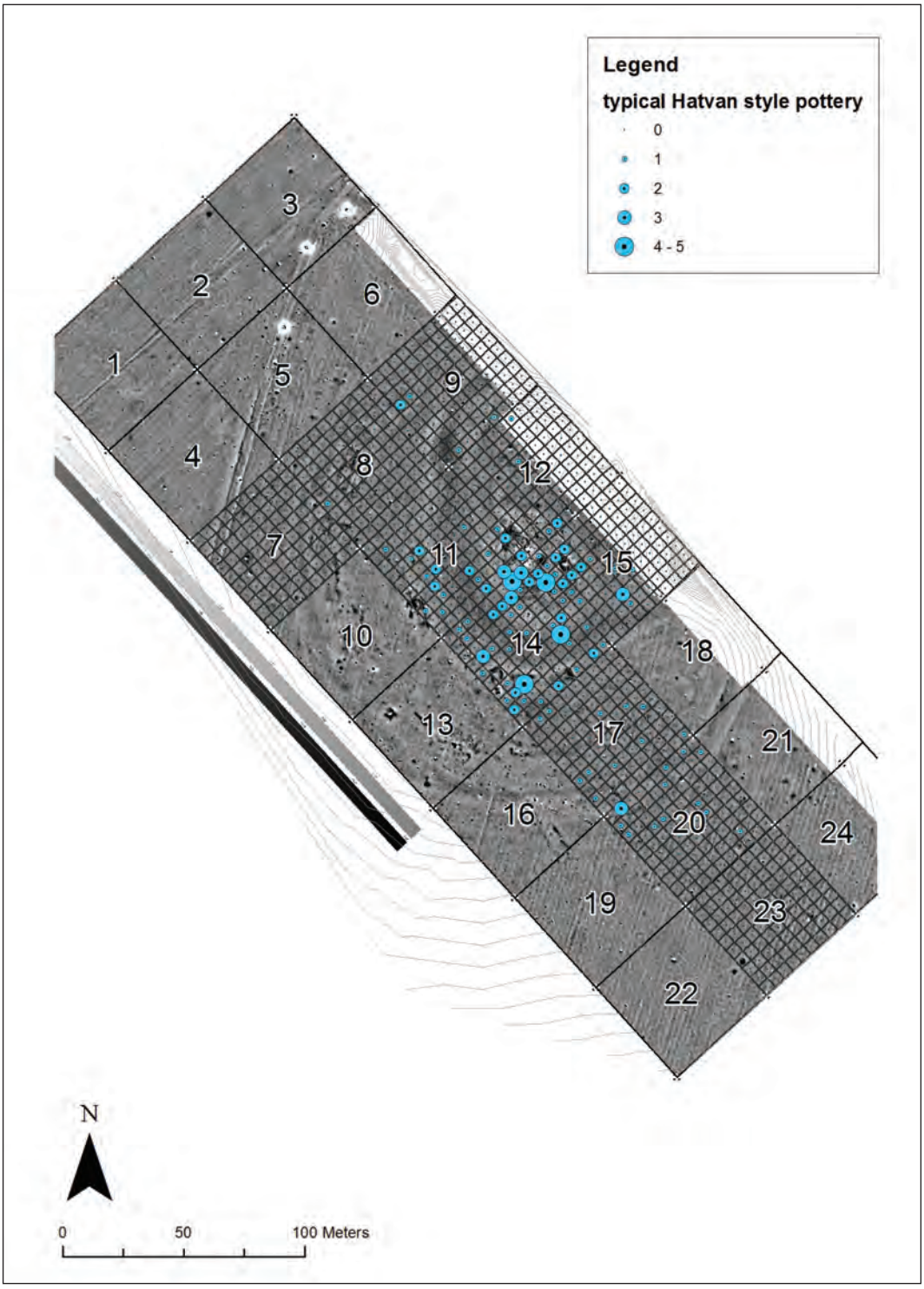

Fig. 7. Tard-Tatárdomb. Distribution of surface finds attributed to the Hatvan period.

Some 35–50 m outside the inner trench there is evidence of a second enclosure. Unlike the inner one this outer line is not visible on the surface, and it shows a different pattern of anomalies (Fig. 5). It is only a maximum of c. 8 m wide and more sharply bounded – at least in some parts – than the inner trench. Since the inner trench is apparently two-phase (Hatvan and Füzesabony; see above), it is likely that both demarcations co-existed at some stage. However, without an excavation it is unclear which of the following scenarios applies: There may have been an outer demarcation already in Hatvan times, and it may or may not have survived into Füzesabony times when the inner ditch was expanded. Alternatively, an outer demarcation was established only in Füzesabony times.

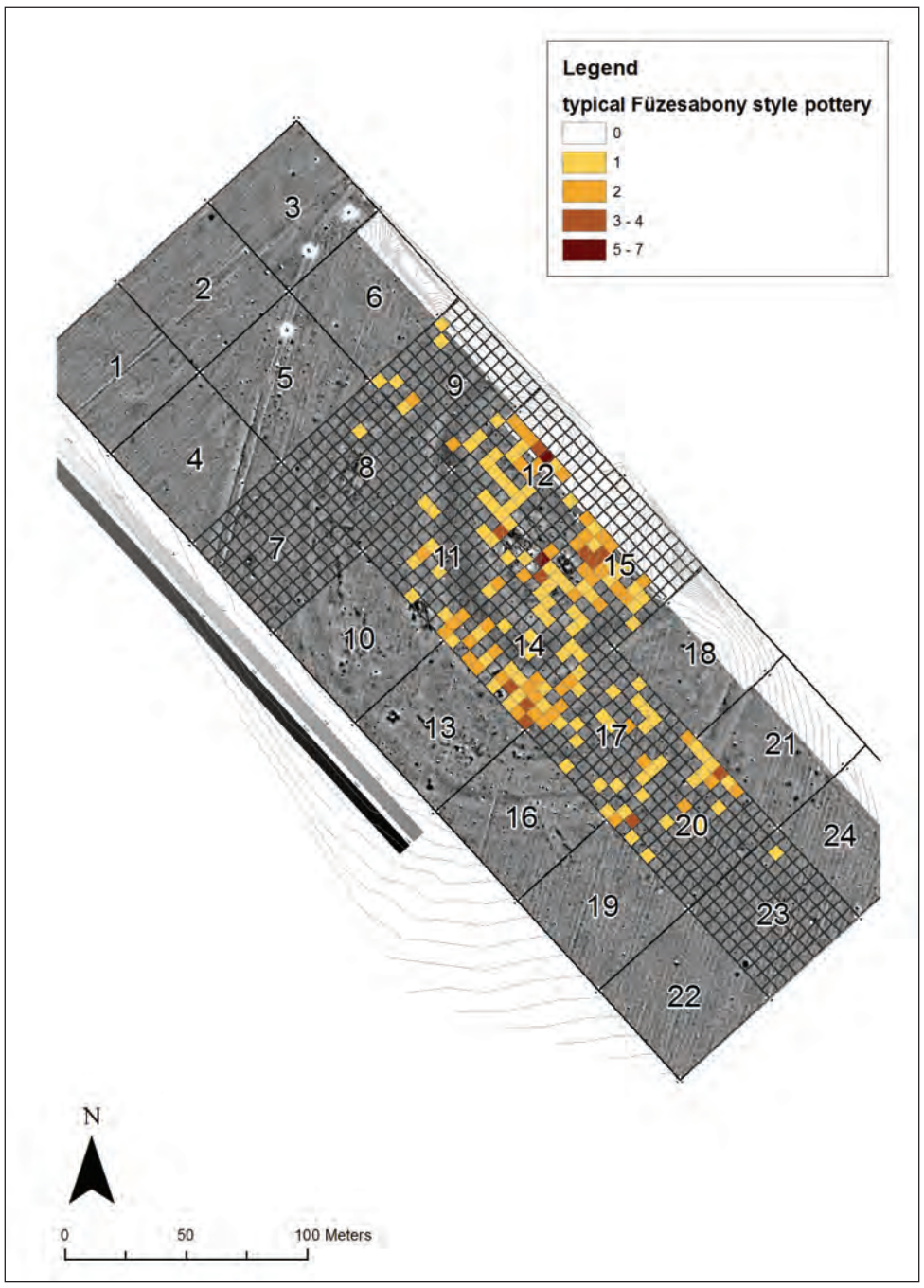

Fig. 8. Tard-Tatárdomb. Distribution of surface finds attributed to the Füzesabony period.

In the outer settlement, defined as the zone between the inner ditch(es) and the outer demarcation, there is evidence for some nine houses, whose general location and orientation is thought secure (Figs. 5 and 6). As with the central part of the site, it is likely, that our magnetometer data is biased towards burned structures. Consequently, there may have been more houses than suggested in our reconstruction. What we clearly see, however, is that the houses in the outer settlement do not systematically differ in size and layout from those in the centre part (size from c. 5–6 m on 14–16 m, sometimes even more, and some with two rooms). The general pattern observed is one of houses arranged in concentric order parallel to both the inner and outer ditches. If in fact there are no additional houses in between both lines, there would have been two rows of houses situated at a distance of c. 15 m to 20 m from each other. The distance kept from the inner ditch was somewhat smaller (down to c. 2 m to 3 m) than on the outside where the houses are situated c. 5 m to 6 m away from the anomaly caused by the ditch.

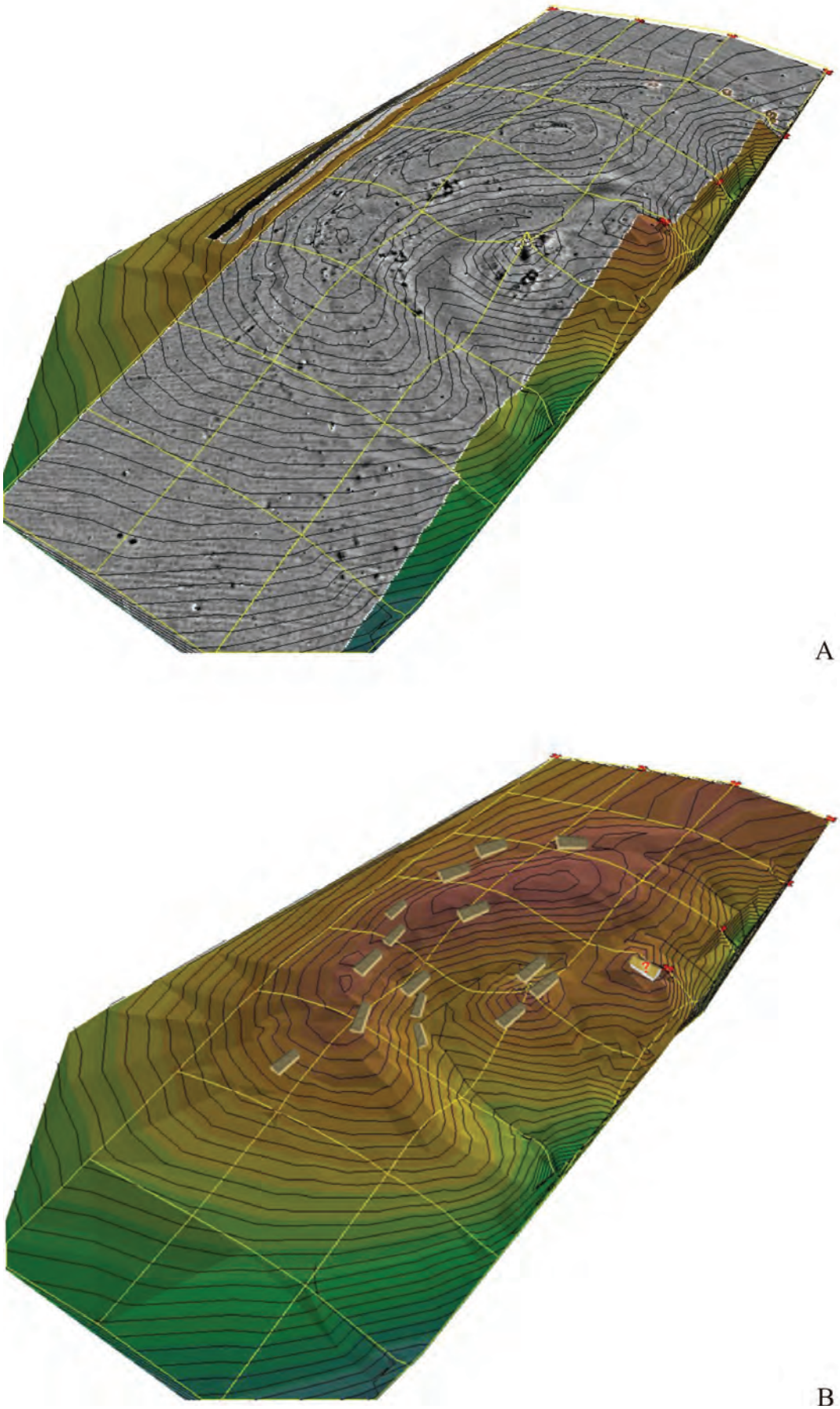

Fig. 9. Tard-Tatárdomb. A. Topography of the site with contour lines overlying the magnetogram. B. 3D model of the site.

Interestingly, the houses of the inner ring are located in an area that is characterised by its slightly negative (i. e. lighter) background readings alike the core area. In fact this zone that is approximetaly 4 m to 15 m wide reaches a height comparable to the central part of the site (Fig. 9). This may just have been some kind of benching formed by material thrown up from the inner enclosure. Alternatively, it is possible that some households in this zone actually achieved a similar continuity like those of the central core area and left behind a comparable amount of settlement debris (Fig. 3). This notion is clearly supported by the surface finds, since there are concentrations of pottery attributable to both the Hatvan and Füzesabony periods in close spatial relation to house anomalies in this zone (Figs. 7 and 8). In any case, from the surface finds it is evident, that this outer settlement was occupied both in Hatvan and Füzesabony times. A long and potentially complex history of occupation of the outer settlement is also implied by the fact that at least one house of the inner 'ring' has a different orientation from the rest (Fig. 6).

Finally, beyond the outer demarcation, there is evidence from the magnetogram of occasional 'pit' anomalies in general terms (Figs. 5 and 6). The interpretation of this outer zone, that has also been observed on a number of other Hatvan sites[26], in functional terms is unclear. However, both surface finds of pottery and an occasional 'pit' in the magnetogram are indicative of some kind of activity and use made of this zone starting in Hatvan times and continued during the Füzesabony period. Our results are preliminary with regard to the extend of this zone. So far evidence of Bronze Age activity comes from an area of c. 3.6 ha covered by magnetometry, extending *c*. 120 m to the north-west and south-east of the outer ditch.

Discussion

Tard-Tatárdomb is just one example from our ongoing work (Kienlin *et al*. in print), but already the much greater diversity of such sites is noteworthy, when compared to the earlier description in the work of N. Kalicz[27]. There is greater variability in their development and in their role in a wider social landscape than previously assumed. The outer part, in particular, potentially is much larger than used to be thought. Its different zones – such with building remains that point to regular settlement activity versus general 'pit' anomalies indicative of some other kind of activities – require greater archaeological attention. The well-known inner core of such sites is just one part of a more complex whole, and a general model would currently include the following elements, that may prove dynamic vis-à-vis each other through time in spatial, functional or social terms (Fig. 10): 1. an inner, multi-layer core with evidence of settlement acitivity and houses of rather standardised size; 2. a deep and wide ditch that sets the inner tell or tell-like core practically and symbolically apart from its surroundings, but may be subject to modifications depending on social, economic or demographic requirements; 3. an outer settlement that can itself be divided in two parts: 3a. an intensively used inner part, potentially with houses that do not differ much from those in the centre part; 3b. an outer zone featuring pits possibly indicative of various activities related to storage and/or production. Finally, beyond that zone there were numerous other such settlement units of a similar kind, their fields and pasture. And there was a socially constructed, ideational landscape, that may have comprised ritual features such as places that attracted deposits, as well as territories claimed by the respective communities, for example, through the location of their burial grounds[28]. All of this is potentially more complex and fluid than the Bronze Age standard model of settlement hierarchies and political territories has us expect. It does not correspond, in several respects, to the notion of a central tell site in political and economic control of both its immediate and its wider surroundings – the notorious fortified tell 'acropolis' opposite functionally and politically dependent open 'villages'[29].

For example, as already mentioned, there is no systematic difference in the size and the architecture of houses on the central tell part and in the surrounding outer settlement. Apart from the 'specialised' use the outer zone 3b, that was not used for living but for a variety of day-to-day activies, from the geomagnetics we lack all evidence of a differentiation on the household level. The random

[26] E. g. Fischl, Pusztai 2009; Fischl, Rebenda 2012.
[27] Kalicz 1968.
[28] E. g. Fontijn 2001/02; Bérenger *et al*. 2012.
[29] E. g. Hänsel 1996, 244–248; Hänsel 2002, 82; Falkenstein 1998, 268; Earle, Kristiansen 2010c, 220.

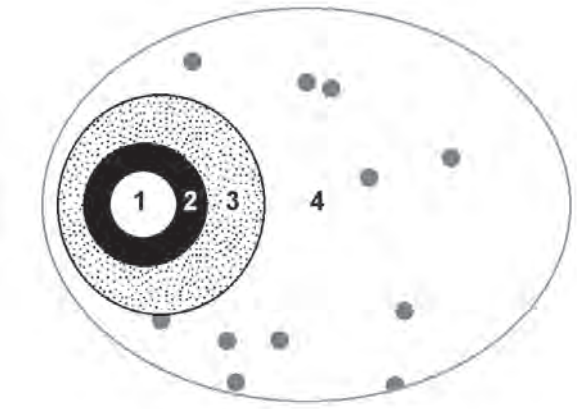

Fig. 10. Model of the Early to Middle Bronze Age sites in the Borsod region with a central multi-layer part (1), enclosure (2) and outer part with houses (3) and pits (4).

distribution of surface finds of 'special' artefact types like animal figurines, portable hearths or waggon/wheel models, that are commonly thought to be associated with outstanding, socially or ritually motivated activities, throughout both the inner and outer settlement points into the same direction[30]. In addition, it is possible that some households located on the 'benching' in front of the inner ditch could actually lay claim to an equally long tradition like those resident 'on-tell' (see above). Upon excavation different traditions of doing things and preferences for specific tasks may become apparent on a family or household level. But it would come as a surprise to see anything like the functional and social differentiation in the polities that were politically controlled by Mycenaean palaces[31].

So what may have 'distinguished' the families on the tell from (some of) their 'off-tell' neighbours may have been their claim to greater antiquity only and their positioning in the spatial and ideological focus of the community rather than 'hard' political power or economic predominance. However, we have seen that even these 'soft' factors may have been subject to negotiation: We have noted above, that at Tard-Tatárdomb there are indications of an extension to the central 'tell' part of the site in Füzesabony times with corresponding modifications of the inner ditch. Since we do not know precisely how densely the inner and the outer settlement respectively were occupied at any given time, we cannot determine the relative precentage of people living 'on-tell' and 'off-tell'. But it is certainly possible, at Tard and other places[32], that this ratio underwent repeated change during different phases of occupation. It is obvious, too, that the relative standing of 'on-tell' and 'off-tell' households vis-à-vis each other did not solidify into anything like a chiefdom-type structure with a functionally and politically differentiated population. In fact, we cannot even take it as given, that living 'on-tell' was a social phenomenon at all, at least in the narrow sense of economic prosperity or political power. Rather, it may also have involved ideological concerns of relevance to and with a bearing on the wider community that 'focused' on this particular site and its enclosed (ancestral?) centre part[33].

In any case, 'membership' or claim laid to the central tell part of such sites was potentially fluid. The communities in question faced different challenges and took different options. As a result, we see local variation in settlement organisation and its development through time. Rather than a constant build up of social differentiation, political rule and economic differences, there is evidence of variable responses to contingent events and long-term trends. These may have ranged from disease and demographic development, climate and environmental parameters to economic success and the agency of groups of people. This is all the more true since we are dealing with groups that were small in numbers and prone even, for example, to the success of an individual aggrandizer or resistance building up against his/her ambitions on the future development of the community[34]. A reorganisation like that

[30] See Fischl *et al*. 2014, 348–367.

[31] E. g. Crowley 2008; Shelmerdine, Bennet 2008; Siennicka 2010; Schallin, Tournavitou 2015.

[32] See catalogue in Kienlin *et al*. in print.

[33] See, for example, Whittle 1996; Chapman 1997a; Chapman 1997b; Chapman 2000; Bailey 2000; Parkinson 2002; Parkinson 2006.

[34] See, for example, Roscoe 2000.

postulated for the site of Tard-Tatárdomb may also have had other profane reasons, such as a growing reliance on the ditches for actual defence, when the number of group members may have temporarily declined, rather than mere social signalling[35].

In more general terms, we must beware of 'reading' such sites in terms of linear growth only: At Vráble-Fidvár in Slovakia, for example, there is evidence of a complex sequence which defies notions of the continuous growth of such communities and a static relation of the tell and its outer settlement. Starting from a rather modest Hatvan period settlement surrounded by the first (inner) ditch, there is evidence of an outward expansion in Únětice times with a new (outer) ditch and an outer settlement of up to 10 ha, followed by a contraction in subsequent Mad'arovce times and the construction of the final middle ditch[36]. On the other hand, from a number of (Otomani-)Füzesabony sites an expansion of their fortified central tell part and their outer settlement area is reported and is often related to an alleged increase in population size or a general economic and/or socio-political uprise[37]. Judging from the case study reported on here, it would seem that much more work needs to be done on the chronological and functional relation of such sites and their various parts before we can rely on such interpretations. Furthermore, it is quite obvious that individual sites followed different trajectories. Tells and their surrounding open settlements were dynamic systems that we do not even understand in terms of 'mere' chronology and even less so in terms of their internal social, economic or political dynamics. The obvious variability encountered should not be subsumed to unilinear models that involve the evolution of political control and social differentiation in these communities.

It is true that paralleled by climatic changes from the second half of the Early Bronze Age onwards there is some socio-economic dynamics in the communities of the Carpathian Basin. This is the period when the tell settlements started growing, and it is obvious that in the course of time these communities became more differentiated in social and economic terms[38]. However, we find it difficult to consider tell sites in general and the ones under study here 'central' in terms of political evolution and control exercised over adjacent 'dependent' sites on lower ranks of a perceived site hierarchy[39]. Given the general lack of data from all classes of sites, often the presence of tells as such is the only argument for their 'centrality' at all. This is the kind of circular reasoning that we also find applied to the tell sites of our study area. Yet, surely for centrality to be a meaningful concept one should expect some differences between classes of sites. This, however, does not seem to be case in our study area, for unlike the Vatya situation in the west[40], as well as the Otomani communities further east[41], there are little indications that the tells or fortified sites under discussion here were surrounded by a network of open satellite settlements. Despite a relatively good coverage of the landscape, so far we have just one example of such an open, single-phase site at Tard Rét-oldal, situated at a distance of c. 2.5 kilometres from the next 'normal' fortified and composite site with its tell-like core and surrounding outer settlement. At Rét-oldal during the systematic field research carried out in the valley of the Lator stream Füzesabony period finds were collected at the location of a multi-period site oriented towards the river[42]. A somewhat different situation is encountered at Emőd, with a constellation of two rather close sites, the short-lived single-layer site of Emőd-Zsedény dűlő and the fortified tell-like site of Emőd-Nagyhalom at a distance of only about 500 metres as the crow flies, but 20 metres higher on a small hill. From Emőd-Zsedény there are Hatvan period finds, and there are weak indications from the magnetometer data that there may also have been some kind of demarcation, although certainly none as massive as the typical ditches found with the 'normal' tell oder tell-like fortified sites such as nearby Emőd-Nagyhalom[43]. This constellation, which one would not normaly regard as 'satellite' settlements, but rather as distinct clusters of habitation of potentially different age in a larger settled area, may also be encountered at Borsodivánka-Marhajárás. At Borsodivánka, the distribution of Bronze Age finds

35 Cf. Roscoe 2008; Roscoe 2009.

36 Bátora *et al*. 2012, 124–125, fig. 16; Bátora 2013, 378, 382.

37 See, for example, Nižná Myšľa (Olexa 1992, 197; Olexa 2003), Otomani-Cetăţuia and Sălacea (Bader 1982, 56, 58, 60), Bakonszeg-Kádárdomb (Máthé 1988, 32) and Andrid-Dealul Taurilor/Bika domb (Marta *et al*. 2010, 123–130).

38 E. g. Fischl *et al*. 2013; Fischl *et al*. 2015; Fischl, Kiss 2015; Dani *et al*. 2016.

39 E. g. Németi, Molnár 2002; Németi, Molnár 2007; Earle, Kristiansen 2010b; Earle, Kristiansen 2010c.

40 E. g. Poroszlai, Vicze 2000; Poroszlai, Vicze 2005; Szeverényi, Kulcsár 2012.

41 E. g. Német, Molnár 2002; Német, Molnár 2007; Német, Molnár 2012; see below.

42 Kleszó 2014.

43 Fischl, Kienlin 2013; Kienlin *et al*. in print.

around the Marhajárás tell itself covers the entire area of the island formerly surrounded by the small stream Rima[44]. Sherds dated to the period under study have also been collected on the further side of the Rima creek (these days diverted to a canal) at the site called Szentistváni dűlő. This area was separated by a water course from the main site Marhajárás back in the Bronze Age as well. Rather than two distinct settlements (or the tell and its 'satellite') it would appear that we see here individual 'clusters' of a larger settled area, similar to the pattern recently proposed for the Bronze Age settlement in the Körös valley[45]. Adapted to the geographic conditions created by the meandering river, in that region a single settlement may be formed by multiple clusters of habitation, among them the tell itself. It was not possible to determine functional differences between the settled areas by means of the BAKOTA project's non-invasive research methods only, but they deem the interpretation of the sites as a single 'village' proven.

So far, therefore, on the Borsod plain of northern Hungary and along the foothills of the Bükk mountains there is evidence of a rather dense pattern of enclosed Hatvan to Füzesabony period sites at distances down to about 5–10 km, and there are few, if any, single-layer settlements in between them. The current model suggests, therefore, that such tell or tell-like sites, some of them developing as part of larger settled areas, are the 'standard' type of settlement in this micro-region. There is some variability in the size of the central part of these sites and in the thickness of their cultural layers, i. e. in the tradition 'achieved', but surely 'centrality' is not the right concept to account for such differences. For the Hatvan and Füzesabony period of the Borsod plain, therefore, a settlement pattern of more or less equivalent sites in social and functional terms is much more conceivable than the evolution of centralisation and political control. Instead, an alternative model can be described, which consists of a network of fairly densely settled 'composite' villages with a multi-layer, tell-like core and a surrounding open settlement on the one hand, and a smaller number of structurally similar, proper tell sites with an external settlement unit – in a landscape, apparently devoid of any marked ranking among these enclosed, more or less long-lived sites themselves, or control exercised by them and surplus drawn from any open, second-order sites in their surroundings.

Case Study 2: Otomani Settlement on the Romanian Carei Plain

A different settlement pattern, and certainly a different interpretation of Bronze Age tell communities can be encountered, if we shift attention c. 150 km east to the north-western Romanian Carei plain and the valley of the river Ier (Fig. 11). The Ier valley is c. 80 km long and discharges into the Berettyó river that is situated between the Someş and Criş rivers, eastern tributaries of the Tisza. It flows through a wide valley (8–15 km) that used to be swampy until extensive modern drainage works. In prehistory human settlement existed but on a few islands in the river plain[46], while the borders of the valley were more densely inhabited throughout prehistory. Settlement concentrated along the fringes of the terraces, c. 10–20 m high, that communicate to the southern Tăşnadului hills[47] and to the plateau of Carei to the north respectively[48]. The Carei plain, that is bounded by an extensive wetland, the Ecsed marsh, in the north too, was rather densely settled by Sanislău and Otomani communities during the Early and Middle Bronze Age[49]. Several micro-regions of different size have been distinguished, each comprising a number of open sites thought to focus on an Otomani tell that are situated at distances of 3.5 to 17 km. From the Otomani I to II period this system saw an increase in the number of sites and an expansion onto more marginal land

44 Fischl *et al*. 2015, 125; Kienlin *et al*. in print.

45 Duffy 2014, 203–206.

46 E. g. the Bronze Age sites of Andrid-Dealul taurilor, Pir-Cetate and Săcueni-Cetatea boului; Bader 1978, 128, no. 79; Marta *et al*. 2010, 123–130; Marta 2014a; Gogâltan 2014a; Gogâltan 2014b.

47 E. g. the eponymous site of Otomani-Cetăţuie and Sălacea-Dealul Vida; Bader 1978, 126, no. 67, 128, no. 80; Bader 1982, 55–60; Ordentlich *et al*. 2014a; Ordentlich *et al*. 2014b.

48 E. g. Dindeşti-Cetate; Bader 1978, 124, no. 34; Marta 2014d.

49 For a review of the local chronology and the Sanislău to Otomani I–III succession see Roman, Németi 1986; Roman, Németi 1989; Németi, Molnár 2012, 10–13, 34–37. A review and catalogue of the Bronze Age settlements in the study area is available in the volumes by J. Németi and Zs. Molnár (Németi, Molnár 2002; Németi, Molnár 2007; Németi, Molnár 2012); most recently see also Molnár, Nagy 2013.

thought to relate to an increase in population. In Otomani III there was a renewed contraction and a number of sites was abandoned[50].

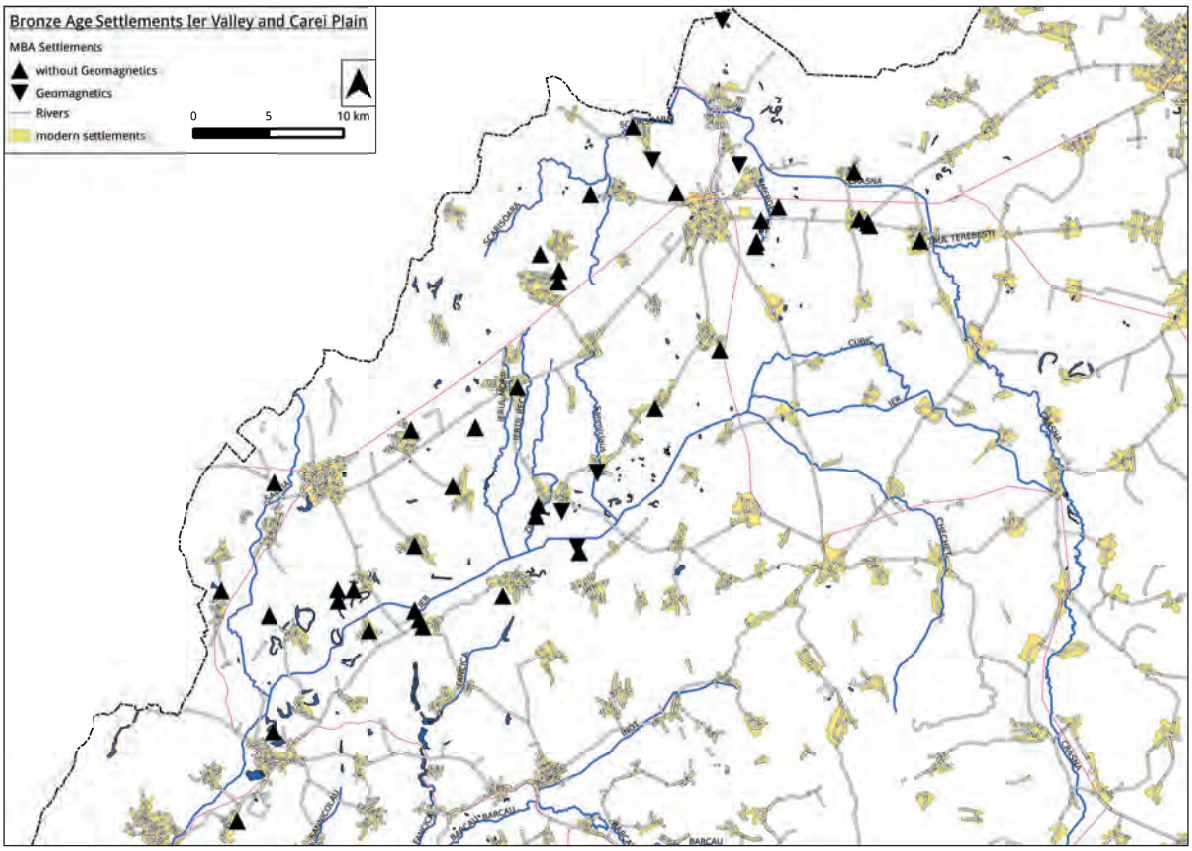

Fig. 11. Distribution of Otomani period settlements on the Carei plain and along the Ier valley in north-western Romania.

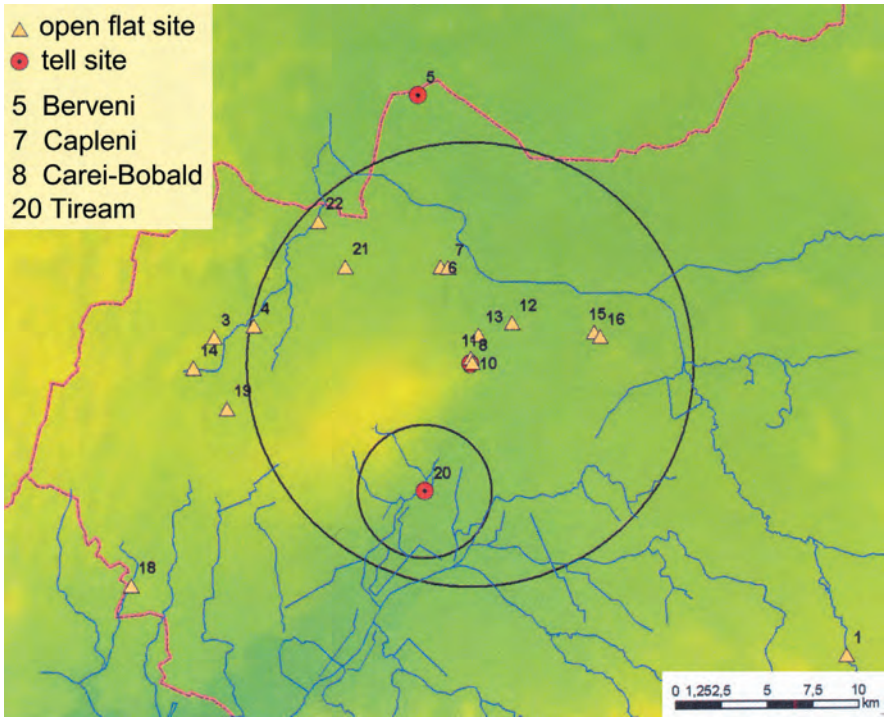

Fig. 12. Otomani II period settlements on the Carei plain – hypothetical political territories (after Németi, Molnár 2012, 45, fig. 53).

[50] Németi, Molnár 2002, 46–53; Németi, Molnár 2007, 70–87, 204–210, 486–487.

Unlike the Hatvan to Füzesabony settlement pattern discussed above, with its dense network of more or less equivalent multilayer tell or tell-like sites, on the Carei plain there is evidence for the existence of open single-layer sites alongside several fortified tell sites. The partly excavated tell of Carei-Bobald, in particular, is thought to have dominated both surrounding open sites and a wider territory including second-order tell sites (Fig. 12)[51]. The model suggested thus conceives of a hierarchical settlement pattern and the existence of a polity controlled by a (paramount) chief at Carei-Bobald[52]. In good accordance with the Bronze Age 'mainstream' multi-layer tell sites are seen as political and economic centres drawing on the agricultural surplus from surrounding (open) sites, in control of craft production and being the seat of tribal aristocracy and local chieftains[53].

Carei-Bobald

It is worth therefore, to have a closer look at the situation on the Carei plain, in order to understand how such claims are substantiated. The site of Carei-Bobald (I) was first occupied in Early Bronze Age III times by a population attributed to the Sanislău group that left behind at least one cremated burial and a cultural layer c. 0.5–0.6 m thick[54]. Settlement ascribed to an Otomani population started right in the Otomani I phase, when it is assumed that the site was fortified, and continued throughout phases Otomani II and III until the end of the local Middle Bronze Age[55]. Eventually, the tell had reached a height of some 5–6 m of Bronze Age layers (Fig. 13) and covered an area of c. 70 × 100 m[56]. Recent geophysical prospection has shown that the central tell part of the site was surrounded by an outer settlement of considerable size. In addition, apparently another two outer ditches could be identified of as yet unknown date[57]. From excavations carried out at Carei-Bobald since 1966 there is some information on the architecture and the size of houses and a good impression of the development of material culture, i. e. mainly pottery, through time[58]. Up to twelve houses or rather parts of houses from several phases have been identified so far. They ranged in size from c. 4 × 5–6 m up to a length of c. 8 m[59]. Even larger 'communal' buildings up to c. 5 × 12–14 m are thought to have been uncovered, for example, from the site of Otomani-Cetatea de pământ in the nearby Ier valley[60].

Fig. 13. The tell site of Carei-Bobald (I) on the Carei plain.

From the published evidence on the Carei plain and in the adjacent Ier valley there is little to

[51] Németi, Molnár 2012; Molnár, Németi 2014.
[52] Németi, Molnár 2012, 15, 41–53.
[53] See also Németi, Molnár 2007, 55–69, 177–183, 486; Molnár, Nagy 2013, 28–31, 35, 55.
[54] Németi, Molnár 2012, 37.
[55] Németi, Molnár 2002, 118, no. 14; Németi, Molnár 2012, 40; Molnár, Nagy 2013, 57; Molnár, Németi 2014, 44–45, 47.
[56] Molnár, Németi 2014, 43.
[57] Németi, Molnár 2012, 40, 52, figs. 62–63.
[58] Németi, Molnár 2012, 19–34; Molnár, Németi 2014, 43–47.
[59] Németi, Molnár 2012, 53–57.
[60] Németi, Molnár 2012, 55.

suggest a significant functional and/or social differentiation between such household units. Elsewhere, such as at Vatya period Százhalombatta-Földvár the coexistence of two 'types' of houses, small ones of c. 5 m × 8–9 m, and larger ones with two rooms and up to 10–11 m long[61], is thought a result of remodelling, i. e. an extension added during the life cycle of the house. Even if some houses may have differed right from the start, the excavators note that such differences in house size, in their internal layout and the possible addition of another room do not reflect social differentiation, but rather changing needs and/or broadly speaking different 'capacities' of households through time[62]. The same is likely to apply on the Carei plain, in our opinion, and it is suggested that the overall pattern recorded of small groups of architecturally similar houses, that were possibly supplemented by structures for storage etc.[63], is suggestive of relatively unstratified social relations. The houses and their surroundings were used for living and day-to-day activities such as food preparation and potentially for some small-scale 'craft' production on a household level. However, for the time being there is no substantial evidence that members of the various on-tell households were involved in widely different activities or had a different lifestyle[64].

In the immediate surroundings of Carei-Bobald there is a number of short-lived open sites that are thought to have been dependent on the central tell in functional, economic and political terms[65]. Since there is little information available this claim is hard to validate. For sure, substantial survey work and excavation are required before we can be more precise on the standing of these sites vis-à-vis Carei-Bobald 'centre' in functional, social and political terms. However, even without more detailed information on their size, their lifespan and the activies carried out by such 'off-tell' communities, it should be noted that rather than being separate entities to be discussed in terms of their political relation to the central tell, some of these 'sites' actually seem to form a continuous settled area (Fig. 14). This certainly is true for the three 'sites' situated within c. 100–250 m only from the central tell of Bobald I (i. e. the sites of Bobald I/1b, Bobald I/2a and Bobald II), that one would not normaly regard as 'satellite' settlements[66], but rather as distinct clusters of potentially different age in a larger settled area[67].

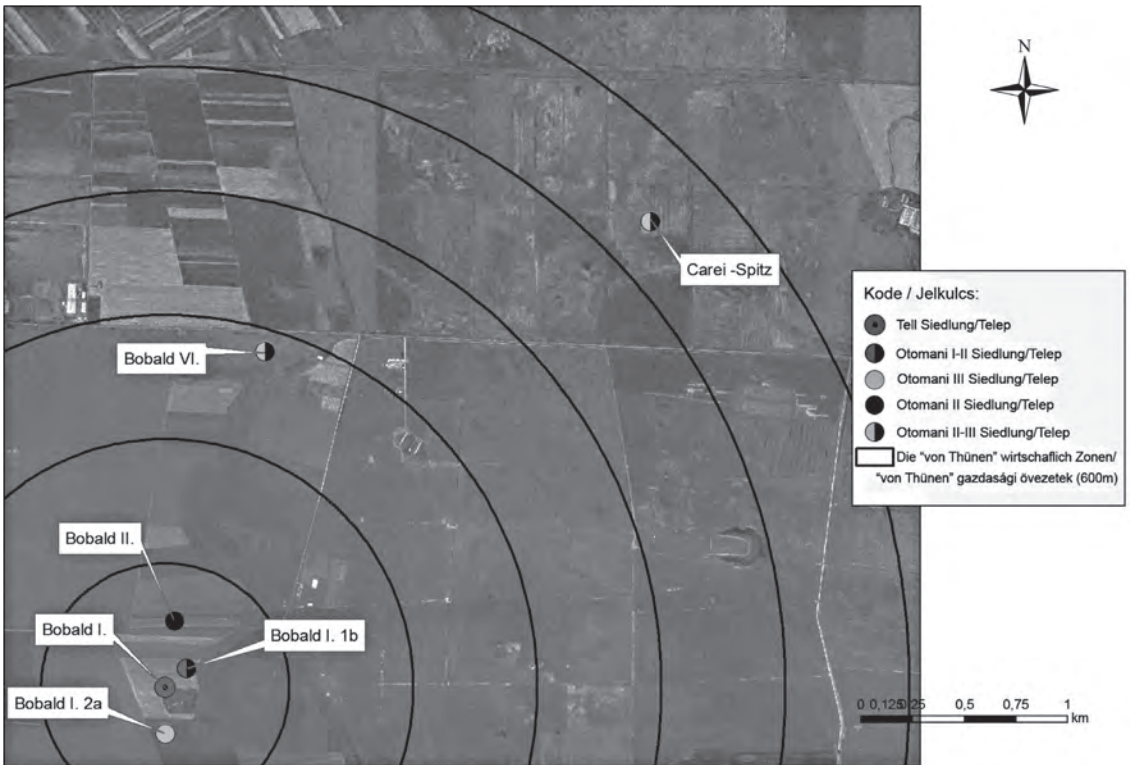

Fig. 14. Open sites in the surroundings of the 'central' tell of Carei-Bobald (I) (after Németi, Molnár 2012, 67, fig. 90).

61 Sørensen 2010, 138–139.
62 Sørensen 2010, 140–141.
63 Németi, Molnár 2012, 55–57; Molnár, Németi 2014, 46–47.
64 Németi, Molnár 2012, 53–72.
65 Németi, Molnár 2012, 15, 41–48, 63–72; Molnár, Nagy 2013, 28–35; Molnár, Németi 2014, 49.
66 See, for example, the figure caption in Németi, Molnár 2012, 63 figs. 84–85.
67 E. g. Duffy 2014, 203–206; see also above.

Thus, for example, while one tends to expect the future tell (Bobald I) to be the oldest centre of occupation (Sanislău and continuously onward from Otomani I), the 'site' Bobald I/1b also dates back to Otomani I[68] and may be of comparable absolut age. Bobald II and Bobald I/2a, that are dated to Otomani II and Otomani III respectively, confirm this impression[69]. These may be parts of a larger settled area with shifting 'cores' of most intensive habitation through time, and with just one of them developing into a truly multi-layer tell. Nonetheless, from an emic perspective all of these 'sites' may have been perceived as belonging to just one 'community' or at least to one settlement unit, that along other dimensions fell into differentially 'sucessful' or in spatial terms 'stable' clusters of households. The possible reasons, why some households should have declined or frequently relocated while others opted for tradition in house location, are manifold. They are contingent upon many factors other than just economic success or power. Against this background it is a mistake to map and interpret Carei-Bobald I as a tell (and central site) right from the start[70]. In fact, initially this may have been just one among several similar clusters of households. It is hindsight that has us expect something 'special' about the inhabitants of Bobald I right from the beginning, when in fact it was only at a later stage and for reasons that cannot be taken for granted, that this specific part of a larger settled area achieved greater permanence and greater visible 'antiquity'.

Second order sites? Berveni and Căpleni

On a higher level, there certainly is a tendency towards a more dense occupation of the landscape during Otomani II times that may be related to an increase in population numbers[71]. Yet, again, the political model preferred to account for the organisation and relation of these sites[72] is just one possibility among other interpretations that requires further work. Thus, beyond the open sites in its immediate and wider surroundings, Carei-Bobald I, during its heyday in Otomani II, is thought to have controlled another two fortified multi-layer tell sites at Tiream (Mezőterem-Kendereshalom) to the south and at Berveni (Börvely) to the north, as well as an additional fortified single-layer site at Căpleni about half the way north to Berveni (Figs. 11 and 12)[73]. From two of these sites there is new magnetometer data available (Berveni and Căpleni)[74]. While this does not necessarily solve any of the problems of interpretation raised, it may provide a starting point to rethink the Bronze Age landsape in the surroundings of Carei-Bobald.

Berveni-Holmoş is a multi-layer site that stands out from the surrounding Ecsed marsh c. 2 m high (Fig. 15) and is dated to the Otomani II and III periods[75] or even from Otomani I till III[76]. The site is situated c. 15 km north of Carei-Bobald, on the western bank of an old arm of the Crasna river and close to the edge of the Carei plain. It was potentially drawing on its favourable position at the interface between the plateau and the neighbouring marsh ecosystem that allowed its inhabitants to make use of a range of resources from different environmental or topographic zones for agriculture, animal husbandry as well as for hunting and fishing. This situation is similar to the one further south, where a number of sites is located along the terraces accompanying the Ier valley[77]. Certainly, it was not political control or administrative needs (i. e. an attempt to establish control over a closed territory etc.) that favoured this choice of locations; mind also the rather large distances that would have made communciation, direct control and coercion difficult. Correspondingly, in the spatial model shown by Németi and Molnár[78] Berveni is actually outside the suggested Bobald territory (see Fig. 12). It is only in the text and interpretation, that without obvious reason control and dependency are postulated[79].

---

68 Németi, Molnár 2002, 119, no. 15; Németi, Molnár 2012, 63, figs. 84–85, 70.
69 Németi, Molnár 2002, 120–121, nos. 16–17; Németi, Molnár 2012, 70–72.
70 Németi, Molnár 2012, 63, figs. 84–85.
71 Compare Németi, Molnár 2012, 44–46, figs. 51–56.
72 Németi, Molnár 2012, 41–49; Molnár, Nagy 2013, 28–31.
73 See Németi, Molnár 2012, 48–49 with annotations 100–103; Molnár, Nagy 2013, 31.
74 Bader 1978, 121, no. 12, 122, no. 19; Marta 2014b; Marta 2014c.
75 Németi, Molnár 2002, 116, no. 12; Marta 2014b, 36.
76 Németi, Molnár 2012, 44–46, figs. 51–56; Molnár, Nagy 2013, 57.
77 Marta *et al*. 2010; see also Kienlin *et al*. 2012.
78 Németi, Molnár 2012, 44–46, figs. 51–56; see also Molnár, Nagy 2013, 32–33, figs. 7–8.
79 E. g. Németi, Molnár 2012, 48; Molnár, Nagy 2013, 31.

Fig. 15. The multi-layer site of Berveni-Holmoş.

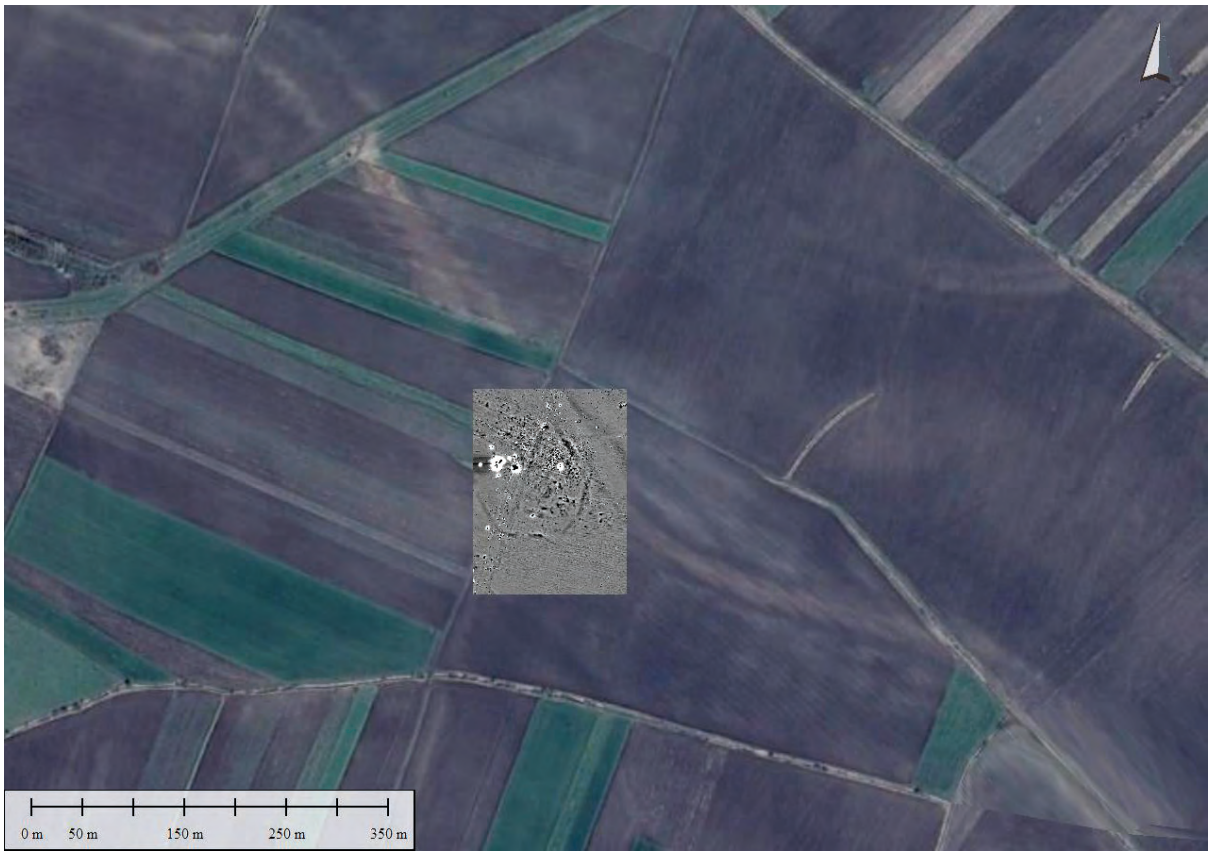

Fig. 16. Berveni-Holmoş. Greyscale plot of the magnetometer survey overlying the satellite image (source: Google Earth).

The magnetogram of Berveni is heavily disturbed by the modern use of this landscape feature as a border post (Figs. 16 and 17). Generally, in the Otomani area of north-western Romania houses do

not show so far in the magnetometer data as clearly as they do in the Hatvan to Füzesabony example discussed above[80]. Yet, at Berveni as well there is evidence for the existence of a ditch, that may at least at some point in time have been equal to the Bobald one in impressiveness. Size, as well, may not have been that different: The central part of Berveni is c. 90–110 m in diameter, plus a potential outer settlement towards the north-west, where the site is not bounded by the neighbouring stream and anomalies indicate settlement activity (Fig. 16 and 17). This is not to deny the importance of Carei-Bobald and to inflate Berveni. Yet, surely Berveni may have come close at least to the inner part of Bobald at some stage.

Berveni may have been established somewhat later than Carei-Bobald (see above, however, on discrepancies with regard to the starting date of Berveni). The inhabitants of Bobald may therefore have been able to lay claim to greater antiquity in an attempt to establish political preeminence. Yet, again, we must be wary of hindsight. For when Berveni was founded (be it in Otomani I or II), Bobald as well was less long-lived and may have exposed at lot less visible ancestry (i. e. height) than in its present final condition (compare Figs. 13 and 15)[81]. In addition, we do not really know for how long and precisely when Bobald featured the outmost expansion of its demarcation and outer settlement. It remains unclear, therefore, when (and to what extent) its community was able to summon an outstanding number of households and inhabitants that truly set it apart from other contemporaneous sites on the Carei plain.

The problems encountered become even more marked, when one turns to the site of Căpleni-Drumul Căminului (Királyföldek) that is situated at a distance of just some 5.5 km north of Carei-Bobald, and c. 1 km from the edge of the Carei plain and the transition to the lower-lying Ecsed marsh (Figs. 11 and 12)[82]. Căpleni is positively identified as a fortified multi-layer settlement[83], yet it is labelled as an open site in the corresponding figures[84]. This is strange, for although Capleni, which is a tell-like site with a remaining height of c. 1–1.5 m rather than a proper tell, certainly lacks the impressive height of Carei-Bobald its enclosure can hardly be overlooked in the field (Fig. 18). There is also some chronological confusion here, since the site has been dated a) generally to Otomani times[85], b) to a (pre-Otomani) Early Bronze Age III Sanislău horizon[86], or c) in other recent publications to Middle Bronze Age Otomani II times[87]. From the initial steps of a survey programme on the site an early date seems more likely, since most characteristic pieces of pottery would seem to date to Early Bronze Age III (Sanislău) times with few, if any classic Otomani (II-III) material recovered so far[88]. Apart from the surface finds, an early date for Căpleni may also be implied by a comparison with the comparable fortified site at Andrid-Dealul taurilor[89] that is also dated to Early Bronze Age III / Sanislău times and only features a much less intense Middle Bronze Age occupation[90].

---

80 A notable a exception being Crestur-Cetățuie in the southern hills (Ghemiş 2014) where unpublished magnetometer data from 2016 and 2017 by the Universität zu Köln shows the remains of houses. Such differences in strength and corresponding magnetic visibility may be the combined result of various factors. Both (partial?) destruction by fire and construction details such as more massive walls and/or the decay of a greater amount of wood (used, for example, for different parts of houses or different house types) would have enhanced visibility by resulting in stronger positive anomalies. Partial or total destruction of house remains, on the other hand, with less building material present would have reduced the strength of the positive (dark) signal given by the walls etc. Processes involved here may include anything from deliberate clearing the site of a house after its destruction or abandonment to more or less complete erosion of house remains already in prehistory or in consequence of deep ploughing and modern agriculture. It is a yet unclear which of these accounts for the differences in magnetic visibility observed between our two study areas.

81 The thickness of Otomani I layers at Carei-Bobald is given with 0.2 m to 0.4 m, plus previous Sanislău layers c. 0.5–0.6 m thick (Németi, Molnár 2012, 37–40). So during Otomani II times the site initially would have been much less visible as a landmark than it is today.

82 Marta 2014c.

83 Németi, Molnár 2012, 48–49 with annotation 103; Molnár, Nagy 2013, 31 with annotation 79.

84 Németi, Molnár 2012, 45, figs. 53–54, no. 7; Molnár, Nagy 2013, 32, fig. 7.2, no. 21.

85 Bader 1978, 12,2 no. 19.

86 E. g. Roman, Németi 1986, 208, fig. 8 who set apart the Early Bronze Age Sanislău group from the Middle Bronze Age Otomani sequence; accordingly, more recently Marta 2014c, 62.

87 Németi, Molnár 2002, 125, no. 21; Németi, Molnár 2012, 44–46, 48–49; Molnár, Nagy 2013, 58.

88 See also Schmid 2015, 70–71.

89 Marta *et al*. 2010.

90 Marta 2014a, 28.

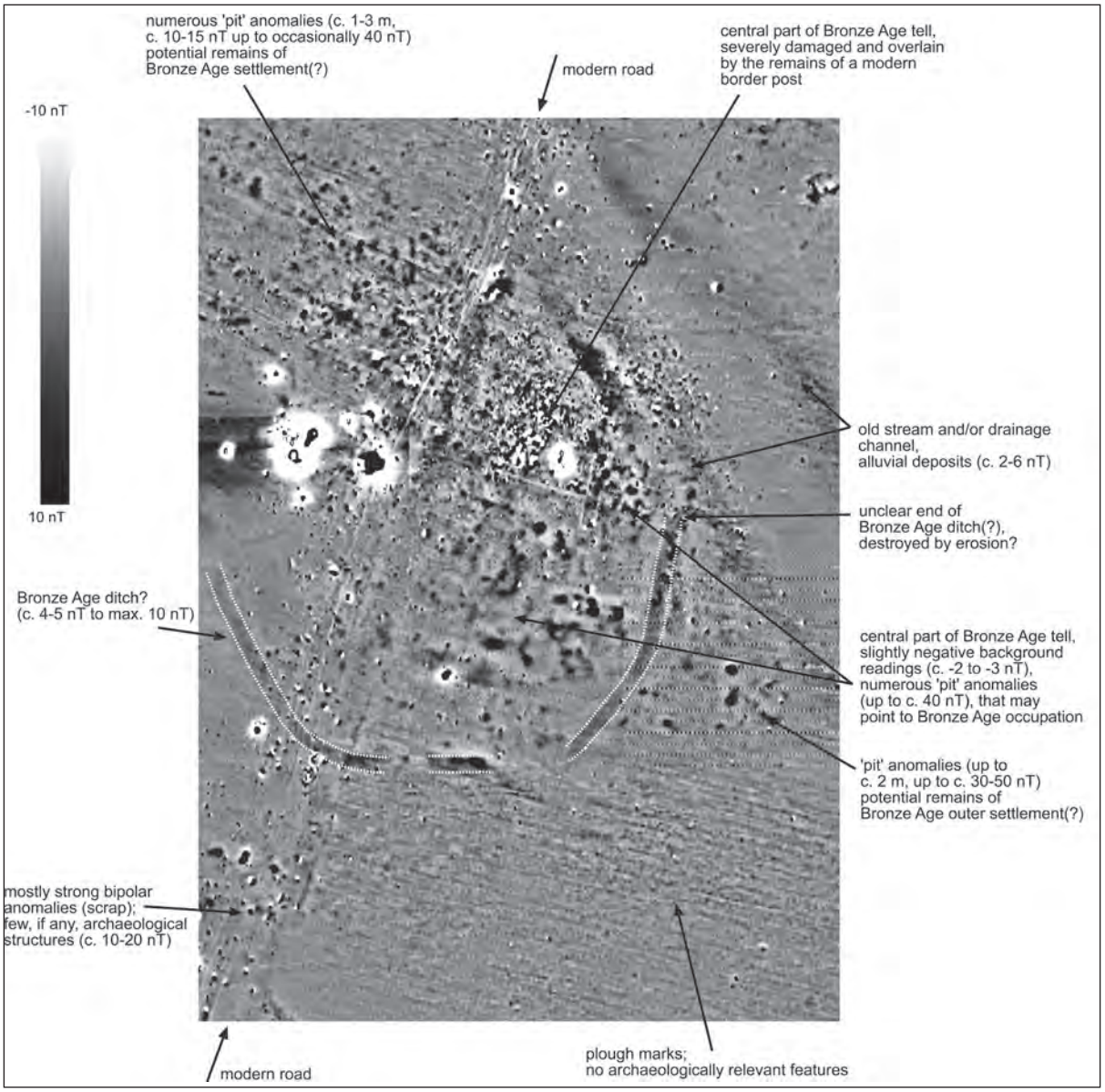

Fig. 17. Berveni-Holmoș. Interpretation of the magnetometer data.

Either way, Căpleni does not seem to have achieved a comparable tradition like Bobald (mind its limited height). Nonetheless, our magnetometer data shows an impressive demarcation that was possibly renewed or extended at least once since there is evidence of two ditches (Fig. 19). With a diameter of the inner ditch of c. 115–130 m, corresponding to an enclosed area of c. 1.2 ha, and at least an additional c. 1.5 ha enclosed by the outer ditch (i. e. just the area so far covered by magnetometry in the west and north of the site), this is certainly not a small site. From the magnetometer data, that shows a lot of anomalies most likely related to settlement activity, it is quite clear that the inner part of Căpleni was more or less densely occupied. Magnetometry also indicates that there was an outer settlement, and occupation extended outside the ditch(es). Numerous surface finds of pottery render it likely that this occupation extended even beyond the area hitherto covered by magnetometry. So here is, in the immediate vicinity of Carei-Bobald, evidence for another community, that at some point in time may even have exceeded Bobald in numbers. Depending on chronology (see above), this may have been the case early in the Bronze Age sequence (Sanislău times) or somewhat later during Middle Bronze Age Otomani II times. The former (earlier) dating certainly leaves open some kind of population movement and concentration in Bobald, but it would at the same time detract Middle Bronze Age II Bobald of one of its (dependent?) 'satellites'. The latter (younger) dating would see heyday Otomani II Bobald 'rivalled' by a neighbouring prosperous community.

Fig. 18. The multi-layer site of Căpleni-Drumul Căminului seen from the south-west.

Discussion

Bearing in mind such considerations and new evidence, the existence of a political territory controlled by Carei-Bobald and extending north as far as Bereveni is entirely circumstantial. It comes down to worldview and the spatial statistics applied. Bobald certainly occupies a central position on the Carei plain (close, actually, to the historical centre of this area). At least during some phases of its occupation it is likely to have exceeded sites like Berveni in size and numbers. However, it is entirely unclear, why and how such difference and a potentially transient kind of 'centrality' should have translated into the existence of a politically controlled polity at chiefdom level.

In fact, we do not even really know if Carei-Bobald I was structurally different from 'second-order' sites like Berveni or Capleni at any time. At present the chronology of the outer settlement and ditches of Bobald is still unclear. But we would probably be mistaken to expect a densely occupied outer settlement, when even the central tell is thought to have comprised groups of houses and some open space[91]. Similarly, it is likely that the three ditches thought to have been identified did not coexist at any given time, but instead belonged to different phases. Comparable to other such sites[92], it is likely that the community at Carei-Bobald was subject to continuous change, with some households being more sucessful than others, some expanding, some potentially relocating, others becoming extinct etc. Static archaeological maps, aerial photographs or magnetometer data do not represent an ancient reality. We must certainly not read them in a way that collapses long-term settlement dynamics into an image of maximum site size and settlement intensity. Presumably, the Bobald community saw periods of expansion as well as such of decline. Such fluctuation must not be subsumed without good reason to a pattern of linear growth with the maximum size expected during the latest stage of occupation and political dominance merely derived from size[93].

[91] Németi, Molnár 2012, 55–56.

[92] A similar spatial layout and development can probably be encountered at Vráble-Fidvár (see above; Bátora *et al*. 2008; Bátora *et al*. 2009; Bátora *et al*. 2012).

[93] E. g. Molnár, Nagy 2013, 28–33.

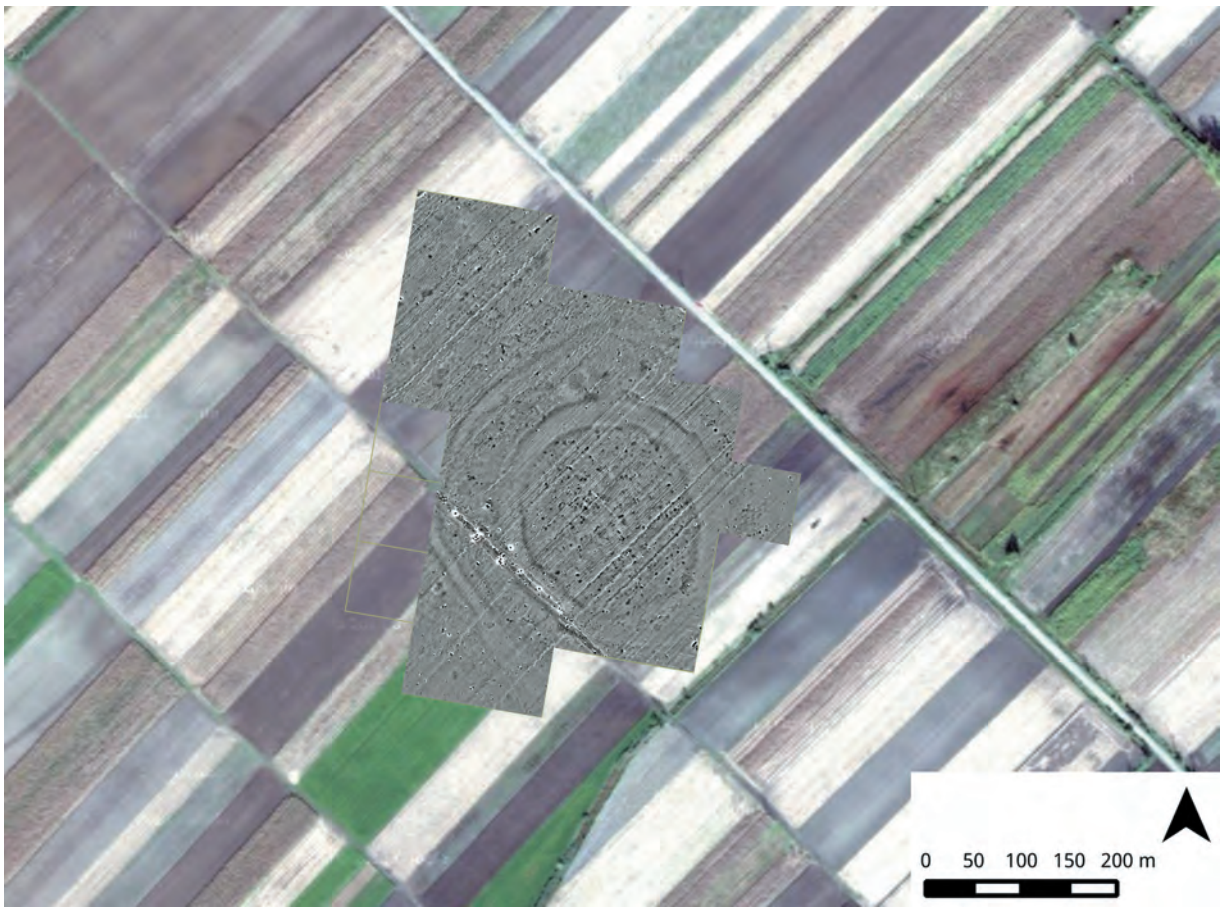

Fig. 19. Căpleni-Drumul Căminului. Greyscale plot of the magnetometer survey overlying the satellite image (source: Google Earth).

The outer settlement at Bobald is not well understood and little is known how 'on-tell' households compared to 'off-tell' ones. However, it is very likely that this was not a matter of hierarchy, but one of dynamic interaction and continuous renegotiation with different outcome. Like elsewhere in the Carpathian Basin the relation of the central tell part to settlement activity in its immediate surroundings is likely to have been fluid. That is to say, the total number of people living at Bobald is likely to have changed through time, and we do not know if this was a linear progression up to higher numbers, or if at times there was a reversal and decline. Also, we do not know the relative precentage of people living on the central tell part and in the outer part of the settlement respectively during different phases of occupation. It is possible that this ratio repeatedly underwent change. It is unclear, too, if the families, the lineages or households that could lay claim to the central tell part of the site, remained the same or at least were stable in numbers throughout its history. It is obvious, however, that the total number of houses and households in the central tell part was limited. The outer settlement may in certain periods have substantially added to total population numbers. Yet, given a similar pattern of occupation in both the inner and outer settlement, even so the total size of the Carei-Bobald community was restricted. Potentially, it was not that far beyond neighbouring sites. Furthermore, there are certainly no indications that food production was of lesser importance for the inhabitants of Carei-Bobald than for neighbouring sites. All of these communities were drawing on agriculture and livestock breeding[94]. And despite claims to the contrary[95], there is in fact little indication that on the 'central' tell particular emphasis was placed on craft production instead. For the distribution of metal artefacts and the available evidence for the practice of metallurgy such as casting moulds on the Carei plain rather do not support an elite-driven model of prestiguous metalwork. Rather one gets the impression of a decentralised

[94] Németi, Molnár 2012, 58–62, 66, 68–70.
[95] Molnár 2011, 310–311.

small-scall production, that took place on both the fortified tell sites and beyond in the less long-lived and archaeologically less visible open sites[96].

All these questions raised require further work. But it is already clear, that whereever archaeological study is intensified, we find evidence of a dynamic settlement system and diachronic change, that we do not even understand in chronological and spatial terms, let alone in economic and social ones. We should be warned, therefore, that prehistoric reality was complex. Yet, our interpretations still focus on the linear evolution of hierarchical society, and this is what we expect and consequently find in our study of Bronze Age settlement.

We witness here, what may be called the 'Benta effect': Recent research in the Transdanubian Benta valley has shown that in Early Bronze Age Nagyrév times there were possibly at least two distinct 'polities' – one centred on the rather large open settlement of Sóskút (c. 4.75 ha) located in the upper Benta valley and the other one on the tell site of Százhalombatta-Földvár (c. 2 ha) situated in the lower part of the valley and orientated towards the Danube[97]. Middle Bronze Age Vatya times saw a substantial increase in estimated population numbers. The fortified tell of Százhalombatta-Földvár grew to some 5.5 ha in this period (including its surrounding open settlement), but again it was actually outnumbered both in size and estimated number of inhabitants by an open site, this time at Tárnok further up the Benta valley (c. 12.5 ha, 550 people). Hence, what we see is a complex and dynamic system of open sites and fortified multi-layer settlements that co-developed during Nagyrév and Vatya times. The former are known to have covered broadly the same size range like the tells and may even have been much larger[98]. Yet, it is the tell that takes pride of place, and in Vatya times the model proposed has us believe in the evolution of just one tell-dominated polity extending along all the Benta valley and with all political power emanating from Százhalombatta-Földvár[99]. It is unclear here, why the entire Benta valley should have come under the political control of Százhalombatta. For, if settlement size and (estimated) population numbers are taken as an indicator of socio-economic complexity and political relationships, the greater 'centrality' of this site is not self-evident. Instead, there is a large overlap in size and population between tells and open sites, as well as great variability in both groups themselves. Incidentally, this criticism also applies on the household level. The reconstruction of a 'charioteer's house' and a 'new warrior elite' etc. at Százhalombatta is entirely speculative[100]. It is clearly not shared by other collaborators in the same project, who consider different traditions at household level, but make it quite clear that the evidence of horizontal and vertical differentiation is poor[101].

Much the same seems to apply on the Otomani period Carei plain, although, of course, intensive survey work there has only just begun. It is certainly open to debate, if political dominance is the best model to account for sites like Carei-Bobald, Tiream, Berveni or Căpleni and their spatial patterning. Late Neolithic tell sites of the Carpathian Basin have been interpreted as focal sites of tribal groups that attracted communication, exchange and expressed a sense of continuity[102]. They are not, however, seen in social and functional terms very much distinct from surrounding settlement units. It was not power, from this perspective, that held the system together, or the control exercised by a central place over its tributaries[103]. Rather the organising principle was tribal identity, reinforced, for example, by traditions expressed by tell settlements, by regular gatherings and feasting. It is not at all given, that such a model should not apply to Bronze Age tell sites any more.

Conclusions

Drawing on two case studies from a much wider and diverse Bronze Age landscape we have seen that multi-layer tell sites can only be said to have 'dominated' the landscape in a very restricted sense.

---

96 See the catalogue of related finds in Molnár 2011, 311–318; see also Găvan 2012; Găvan 2013 for the wider archaeological context of metalworking on tells and beyond.

97 Earle, Kolb 2010, 72.

98 I. e. Tárnok with 12.5 ha; Earle, Kolb 2010, 72–74; Artursson 2010, 106–108.

99 Earle, Kristiansen 2010b; Earle, Kristiansen 2010c.

100 Earle, Kristiansen 2010c, 233–234.

101 Sørensen 2010, 140–141; Sørensen, Vicze 2013, 159–160.

102 E. g. Parkinson 2002; Parkinson 2006.

103 See also Link 2006, 59–63, 84.

Instead, there is a wide range of organisational options and divergent regional trajectories that should not be subsumed under covering models of the "Rise of Bronze Age Society".

Multi-layer Hatvan and Füzesabony period sites of the Borsod plain, our first case study, are noticeable for their division of the settled area into distinct zones: The inner core with a multi-layer, tell or tell-like settlement surrounded by a massive ditch; and an outer settlement that itself can be divided in two parts, an intensively used inner part often with houses and an outer part featuring pits indicative of activities such as storage or production. Such tell or tell-like sites, some of them developing as part of larger settled areas, are the 'standard' type of settlement in this micro-region, situated at more or less regular distances, and there seem to be few, if any, single-layer settlements in between them. Such communities were more or less successful, the size of their settlements varied through time and achieved various degrees of 'ancestry'. However, we seem to be looking at a network of more or less equivalent sites, and surely political 'centrality' is not the right concept to 'measure' such differences.

In our second case study, the Otomani communities of the Carei plain, too, can be shown to have occupied multi-layer tell or tell-like sites that were surrounded by massive ditches, mind the famous eponymous site of Otomani-Cetăţuia itself. However, unlike the Hatvan and Füzesabony situation further west, in the Romanian Otomani 'territory' it is quite clear, that the tells or fortified sites were surrounded by a network of open settlements. So here is an example of the above mentioned variability in terms of settlement organisation and regional integration through time. Given such divergent trajectories, it is not at all an easy task to determine the function and meaning of tell sites in their respective micro-regions. Yet, in much Bronze Age research it is agreed without further consideration that tells sites were economic centres drawing on the agricultural surplus from surrounding open sites, and that they were home to tribal aristocracies and local chieftains.

For sure, on many of the long-lived tell sites of both the previous Late Neolithic and the Bronze Age there was a concern with the demarcation of space since they were enclosed by more or less massive ditches. These may have been simply fortifications to guard against frequent aggression, markers of a community's strength and success or an expression of social and cultural identity opposite the outside world. Similarly, living on a tell may just be the result of its favourable topographic situation with respect to natural resources, or it may point to a concern with tradition and ancestry expressed by the continuous re-building of houses in the same place and the accumulation of settlement debris into an impressive mound. The workforce involved in the construction and maintenance of ditches may point to some organising authority. The widely visible ancestry of such places may have provided the opportunity to draw on the symbolic capital accumulated. However, it is entirely unclear if this involved individual or communal decision-taking, if or to what extent individual aggrandisement was possible, or if we are faced with communal endeavours.

Modelling such communities in terms of 'chiefdoms' emerging and the development (= rise) of political economy, entails a misfit between the prehistoric situation under study and the ethnographic model applied. For after all, we are concerned with tell communities or 'society', characterised exactly by its long-term settlement stability, by gradual growth, if any, and continued reference back to ancestral place instead of by rapid change as implied by ethnographically derived 'chiefdoms' and 'prestige goods economies' – some of which, such as the *potlatch*, are quite uniquely competitive and the direct result of early modern colonial encounters between indigenous groups and the industrialised 'West'.

It is not claimed thereby that the Bronze Age tell communities of the Carpathian Basin were egalitarian. However, the way they organised their social space is no doubt informative of concerns other than competition among individuals or coorperate groups and attempts to establish or reproduce political hierarchies. We do not know whence and where decisions were taken in Bronze Age tell-'building' communities and what groups of people were involved on various levels of decision-taking. But surely the 'feel' of it was different from the deliberate architectural framing of political power evident in (later) Bronze Age societies of the Mediterranean so often used as a model. Instead, we are fully entitled to assume long-term stability of local traditions and the continued co-existence of structurally different societies and cultures even if some kind of contact and/or exchange between them can be established. Thus, in our tell communities decision-taking was done, on various different occasions, on some rather unspectacular open space, inside or around some house of average size even if it belonged to the most economically successful or otherwise influential family or descent group of

that phase or in various locations outside the settlement. In any case it took place devoid of framing, but possibly in view of the focal point of the entire community, the tell, not just that of a particular individual or group.

It is not suggested we go back to a one to one reading of the archaeological evidence, i. e. small houses and absence of a palace equals equality. However, the built environment and spatial organisation of Bronze Age tells certainly reflected and shaped commonly accepted values and perception. They framed daily activites as well as ritual and social action. They were drawn upon in social discourse, and by their specific quality they encouraged some notions held and strategies pursued while discouraging others, just by their mundane presence and by withdrawing attention from alternative options. By contrast, the palaces at Mycenae, Pylos and Tiryns all have evidence of different economic and political practices than those observed on Bronze Age tells throughout south-eastern Europe (see Kienlin 2015a, 83–130 for full references). In a practical sense such activities required certain facilities (e. g. rooms for storage, assemblage and feasting etc.). At the same time these 'facilities' took on a monumental form that reinforced certain practices and the perception of inequality[104]. The political and parts of the economic domain were set apart. Access or participation was denied to large groups of people (e. g. the unequal access to Mycenaean court yards, participation in feasting, the handing out of goods in redistribution etc.).

It is world-view then that blinds us against acknowledging continuity from the European Neolithic to the Bronze Age and has us believe in Mediterranean style development instead. For how else come we accept a likeness of the sites discussed here, or the most recent reconstruction of Százhalombatta-Földvár, that does not look too overcrowded and orderly[105], with the urban centres of the Near East or palace society of the Mycenaean Bronze Age, when the entire settlement layout suggests an emphasis on the likeness of households and not showing difference? When it points to segmentation and distinct clusters of houses even in the most optimistic reconstruction or when there is little to no indication of horizontal (e. g. craft production) and vertical differentiation (i. e. social inequality and political leadership) in the settlement remains at all?

There is a bias in the reading of the evidence with undue emphasis put on the emergence of social differentiation and political inequality. Alternative approaches are denied, such as an interpretation as focal sites of communal identity and tribal tradition. Rarely doubt is cast on the assumption that architectural continuity is the visible expression of the accumulation of power and prestige, despite the fact that a tell's 'impressiveness' may be the result of various different factors such as conscious claim made to traditions or just the choice of dry patches fit for settlement in a landscape prone to frequent flooding. It is suggested that such issues need to be adressed open-mindedly, without reference to an all-embracing Bronze Age meta-narrative, and on the basis of a much better understanding of regional settlement dynamics that can only be obtained by intensive future research.

Tobias L. Kienlin
Universität zu Köln, Institut für Ur- und Frühgeschichte
Köln, DE
tkienlin@uni-koeln.de

Liviu Marta
Satu Mare County Museum
Satu Mare, RO
liviumarta@yahoo.com

Klára P. Fischl
Miskolc University, Department of Archeology
Miskolc, HU
fklari@gmail.com

[104] E. g. Maran 2006; Siennicka 2010.
[105] Earle, Kristiansen 2010a, plate 8.2.

BIBLIOGRAPHY

Anders *et al*. 2010 — A. Anders, Z. Czajlik, M. Csányi, N. Kalicz, E. Gyöngyvér Nagy, P. Raczky, J. Tárnoki, *Archaeological Register of Tell Settlements in Hungary*. Archaeologiai Értesítő 135, 2010, 147–160.

Artursson 2010 — M. Artursson, *Settlement Structure and Organisation*. In: T. Earle, K. Kristiansen (Eds.), Organizing Bronze Age Societies. The Mediterranean, Central Europe and Scandinavia Compared. Cambridge: Cambridge University Press 2010, 87–121.

Bachhuber 2011 — C. Bachhuber, *Negotiating Metal and the Metal Form in the Royal Tombs of Alacahöyük in North-Central Anatolia*. In: T. C. Wilkinson, S. Sherratt, J. Bennet (Eds.), Interweaving Worlds. Systemic Interactions in Eurasia, 7th to 1st Millennia BC. Oxford: Oxbow 2011, 158, 174.

Bader 1978 — T. Bader, *Epoca bronzului în nord-vestul Transilvaniei. Cultura pretracică şi tracică*. Bucureşti 1978.

Bader 1982 — T. Bader, *Die befestigten bronzezeitlichen Siedlungen in Nordwestrumänien*. In: B. Chropovský, J. Herrmann (Eds.), Beiträge zum bronzezeitlichen Burgenbau in Mitteleuropa. Berlin, Nitra: Archeologický Ustav Slovenskej Akadémie Vied 1982, 47–70.

Bader 1990 — T. Bader, *Bemerkungen über die ägäischen Einflüsse auf die alt- und mittelbronzezeitliche Entwicklung im Donau-Karpatenraum*. In: Orientalisch-ägäische Einflüsse in der europäischen Bronzezeit. Ergebnisse eines Kolloquiums. Römisch-Germanisches Zentralmuseum Monographien 15. Bonn: Habelt 1990, 181–205.

Bailey 2000 — D. W. Bailey, *Balkan Prehistory. Exclusion, Incorporation and Identity*. London: Routledge 2000.

Bartelheim 2007 — M. Bartelheim, *Die Rolle der Metallurgie in vorgeschichtlichen Gesellschaften. Sozioökonomische und kulturhistorische Aspekte der Ressourcennutzung. Ein Vergleich zwischen Andalusien, Zypern und dem Nordalpenraum*. Forschungen zur Archäometrie und Altertumswissenschaft 2. Rahden, Westf.: VML 2007.

Bartelheim, Stäuble 2009 — M. Bartelheim, H. Stäuble (Eds.), *Die wirtschaftlichen Grundlagen der Bronzezeit Europas. The Economic Foundations of the European Bronze Age*. Forschungen zur Archäometrie und Altertumswissenschaft 4. Rahden, Westf.: VML 2009.

Bátora 2013 — J. Bátora, *The Settlement Structure Problem and the End of Fortified Settlements from the Final Period of Early Bronze Age in Slovakia*. In: H. Meller, F. Bertemes, H.-R. Bork, R. Risch (Eds.), 1600 – Kultureller Umbruch im Schatten des Thera-Ausbruchs? 4. Mitteldeutscher Archäologentag vom 14. bis 16. Oktober 2011 in Halle (Saale). Halle (Saale): Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt 2013, 373–386.

Bátora *et al*. 2008 — J. Bátora, B. Eitel, F. Falkenstein, K. Rassmann, *Fidvár bei Vráble – eine befestigte Zentralsiedlung der Frühbronzezeit in der Slowakei*. In: J. Czebreszuk, S. Kadrow, J. Müller (Eds.), Defensive Structures from Central Europe to the Aegean in the 3rd and 2nd millennia BC. Studien zur Archäologie in Ostmitteleuropa 5. Poznań: Wydawnictwo Poznańskie 2008, 97–107.

Bátora *et al*. 2009 — J. Bátora, B. Eitel, S. Hecht, A. Koch, K. Rassmann, G. Schukraft, K. Winkelmann, *Fidvár bei Vráble (Kr. Nitra, Südwestslowakei). Untersuchungen auf einem äneolithisch-frühbronzezeitlichen Siedlungshügel*. Germania 87, 2009, 1–23.

Bátora *et al*. 2012 — J. Bátora, A. Behrens, J. Gresky, M. Ivanova, K. Rassmann, P. Tóth, K. Winkelmann, *The Rise and Decline of the Early Bronze Age Settlement Fidvár near Vráble, Slovakia*. In: J. Kneisel, W. Kirleis, M. Dal Corso, N. Taylor, V. Tiedtke (Eds.), Collapse or Continuity? Environment and Development of Bronze Age Human Landscapes. Bonn: Habelt 2012, 111–130.

Bérenger *et al*. 2012 — D. Bérenger, J. Bourgeois, M. Talon, S. Wirth (Eds.), *Gräberlandschaften der Bronzezeit. Internationales Kolloquium zur Bronzezeit*. Herne, 15.–18. Oktober 2008. Darmstadt: v. Zabern 2012.

Broodbank 2011 — C. Broodbank, *The Mediterranean and the Mediterranean World in the Age of Andrew Sherratt*. In: T. C. Wilkinson, S. Sherratt, J. Bennet (Eds.), Interweaving Worlds. Systemic Interactions in Eurasia, 7th to 1st Millennia BC. Oxford: Oxbow 2011, 27–36.

Brück, Fontijn 2013 — J. Brück, D. Fontijn, *The Myth of the Chief: Prestige Goods, Power, and Personhood in the European Bronze Age*. In: H. Fokkens, A. Harding (Eds.), The Oxford Handbook of the European Bronze Age. Oxford: Oxford University Press 2013, 197–215.

Chapman 1997a — J. Chapman, *Places as Timemarks – the Social Construction of Prehistoric Landscapes in Eastern Hungary*. In: J. Chapman, P. Dolukhanov (Eds.), Landscapes in Flux. Central and Eastern Europe in Antiquity. Oxford: Oxbow 1997, 137–161.

Chapman 1997b — J. Chapman, *The origins of tells in Eastern Hungary*. In: P. Topping (Ed.), Neolithic Landscapes. Neolithic Studies Group Seminar Papers 2. Oxford: Oxbow 1997, 139–164.

Chapman 2000 — J. Chapman, *Fragmentation in Archaeology. People, Places and Broken Objects in the Prehistory of South-Eastern Europe*. London: Routledge 2000.

Crowley 2008 — J. L. Crowley, *Mycenaean Art and Architecture*. In: C. W. Shelmerdine (Ed.), The Cambridge Companion to the Aegean Bronze Age. Cambridge: Cambridge University Press 2008, 258–288.

Czajlik 2002 — Z. Czajlik, *Légi régészeti kutatások Magyarországon 2002-ben. Aerial archaeological investigations in Hungary in 2002*. Régészeti Kutatások Magyarországon 2002, 161–169.

Dani *et al*. 2016 — J. Dani, K. P. Fischl, G. Kulcsár, V. Szeverényi, V. Kiss, *Visible and Invisible Inequality: Changing Patterns of Wealth Consumption in Early and Middle Bronze Age Hungary*. In: H. Meller, H. P. Hahn, R. Jung, R. Risch (Eds.), Arm und Reich – Zur Ressourcenverteilung in prähistorischen Gesellschaften. Halle: Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt 2016, 219–241.

David 1998 — W. David, *Zum Ende der bronzezeitlichen Tellsiedlungen im Karpatenbecken*. In: H. Küster, A. Lang, P. Schauer (Eds.), Archäologische Forschungen in urgeschichtlichen Siedlungslandschaften. Festschrift für Georg Kossack zum 75. Geburtstag. Regensburger Beiträge zur Prähistorischen Archäologie 5. Regensburg: Universitätsverlag Regensburg 1998, 231–267.

David 2001 — W. David, *Zu den Beziehungen zwischen Donau-Karpatenraum, osteuropäischen Steppengebieten und ägäisch-anatolischem Raum zur Zeit der mykenischen Schachtgräber unter Berücksichtigung neuerer Funde aus Südbayern*. Anodos 1, 2001, 51–80.

David 2007 — W. David, *Gold and Bone Artefacts as Evidence of Mutual Contact between the Aegean, the Carpathian Basin and Southern Germany in the Second Millennium BC*. In: I. Galanaki, H. Tomas, Y. Galanakis, R. Laffineur (Eds.), Between the Aegean and Baltic Seas. Prehistory Across Borders. Aegaeum 27, 2007, 411–420.

Dickinson 1994 — O. Dickinson, *The Aegean Bronze Age*. Cambridge: Cambridge University Press 1994.

Dietler 1989 — M. Dietler, *Greeks, Etruscans, and Thirsty Barbarians: Early Iron Age Interaction in the Rhône Basin of France*. In: T. C. Champion (Ed.), Centre and Periphery. Comparative Studies in Archaeology. One World Archaeology. London: Routledge 1989, 127–141.

Dietler 1998 — M. Dietler, *Consumption, Agency, and Cultural Entanglement: Theoretical Implications of a Mediterranean Colonial Encounter*. In: J. G. Cusick (Ed.), Studies in Culture Contact: Interaction, Culture Change, and Archaeology. Centre for Archaeological Investigations, Occasional Paper 25. Carbondale: Southern Illinois University 1998, 288–315.

Dietler 2006 — M. Dietler, *Culinary Encounters: Food, Identity, and Colonialism*. In: K. C. Twiss (Ed.), The Archaeology of Food and Identity. Centre for Archaeological Investigations, Occasional Paper 34. Carbondale: Southern Illinois University 2006, 218–242.

Duffy 2014 — P. R. Duffy, *Complexity and Autonomy in Bronze Age Europe. Assessing Cultural Developments in Eastern Hungary*. Prehistoric Research in the Körös Region 1. Budapest: Archaeolingua 2014.

Earle 2002 — T. Earle, *Bronze Age Economics. The Beginnings of Political Economies*. Boulder: Westview 2002.

Earle *et al*. 2015 — T. Earle, J. Ling, C. Uhnér, Z. Stos-Gale, L. Melheim, *The Political Economy and Metal Trade in Bronze Age Europe: Understanding Regional Variability in Terms of Comparative Advantages and Articulations*. European Journal of Archaeology 18, 2015, 633–657.

Earle, Kolb 2010 — T. Earle, M. J. Kolb, *Regional Settlement Patterns*. In: T. Earle, K. Kristiansen (Eds.), Organizing Bronze Age Societies. The Mediterranean, Central Europe and Scandinavia Compared. Cambridge: Cambridge University Press 2010, 57–86.

Earle, Kristiansen 2010a — T. Earle, K. Kristiansen (Eds.), *Organizing Bronze Age Societies. The Mediterranean, Central Europe and Scandinavia* Compared. Cambridge: Cambridge University Press 2010.

Earle, Kristiansen 2010b — T. Earle, K. Kristiansen, *Introduction: Theory and Practice in the Late Prehistory of Europe*. In: T. Earle, K. Kristiansen (Eds.), Organizing Bronze Age Societies. The Mediterranean, Central Europe and Scandinavia Compared. Cambridge: Cambridge University Press 2010, 1–33.

Earle, Kristiansen 2010c — T. Earle, K. Kristiansen, *Organising Bronze Age Societies: Concluding Thoughts*. In: T. Earle, K. Kristiansen (Eds.), Organizing Bronze Age Societies. The Mediterranean, Central Europe and Scandinavia Compared. Cambridge: Cambridge University Press 2010, 218–256.

Falkenstein 1998 — F. Falkenstein, *Feudvar II. Die Siedlungsgeschichte des Titeler Plateaus*. Prähistorische Archäologie in Südosteuropa 14. Kiel: Oetker, Voges 1998.

Fischl 2006 — K. P. Fischl, *Ároktő-Dongóhalom. Bronzkori tell telep. Bronzezeitliche Tell-Siedlung in Ároktő-Dongóhalom*. Borsod-Abaúj-Zemplén Megye Régészeti Emlékei 4. Miskolc: Herman Ottó Múzeum 2006.

Fischl 2012 — K. P. Fischl, *The Role of the Hernád Valley in the Settlement Structure of the Füzesabony Culture*. In: M. Jaeger, J. Czebreszuk, K. P. Fischl (Eds.), Enclosed Space – Open Society. Contact and Exchange in the Context of Bronze Age Fortified Settlements in Central Europe. Studien zur Archäologie in Ostmitteleuropa 9. Poznań: Bogucki Wydawnictwo Naukowe 2012, 39–51.

Fischl *et al*. 2013 — K. P. Fischl, V. Kiss, G. Kulcsár, V. Szeverényi, *Transformations in the Carpathian Basin around 1600 B.C*. In: H. Meller (Ed.), 1600 – Kultureller Umbruch im Schatten des Thera-Ausbruchs? Halle: Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt 2013, 355–371.

Fischl *et al*. 2014 — K. P. Fischl, T. L. Kienlin, T. Pusztai, H. Brückner, S. Klumpp, B. Tugya, G. Lengyel, *Tard-Tatárdomb: An Update on the Intensive Survey Work on the Multi-Layer Hatvan and Füzesabony Period Settlement*. In: T. L. Kienlin, P. Valde-Nowak, M. Korczyńska, K. Cappenberg, J. Ociepka (Eds.), Settlement, Communication and Exchange around the Western Carpathians. International Workshop Held at the Institute of Archaeology, Jagiellonian University, Kraków October 27–28, 2012. Oxford: Archaeopress 2014, 341–379.

Fischl *et al*. 2015 — K. P. Fischl, V. Kiss, G. Kulcsár, V. Szeverényi, *Old and New Narratives for Hungary around 2200 BC*. In: H. Meller, H. W. Arz, R. Jung, R. Risch (Eds.), 2200 BC – Ein Klimasturz als Ursache für den Zerfall der Alten Welt? Halle: Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt 2015, 503–523.

Fischl, Kienlin 2013 — K. P. Fischl, T. L. Kienlin, *Results of a Systematic Survey Programme on the Hatvan Sites of Emőd-Nagyhalom and Tard-Tatárdomb in Northern Hungary*. Acta Archaeologica Academiae Scientiarum Hungaricae 64, 2013, 5–32.

Fischl, Kienlin 2015 — K. P. Fischl, T. L. Kienlin, *Neuigkeiten von einem „unbekannten Bekannten". Der bronzezeitliche Fundort Tiszakeszi-Szódadomb (Ungarn)*. In: I. Szathmári (Ed.), An der Grenze der Bronze- und Eisenzeit. Festschrift für Tibor Kemenczei zum 75. Geburtstag. Budapest: Magyar Nemzeti Múzeum 2015, 109–120.

Fischl *et al*. 2016 — K. P. Fischl, T. L. Kienlin, T. Pusztai, *Bronze Age Settlement Research in the Southern Borsod Region*. Hungarian Archaeology. E-Journal. Summer 2016, 1–8.

Fischl *et al*. 2012 — K. P. Fischl, T. L. Kienlin, N. Seres, *Bronzezeitliche (RBA1–2) Siedlungsforschungen auf der Borsoder Ebene und im Bükk-Gebirge. Überblick und neue Ergebnisse*. A Herman Ottó Múzeum Évkönyve 51, 2012, 23–43.

Fischl *et al*. 2015 — K. P. Fischl, T. L. Kienlin, B. Tugya, *Bronze Age Settlement Research in North-Eastern Hungary*. Archeometriai Mühely 12, 2015, 117–134.

Fischl, Kiss 2015 — K. Fischl, V. Kiss, *Exchange Networks in the Middle Bronze Age Carpathian Basin: The Movement of Visible and Invisible Commodities*. In: P. Suchowska-Ducke, S. Scott Reiter, H. Vandkilde (Eds.), Forging Identities. The Mobility of Culture in Bronze Age Europe. Oxford: BAR 2015, 47–54.

Fischl, Rebenda 2012 — K. P. Fischl, J. P. Rebenda, *Early Bronze Age (RB A1-A2, about 2300–1500 cal BC) Settlement Structure at the Northern Part of the Great Hungarian Plain. A Case Study: Mezőcsát-Pástidomb*. In: P. Anreiter, E. Bánffy, L. Bartosiewicz, W. Meid, C. Metzner-Nebelsick (Eds.), Archaeological, Cultural and Linguistic Heritage. Festschrift for Erzsébet Jerem in Honour of her 70th Birthday. Budapest: Archaeolingua 2012, 487–497.

Fokkens, Harding 2013 — H. Fokkens, A. Harding (Eds.), *The Oxford Handbook of the European Bronze Age*. Oxford: Oxford University Press 2013.

Fontijn 2001, 02 — D. R. Fontijn, *Sacrificial Landscapes. Cultural Biographies of Persons, Objects and 'Natural' Places in the Bronze Age of the Southern Netherlands, c. 2300–600 BC*. Analecta Praehistorica Leidensia 33, 34, 2001, 2002.

Furmánek *et al*. 1999 — V. Furmánek, L. Veliačik, J. Vladár, *Die Bronzezeit im slowakischen Raum*. Prähistorische Archäologie in Südosteuropa 15. Rahden, Westf.: VML 1999.

Galaty *et al*. 2014 — M. L. Galaty, H. Tomas, W. A. Parkinson, *Bronze Age European Elites: From the Aegean to the Adriatic and Back Again*. In: A. B. Knapp, P. van Dommelen (Eds.), The Cambridge Prehistory of the Bronze and Iron Age Mediterranean. Cambridge: Cambridge University Press 2014, 157–177.

Gancarski 2002 — J. Gancarski (Ed.), *Między Mykenami a Bałtykiem. Kultura Otomani-Füzesabony. Between Mycenae and the Baltic Sea. The Otomani-Füzesabony Culture*. Krosno: Muzeum Podkarpackie 2002.

Găvan 2012 — A. Găvan, *Metallurgy and Bronze Age Tell-Settlements from Western Romania (I)*. Ephemeris Napocensis 22, 2012, 57–90.

Găvan 2013 — A. Găvan, *Metalurgia Tell-urilor Epocii Bronzului din Vestul României (II)*. Terra Sebus 5, 2013, 141–192.

Ghemiș 2014 — C. Ghemiș, *Crestur "Cetățuie = Várhegy", Bihor County*. In: F. Gogâltan, C. Cordoș, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 77–79.

Gogâltan 2005 — F. Gogâltan, *Der Beginn der bronzezeitlichen Tellsiedlungen im Karpatenbecken: Chronologische Probleme*. In: B. Horejs, R. Jung, E. Kaiser, B. Teržan (Eds.), Interpretationsraum Bronzezeit. Bernhard Hänsel von seinen Schülern gewidmet. Universitätsforschungen zur prähistorischen Archäologie 121. Bonn: Habelt 2005, 161–179.

Gogâltan 2008 — F. Gogâltan, *Fortified Bronze Age Tell Settlements in the Carpathian Basin. A General Overview*. In: J. Czebreszuk, S. Kadrow, J. Müller (Eds.), Defensive Structures from Central Europe to the Aegean in the 3rd and 2nd millennia BC. Studien zur Archäologie in Ostmitteleuropa 5. Poznań: Wydawnictwo Poznańskie 2008, 39–56.

Gogâltan 2010 — F. Gogâltan, *Die Tells und der Urbanisierungsprozess*. In: B. Horejs, T. L. Kienlin (Eds.), Siedlung und Handwerk – Studien zu sozialen Kontexten in der Bronzezeit. Universitätsforschungen zur prähistorischen Archäologie 194. Bonn: Habelt 2010, 13–46.

Gogâltan 2014a — F. Gogâltan, *Pir "Cetate = Városziget", Satu Mare County*. In: F. Gogâltan, C. Cordoș, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 177–185.

Gogâltan 2014b — F. Gogâltan, *Săcueni "Cetatea Boului = Cetatea Taurului = Ökörvár = Ökördomb = Bikavár", Bihor County*. In: F. Gogâltan, C. Cordoș, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 200–206.

Gogâltan 2015 — F. Gogâltan, *The Early and Middle Bronze Age Chronology on the Eastern Frontier of the Carpathian Basin. Revisited after 15 Years*. In: R. E. Németh, B. Rezi (Eds.), Bronze Age Chronology in the Carpathian Basin. Proceedings of the International Colloquium from Târgu Mureș 2–4 October 2014. Târgu Mureș: Editura Mega 2015, 53–95.

Hänsel 1996 B. Hänsel, *Bronzezeitliche Siedlungssysteme und Gesellschaftsformen in Südosteuropa: Vorstädtische Entwicklungen und Ansätze zur Stadtwerdung*. In: C. Belardelli, R. Peroni (Eds.), The Bronze Age in Europe and the Mediterranean. XIII International Congress of Prehistoric and Protohistoric Sciences Forlì (Italia) 8, 14 September 1996. Colloquia 11. Forlì: Abaco 1996, 241–251.

Hänsel 1998 B. Hänsel, *Die Bronzezeit als erste europäische Epoche*. In: B. Hänsel (Ed.), Mensch und Umwelt in der Bronzezeit Europas. Kiel: Oetker-Voges 1998, 19–26.

Hänsel 2002 B. Hänsel, *Stationen der Bronzezeit zwischen Griechenland und Mitteleuropa*. Bericht der Römisch-Germanischen Kommission 83, 2002, 69–97.

Harding 2000 A. F. Harding, *European Societies in the Bronze Age*. Cambridge: Cambridge University Press 2000.

Harding 2006a A. Harding, *Facts and Fantasies from the Bronze Age*. Antiquity 80, 2006, 463–465.

Harding 2006b A. Harding, *Enclosing and Excluding in Bronze Age Europe*. In: A. Harding, S. Sievers, N. Venclová (Eds.), Enclosing the Past: Inside and Outside in Prehistory. Sheffield Archaeological Monographs 15. Sheffield: J. R. Collis Publications 2006, 97–115.

Harding 2013 A. Harding, W*orld Systems, Cores, and Peripheries in Prehistoric Europe*. European Journal of Archaeology 16, 2013, 378–400.

Herrero 2011 B. Legarra Herrero, *New Kid on the Block: the Nature of the First Systemic Contacts between Crete and the Eastern Mediterranean around 2000 BC*. In: T. C. Wilkinson, S. Sherratt, J. Bennet (Eds.), Interweaving Worlds. Systemic Interactions in Eurasia, 7th to 1st Millennia BC. Oxford: Oxbow 2011, 266–281.

Jaeger 2015 M. Jaeger, *The Stone Fortifications of the Settlement at Spišský Štvrtok. A Contribution to the Discussion on the Long-distance Contacts of the Otomani-Füzesabony Culture*. Prähistorische Zeitschrift 89, 2014, 291–304.

Jaeger 2016 M. Jaeger, *Bronze Age Fortified Settlements in Central Europe*. Studien zur Archäologie in Ostmitteleuropa 17. Bonn: Habelt 2016.

Jaeger, Kulcsár 2013 M. Jaeger, G. Kulcsár, *Kakucs-Balla-Domb. A Case Study in the Absolute and Relative Chronology of the Vatya Culture*. Acta Archaeologica Academiae Scientiarum Hungaricae 64, 2013, 289–320.

Jockenhövel 1990 A. Jockenhövel, *Bronzezeitlicher Burgenbau in Mitteleuropa. Untersuchungen zur Struktur frühmetallzeitlicher Gesellschaften. In: Orientalisch-ägäische Einflüsse in der europäischen Bronzezeit. Ergebnisse eines Kolloquiums*. Römisch-Germanisches Zentralmuseum Monographien 15. Bonn: Habelt 1990, 209–228.

Kalicz 1968 N. Kalicz, *Die Frühbronzezeit in Nordost-Ungarn*. Budapest: Akadémiai Kiadó 1968.

Kienlin 2012a T. L. Kienlin, *Beyond Elites: An Introduction*. In: T. L. Kienlin, A. Zimmermann (Eds.), Beyond Elites. Alternatives to Hierarchical Systems in Modelling Social Formations. International Conference at the Ruhr-Universität Bochum, Germany, October 22–24, 2009. Universitätsforschungen zur prähistorischen Archäologie 215. Bonn: Habelt 2012, 15–32.

Kienlin 2012b T. L. Kienlin, *Patterns of Change, or: Perceptions Deceived? Comments on the Interpretation of Late Neolithic and Bronze Age Tell Settlement in the Carpathian Basin*. In: T. L. Kienlin, A. Zimmermann (Eds.), Beyond Elites. Alternatives to Hierarchical Systems in Modelling Social Formations. International Conference at the Ruhr-Universität Bochum, Germany, October 22–24, 2009. Universitätsforschungen zur prähistorischen Archäologie 215. Bonn: Habelt 2012, 251–310.

Kienlin 2015a T. L. Kienlin, *Bronze Age Tell Communities in Context – An Exploration Into Culture, Society, and the Study of European Prehistory. Part 1: Critique. Europe and the Mediterranean*. Archaeopress Archaeology. Oxford: Archaeopress 2015.

Kienlin 2015b T. L. Kienlin, *All Heroes in Their Armour Bright and Shinning? Comments on the Bronze Age 'Other'*. In: T. L. Kienlin (Ed.), Fremdheit – Perspektiven auf das Andere. Kölner Beiträge zu Archäologie und Kulturwissenschaften – Cologne Contributions to Archaeology and Cultural Studies 1, Universitätsforschungen zur prähistorischen Archäologie 264. Bonn: Habelt 2015, 153–193.

Kienlin 2017 — T. L. Kienlin, *World Systems and the Structuring Potential of Foreign-Derived (Prestige) Goods. On Modelling Bronze Age Economy and Society*. In: A. K. Scholz, M. Bartelheim, R. Hardenberg, J. Staecker (Eds.), ResourceCultures. Sociocultural Dynamics and the Use of Resources – Theories, Methods, Perspectives. RessourcenKulturen 5. Tübingen: Universität Tübingen 2017, 143–157.

Kienlin *et al*. 2012 — T. L. Kienlin, L. Marta, P. Schramm, E. Rung, *Results of the Geophysical Survey in the Swamp Fortification of the Gáva Culture at Căuaş-Sighetiu in the Ier Valley, North-Western Romania*. In: L. Marta (Ed.), The Gáva Culture in the Tisa Plain and Transylvania. Symposium Satu Mare 17–18 June 2011. Satu Mare: Muzeul Judeţean Satu Mare 2012, 83–99.

Kienlin *et al*. in print — T. L. Kienlin, K. P. Fischl, T. Pusztai, *Borsod Region Bronze Age Settlements (BORBAS). Catalogue of Early to Middle Bronze Age Tell Sites Covered by Magnetometry*. Universitätsforschungen zur prähistorischen Archäologie. Bonn: Habelt in print.

Kiss 2011 — V. Kiss, *The Role of the Danube in the Early and Middle Bronze Age of the Carpathian Basin*. In: Gy. Kovács, G. Kulcsár (Eds.), Ten Thousand Years Along the Middle Danube. Life and Early Communities from Prehistory to History. Varia Archaeologica Hungarica 26. Budapest: Archaeolingua 2011, 211–239.

Kiss 2012 — V. Kiss, *Megjegyzések a magyarországi kora és középső bronzkor relatív és abszolút keltezésének kérdéseihez (Contribution to the Relative and Absolute Chronology of the Hungarian Early and Middle Bronze Age)*. In: B. Kolozsi (Ed.), ΜΩΜΟΣ IV. Őskoros Kutatók IV. Összejövetelének konferenciakötete. Debrecen 2012, 215–250.

Kleszó 2014 — A. Kleszó, *Tard környékének régészeti lelőhelyei*. BA Thesis, Miskolci Egyetem, Miskolc, 2014,1–105.

Kohl 1987 — Ph. Kohl, *The Ancient Economy, Transferable Technologies and the Bronze Age World-System: A View from the Northeastern Frontier of the Ancient Near East*. In: M. Rowlands, M. Larsen, K. Kristiansen (Eds.), Centre and Periphery in the Ancient World. New Directions in Archaeology. Cambridge: Cambridge University Press 1987, 13–24.

Kohl 2011 — Ph. L. Kohl, *World-Systems and Modelling Macro-Historical Processes in Later Prehistory: an Examination of Old and a Search for New Perspectives*. In: T. C. Wilkinson, S. Sherratt, J. Bennet (Eds.), Interweaving Worlds. Systemic Interactions in Eurasia, 7th to 1st Millennia BC. Oxford: Oxbow 2011, 77–86.

Kristiansen 1998 — K. Kristiansen, *Europe before History. New Studies in Archaeology*. Cambridge: Cambridge University Press 1998.

Kristiansen, Larsson 2005 — K. Kristiansen, T. B. Larsson, *The Rise of Bronze Age Society. Travels, Transmissions and Transformations*. Cambridge: Cambridge University Press 2005.

Kristiansen, Suchowska-Ducke 2015 — K. Kristiansen, P. Suchowska-Ducke, *Connected Histories: the Dynamics of Bronze Age Interaction and Trade 1500–1100 BC*. Proceedings of the Prehistoric Society 81, 2015, 361–392.

Maran 2006 — J. Maran, *Mycenaean Citadels as Performative Space*. In: J. Maran, C. Juwig, H. Schwengel, U. Thaler (Eds.), Constructing Power. Architecture, Ideology and Social Practice. Hamburg: Lit 2006, 75–92.

Maran 2011 — J. Maran, *Lost in Translation: the Emergence of Mycenaean Culture as a Phenomenon of Glocalization*. In: T. C. Wilkinson, S. Sherratt, J. Bennet (Eds.), Interweaving Worlds. Systemic Interactions in Eurasia, 7th to 1st Millennia BC. Oxford: Oxbow 2011, 282–294.

Maran 2012 — J. Maran, *Architektonischer Raum und soziale Kommunikation auf der Oberburg von Tiryns – Der Wandel von der mykenischen Palastzeit zur Nachpalastzeit*. In: F. Arnold, A. Busch, R. Haensch, U. Wulf-Rheidt (Eds.), Orte der Herrschaft. Charakteristika von antiken Machtzentren. Rahden, Westf.: VML 2012, 149–162.

Maran, Stockhammer 2012 — J. Maran, Ph. W. Stockhammer (Eds.), *Materiality and Social Practice. Transformative Capacities of Intercultural Encounters*. Oxford: Oxbow 2012.

Marta 2014a — L. Marta, *Andrid "Dealul Taurilor = Bikadomb", Satu Mare County*. In: F. Gogâltan, C. Cordoş, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 27–30.

Marta 2014b — L. Marta, *Berveni "Holmoş", Satu Mare County*. In: F. Gogâltan, C. Cordoş, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 35–38.

Marta 2014c — L. Marta, *Căpleni "Pământurile regeşti = Király földek = Cetate = Vár = Drumul Căminului", Satu Mare County*. In: F. Gogâltan, C. Cordoş, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 61–64.

Marta 2014d — L. Marta, *Dindeşti "Cetate = Várdomb", Satu Mare County*. In: F. Gogâltan, C. Cordoş, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 92–94.

Marta *et al*. 2010 — L. Marta, T. L. Kienlin, E. Rung, P. Schramm, *Recent Archaeological Research on the Bronze Age Fortified Settlements of the Ier Valley, North-Western Romania*. In: B. Horejs, T. L. Kienlin (Eds.), Siedlung und Handwerk – Studien zu sozialen Kontexten in der Bronzezeit. Universitätsforschungen zur prähistorischen Archäologie 194. Bonn: Habelt 2010, 121–138.

Marta, Ştefan 2011 — L. Marta, D. Ştefan, *Geophysical Survey in the Bronze Age Settlement from Medieşu Aurit-"Ciuncaş", Satu Mare County*. In: D. Măgureanu, D. Măndescu, S. Matei (Eds.), Archaeology: Making of and Practice. Studies in Honor of Mircea Babeş at his 70th Anniversary. Piteşti: Ordessos 2011, 363–371.

Máthé 1988 — M. Sz. Máthé, *Bronze Age Tells in the Berettyó Valley*. In: T. Kovács, I. Stanczik (Eds.), Bronze Age Tell Settlements of the Great Hungarian Plain 1. Inventaria Praehistorica Hungariae 1. Budapest: Magyar Nemzeti Múzeum 1988, 27–122.

Miklós 2006 — Zs. Miklós, *Légi régészeti kutatások 2006-ban. Aerial archaeological investigations in 2006*. Régészeti Kutatások Magyarországon 2006, 137–146.

Molnár 2011 — Zs. Molnár, *Die Bronzemetallurgie in den Otomani-Gemeinschaften von der Carei-Ebene und dem Eriul-Tal*. Acta Archaeologica Academiae Scientiarum Hungaricae 62, 2011, 269–328.

Molnár, Németi 2014 — Z. Molnár, J. Németi, *Carei "Bobald = Bobáld", Satu Mare County*. In: F. Gogâltan, C. Cordoş, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 43–60.

Molnár, Nagy 2013 — Z. Molnár, J.-G. Nagy, *Habitat Models and Social Systems in Middle Bronze Age Central North-Western Transylvania. State of Research*. Acta Archaeologica Carpathica 48, 2013, 5–85.

Németi, Molnár 2002 — J. Németi, Z. Molnár, *A Tell telepek elterjedése a Nagykárolyi-síkságon és az Ér völgyében*. Kolozsvár, Cluj-Napoca: Scientia Kiadó 2002.

Németi, Molnár 2007 — J. Németi, Z. Molnár, *A tell-telepek fejlődése és vége a Nagykároly-síkságon és az Ér völgyében*. Cluj-Napoca: Scientia Kiadó 2007.

Németi, Molnár 2012 — J. Németi, Z. Molnár, *Bronzkori hatalmi központok Északnyugat-Erdélyben: A Nagykároly-Bobáld-tell*. Szeged: University of Szeged 2012.

Nordquist, Whittaker 2007 — G. Nordquist, H. Whittaker, *Comments on Kristian Kristiansen and Thomas B. Larsson (2005): The Rise of Bronze Age Society. Travels, Transmissions and Transformations*. Cambridge University Press, Cambridge. Norwegian Archaeological Review 40, 2007, 75–84.

Nováki *et al*. 2007 — G. Nováki, S. Sárközy, I. Feld, *Borsod-Abaúj-Zemplén megye várai az őskortól a kuruc korig. Magyarország várainak topográfiája 1. Borsod-Abaúj-Zemplén megye régészeti emlékei 5*. Budapest: Castrum Bene Egyesület 2007.

Olexa 1992 — L. Olexa, *Náleziská z doby bronzovej v Nižnej Myšli*. Slovenská Archeológia 40, 1992, 189–204.

Olexa 2003 — L. Olexa, *Nižná Myšľa. Osada a pohrebisko z doby bronzovej*. Monumenta Archaeologica Slovaciae 7. Košice: Slovenská Akadémia Vied 2003.

Ordentlich *et al*. 2014a — I. Ordentlich, A. Găvan, C. Ghemiş, *Sălacea "Dealul Vida = Vida hegy", Bihor County*. In: F. Gogâltan, C. Cordoş, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 207–230.

Ordentlich *et al.* 2014b — I. Ordentlich, M. Lie, C. Ghemiş, *Otomani "Cetățuie = Várhegy", Bihor County*. In: F. Gogâltan, C. Cordoş, A. Ignat (Eds.), Bronze Age Tell, Tell-Like and Mound-Like Settlements on the Eastern Frontier of the Carpathian Basin. History of Research. Cluj-Napoca: Editura Mega 2014, 139–147.

Parkinson 2002 — W. A. Parkinson, *Integration, Interaction, and Tribal 'Cycling': The Transition to the Copper Age on the Great Hungarian Plain*. In: W. A. Parkinson (Ed.), The Archaeology of Tribal Societies. Archaeological Series 15. Ann Arbor: International Monographs in Prehistory 2002, 391–438.

Parkinson 2006 — W. A. Parkinson, *The Social Organization of Early Copper Age Tribes on the Great Hungarian Plain*. BAR International Series 1573. Oxford: Archaeopress 2006.

Poroszlai, Vicze 2000 — I. Poroszlai, M. Vicze (Eds.), *SAX. Százhalombatta Archaeological Expedition. Annual Report 1 – Field Season 1998*. Százhalombatta: Matrica Museum 2000.

Poroszlai, Vicze 2005 — I. Poroszlai, M. Vicze (Eds.), *SAX. Százhalombatta Archaeological Expedition. Report 2 – Field Seasons 2000–2003*. Százhalombatta: Matrica Museum 2005.

Primas 2008 — M. Primas, *Bronzezeit zwischen Elbe und Po: Strukturwandel in Zentraleuropa zwischen 2200–800 v. Chr*. Universitätsforschungen zur prähistorischen Archäologie 150. Bonn: Habelt 2008.

Roman, Németi 1986 — P. Roman, I. Németi, *Descoperiri din perioada timpurie (pre-Otomani) a epocii bronzului în nord-vestul României*. Studii și Cercetări de Istorie Veche și Arheologie 37, 1986, 198–232.

Roman, Németi 1989 — P. Roman, I. Németi, *Die frühbronzezeitlichen Kulturgruppen der Vor-Otomani Periode in Nordwest-Rumänien*. In: M. Buchvaldek, E. Pleslová-Štickova (Eds.), Das Äneolithikum und die früheste Bronzezeit (C14 3000–2000 b.c.) in Mitteleuropa: kulturelle und chronologische Beziehungen. Acta des XIV. Internationalen Symposiums Prag – Liblice, 20.–24. 10. 1986. Praehistorica 15. Praha: Univerzita Karlova 1989, 243–248.

Roscoe 2000 — P. Roscoe, *New Guinea Leadership as Ethnographic Analogy: A Critical Review*. Journal of Archaeological Method and Theory 7, 2000, 79–126.

Roscoe 2008 — P. B. Roscoe, *Settlement Fortification in Village and 'Tribal' Society*. Journal of Anthropological Archaeology 27, 2008, 507–519.

Roscoe 2009 — P. Roscoe, *Social Signaling and the Organization of Small-Scale Society*. Journal of Archaeological Method and Theory 16, 2009, 69–116.

Schallin, Tournavitou 2015 — A.-L. Schallin, I. Tournavitou (Eds.), *Mycenaeans Up To Date. The Archaeology of the North-Eastern Peloponnese – Current Concepts and New Directions*. Stockholm: Svenska Institutet 2015.

Schmid 2015 — F. N. Schmid, *Keramische Funde der früh- und mittelbronzezeitlichen Fundstellen von Pişcolt und Căpleni – archäologische und naturwissenschaftliche Analysen*. Unpublished Master Thesis, Institut für Ur- und Frühgeschichte, Universität zu Köln 2015.

Shelmerdine 2008 — C. W. Shelmerdine (Ed.), *The Cambridge Companion to the Aegean Bronze Age*. Cambridge: Cambridge University Press 2008.

Shelmerdine, Bennet 2008 — C. W. Shelmerdine, J. Bennet, *Mycenaean States: Economy and Administration*. In: C. W. Shelmerdine (Ed.), The Cambridge Companion to the Aegean Bronze Age. Cambridge: Cambridge University Press 2008, 289–309.

Siennicka 2010 — M. Siennicka, *Spatial Organisation of Late Mycenaean Settlements*. In: B. Horejs, T. L. Kienlin (Eds.), Siedlung und Handwerk – Studien zu sozialen Kontexten in der Bronzezeit. Universitätsforschungen zur prähistorischen Archäologie 194. Bonn: Habelt 2010, 69–94.

Sørensen 2010 — M. L. Stig Sørensen, *Households*. In: T. Earle, K. Kristiansen (Eds.), Organizing Bronze Age Societies. The Mediterranean, Central Europe and Scandinavia Compared. Cambridge: Cambridge University Press 2010, 122–154.

Sørensen, Vicze 2013 — M. L. Stig Sørensen, M. Vicze, *Locating Household Activities on a Bronze Age Tell*. In: M. Madella, G. Kovács, B. Kulcsarne-Berzsenyi, I. Briz i Godino (Eds.), The Archaeology of Household. Oxford: Oxbow 2013, 159–178.

Stein 1999a — G. J. Stein, *Rethinking World-Systems. Diasporas, Colonies, and Interaction in Uruk Mesopotamia*. Tucson: University of Arizona Press 1999.

Stein 1999b — G. J. Stein, *Rethinking World-Systems: Power, Distance, and Diasporas in the Dynamics of Interregional Interaction*. In: P. N. Kardulias (Ed.), World-Systems Theory in Practice. Leadership, Production, and Exchange. Lanham: Rowman & Littlefield 1999, 153–177.

Stein 2002 — G. J. Stein, *From Passive Periphery to Active Agents: Emerging Perspectives in the Archaeology of Interregional Interaction*. American Anthropologist 104, 2002, 903–916.

Szeverényi, Kulcsár 2012 — V. Szeverényi, G. Kulcsár, *Middle Bronze Age Settlement and Society in Central Hungary*. In: M. Jaeger, J. Czebreszuk, K. P. Fischl (Eds.), Enclosed Space – Open Society. Contact and Exchange in the Context of Bronze Age Fortified Settlements in Central Europe. Studien zur Archäologie in Ostmitteleuropa 9. Poznań: Bogucki Wydawnictwo Naukowe 2012, 287–351.

Thomas 2008 — M. Thomas, *Studien zu Chronologie und Totenritual der Otomani-Füzesabony-Kultur*. Saarbrücker Beiträge zur Altertumskunde 86. Bonn: Habelt 2008.

Vladár 1973 — J. Vladár, *Osteuropäische und mediterrane Einflüsse im Gebiet der Slowakei während der Bronzezeit*. Slovenská Archeológia 21, 1973, 253–357.

Vladár 1977 — J. Vladár, *Zur Problematik der befestigten Siedlungen der ausgehenden älteren Bronzezeit in der Slowakei*. In: O.-H. Frey (Ed.), Festschrift zum 50jährigen Bestehen des Vorgeschichtlichen Seminars Marburg. Marburger Studien zur Vor- und Frühgeschichte 1. Gladenbach: Kempkes 1977, 175–192.

Vladár 1981 — J. Vladár, *Zur Problematik osteuropäischer und südöstlicher Einflüsse in der Kulturentwicklung der älteren Bronzezeit im Gebiet der Slowakei*. Slovenská Archeológia 29, 1981, 217–233.

Vulpe 2001 — A. Vulpe, *The Aegean-Anatolian and South-Eastern Europe in the Light of a Revision of the Bronze Age Chronology*. In: C. Kacsó (Ed.), Der nordkarpatische Raum in der Bronzezeit. Symposium Baia Mare, 7.–10. Oktober 1998. Bibliotheca Marmatia 1. Baia Mare: Muzeul Judeţean Maramureş 2001, 9–21.

Wengrow 2011 — D. Wengrow, *'Archival' and 'Sacrificial' Economies in Bronze Age Eurasia: an Interactionist Approach to the Hoarding of Metals*. In: T. C. Wilkinson, S. Sherratt, J. Bennet (Eds.), Interweaving Worlds. Systemic Interactions in Eurasia, 7th to 1st Millennia BC. Oxford: Oxbow 2011, 135–144.

Whittle 1996 — A. Whittle, *Europe in the Neolithic: The Creation of New Worlds*. Cambridge: Cambridge University Press 1996.

Abbreviations

AAASH	Acta Archaeologica Academiae Scientarum Hungaricae. Budapest.
Acta Ant et Arch Suppl	Acta Antiqua et Archaeologica Supplementum. Szeged.
AAC	Acta Archaeologica Carpathica. Krakow.
ACMIT	Anuarul Comisiunii monumentelor istorice. Secţia pentru Transilvania. Cluj.
ARA	Annual Review of Anthropology. Stanford.
ActaArchHung	ActaArchHung Acta Archaeologica Academiae Scientiarum Hungaricae. Budapest.
AEM	Archäologische Epigraphische Mitteilungen aus Österreich-Ungarn. Heidelberg.
AIIA Cluj	Anuarul Institutului de Istorie și Arheologie. Cluj-Napoca.
AISC	Anuarul Institutului de Studii Clasice. Cluj-Napoca.
AMP	Acta Musei Porolissensis. Zalău.
ATF	Acta Terrae Fogarasiensis. Făgăraş.
ATS	Acta Terrae Septemcastrenses. Sibiu.
Agria	Agria. Annales Musei Agriensis. Az egri Dobó István Vármúzeum évkönyve. Eger.
AnB S.N.	Analele Banatului. Timişoara.
AMS.CEU	Annual of Medieval Studies at CEU. Budapest.
ACN	Archaeological Computing Newsletter. Florence.
ArchÉrt	Archaelogiai Értesítő. A Magyar Régészeti és Művészettörténeti Társulat tudományos folyóirata. Budapest.
ArchJug	Archaeologia Iugoslavica. Beograd.
ArhPregled	Arheološki Pregled. Arheološko Društvo Jugoslavije. Beograd.
ArchSlovCat	Archaeologia Slovaca Catalogi. Bratislava.
Archaeológiai Közlemények	Archaeológiai Közlemények. A hazai Műemlékek Ismeretének Előmozdítására. Budapest.
ArchKorr	Archaölogisches Korrespondenzblatt. Mainz.
ArhMold	Arheologia Moldovei. Iași.
AMN	Acta Musei Napocensis. Cluj-Napoca.
AMP	Acta Musei Porolissensis. Zalău.
ArchRozhl	Archeologické Rozhledy. Praga.
ArhMed	Arheologia Medievală. Cluj-Napoca, Brăila, Reșița.
ASMB	Arheologia Satului Medieval din Banat. Reşiţa 1996.
AVSL	Auftrage des Vereins für siebenbürgische Landeskunde, Wien.
Banatica	Banatica. Reşiţa.
BAM	Brvkenthal Acta Mvsei. Sibiu.
BAR Int. Ser.	British Archaeological Reports. International Series. Oxford.
BCMI	Buletinul Comisiunii Monumentelor Istorice. București.
BCȘS	Buletinul Cercurilor Ştiinţifice Studenţeşti. Arheologie – Istorie – Muzeologie. Alba Iulia.
BG	Botanical Guidebooks. Kraków.
BerRGK	Bericht der RömischGermanischen Kommission. Frankfurt a. Main.
BHAB	Bibliotheca Historica et Archaeologica Banatica. Timişoara.
BHAUT	Bibliotheca Historica et Archaeologica Universitatis Timisiensis. Timișoara.
BMB. SH	Biblioteca Muzeului Bistriţa. Seria Historica. Bistriţa Năsăud.
BMÉ	Bihari Múzeum Évkönyve. Berettyóújfalu.
BMI	Buletinul Monumentelor Istorice. Bucureşti.
BMN	Bibliotheca Musei Napocensis. Cluj-Napoca.
BMMK	A Békés Megyei Múzeumok Közleményei. Békéscsaba.
BMMN	Buletinul Muzeului Militar Naţional. Bucureşti.
BThr	Bibliotheca Thracologica. Institutul Român de Tracologie. Bucureşti.

CAB	Cercetări Arheologice în Bucureşti. Bucureşti.
CAH	Communicationes Archaeologicae Hungariae. Budapest.
Carpica	Carpica. Muzeul Judeţean de Istorie și Arheologie, Bacău.
CAMNI	Cercetări Arheologice. Muzeul de Istorie al R. S. România/Muzeul Naţional de Istorie. Bucureşti.
CIL	*Corpus Inscriptionum Latinarum*. Berlin.
CCA	*Cronica cercetărilor arheologice* (*din România*), 1983-1992 *sqq*. (și în variantă electronică pe *http://www.cimec.ro/scripts/arh/cronica/cercetariarh.asp*).
Classica et Christiana	Classica et Christiana. Iasi.
CRSCRCR	Coins from Roman sites and collections of Roman coins from Romania. Cluj-Napoca.
Crisia	Crisia. Muzeul Ţării Crișurilor, Oradea.
Dacia N.S.	Dacia. Revue d'archéologie et d'histoire ancienne. Nouvelle serie. Bucureşti.
Danubius	Danubius - Revista Muzeului de Istorie Galati. Galați.
DDME	A Debreceni Déri Múzeum Évkönyve. Debrecen.
DolgCluj	Dolgozatok az Erdélyi Nemzeti Érem- és Régiségtárából, Klozsvár (Cluj).
DolgSzeg	Dolgozatok. Arbeiten des Archäologischen Instituts der Universität. Szeged.
EphNap	Ephemeris Napocensis. Cluj-Napoca.
EMEÉ	Az Erdélyi Múzeum-Egyesület Évkönyve. Cluj-Napoca.
EMÉ	Erdélyi Múzeum Évkönyve. Cluj-Napoca.
EAZ	Ethnographisch-Archäologische Zeitschrift. Berlin.
FADDP/GMADP	Führer zu archäologischen Denkmälern in Dacia Porolissensis/Ghid al monumentelor arheologice din Dacia Porolissensis. Zalău.
File de Istorie	File de Istorie. Bistrița.
FolArch	Folia Archaeologica. Budapest.
Forsch. u. Ber. z. Vor- u. Frühgesch. BW	Forschungen und Berichte zur Vor- und Frühgeschichte in Baden-Württemberg.
GPSKV	Gradja za proučavanje spomenika kulture Vojvodine. Novi Sad.
GSAD	Glasnik Srpskog Arheološkog Društva. Beograd.
HOMÉ	A Herman Ottó Múzeum Évkönyve. Miskolc.
HTRTÉ	Hunyadvármegye Történelmi és Régészeti Társulat Évkönyve. Déva (Deva).
JAMÉ	A nyíregyházi Jósa András Múzeum Évkönyve. Nyíregyháza.
JahrbuchRGZM	Jahrbuch des RömischGermanischen Zentralmuseums Mainz.
JAHA	Journal of Ancient History and Archaeology. Cluj-Napoca.
Lohanul	Lohanul. Revistă cultutal științifică. Huși.
MCA	Materiale și Cercetări Arheologice. Bucureşti.
MCA-S.N.	Materiale și Cercetări Arheologice-Serie Nouă. Bucureşti.
MA / MemAnt	Memoria Antiqvitatis. Piatra Neamț.
MFMÉ	A Móra Ferenc Múz. Évkönyve. Szeged.
MFMÉ StudArch	A Móra Ferenc Múzeum Évkönyve, Studia Archaelogica. Szeged.
MN / MuzNat	Muzeul Naţional. Bucureşti.
NumAntCl	Numismatica e antichitàclassiche. Milano.
Opitz Archaeologica	Opitz Archaeologica. Budapest.
Opuscula Hungarica	Opuscula Hungarica. Budapest.
OM	Orbis Mediaevalis. Arad, Cluj-Napoca.
OTÉ	Orvos- Természettudományi Értesitő, a Kolozsvári Orvos-Természettudományi Társulat és az Erdélyi Múzeum-Egylet Természettudományi Szakosztálya.
Palaeohistorica	Acta et Communicationes Instituti Archaeologici Universitatis Groninganae.
PamArch	Památky Archeologické. Praha.
Past *and* Present	Past *and* Present. Oxford.
PIKS/PISC	Die Publikationen des Institutes für klassische Studien/ Publicaţiile Institutului de studii clasice. Cluj-Napoca.
PBF	Praehistorische Bronzefunde. Berlin.
PMÉ	Acta Musei Papensis – Pápai Múzeumi Értesítő.
PZ	Prähistorische Zeitschrift. Berlin.

ReDIVA	Revista Doctoranzilor în Istorie Veche și Arheologie. Cluj-Napoca.
Revista Bistriței	Revista Bistriței. Bistrița.
RevMuz	Revista Muzeelor. Bucureşti.
RIR	Revista Istorică Română.
RMM-MIA	Revista Muzeelor şi Monumentelor. Seria Monumente istorice şi de artă. Bucureşti.
RMMN	Revista Muzeului Militar Naţional. Bucureşti.
RESEE	Revue des Études Sud-Est Européennes. București.
Ruralia	Ruralia. Památky Archeologické – Supplementum. Praha.
RVM	Rad Vojvodjanskih Muzeja. Novi Sad.
Sargetia	Sargeția. Muzeul Civilizației Dacice și Romane, Deva.
Savaria	Savaria. A Vas megyei Múzeumok Értesítője. Szombathely.
SCIV(A)	Studii şi Cercetări de Istorie Veche. Bucureşti.
SCN	Studii şi Cercetări Numismatice. Bucureşti.
SlovArch	Slovenská Archeológia. Nitra.
SIA	Studii de Istoria Artei. Cluj Napoca.
SIB	Studii de istorie a Banatului. Timişoara.
SKMÉ	A Szántó Kovács János Múzeum Évkönyve. Orosháza.
SMIM	Studii şi Materiale de Istorie Medie. Bucureşti.
SMMA	Szolnok Megyei Múzeumi Adattár. Szolnok.
SMMIM	Studii şi Materiale de Muzeografie şi Istorie Militară. Bucureşti.
Starinar	Starinar. Arheološki Institut. Beograd.
Stratum plus	Stratum plus. Archaeology and Cultural Anthropology. Kishinev.
StCl	Studii Clasice. Bucureşti.
StComBrukenthal	Studii şi comunicări. Sibiu.
StudArch	Studia Archaeologica. Budapest.
StudCom	Studia Comitatensia. Szentendre.
Studii și Comunicări	Studii și Comunicări. Arad.
StudUnivCib	Studia Universitatis Cibiniensis. Sibiu.
StudCom – Vrancea	Studii și Comunicări. Muzeul Județean de Istorie și Etnografie Vrancea. Focșani.
StudŽvest	Študijne Zvesti Arheologického Ústavu Slovenskej Akademie Vied. Nitra.
Symp. Thrac.	Symposia Thracologica. Bucureşti.
Századok	Századok. A Magyar Történelmi Társulat Folyóirata. Budapest.
TIR L34	D. Tudor, *Tabula Imperii Romani*. București 1965.
Tempora Obscura	Tempora Obscura. Békéscsaba 2012.
Tibiscus	Tibiscus. Timişoara.
VAH	Varia Archaeologica Hungarica. Budapest.
VIA	Visnik Institutu arkheolohii. L'viv.
Ziridava	Ziridava. Arad.
ZSA	Ziridava Studia Archaeologica. Arad.
w.a.	without author