CHAPTER SEVEN

FROM THE NEOLITHIC TO THE IRON AGE – DEMOGRAPHY AND SOCIAL AGGLOMERATION: THE DEVELOPMENT OF CENTRALIZED CONTROL?

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INTRODUCTION: POPULATION GROWTH, AGGLOMERATION, AND POWER

New research results on Late Hallstatt settlement patterns have been used to describe agglomerated central settlements; for example, the Heuneburg, as "cities" or "subcities" (see Chapter 22, this volume). A reconstruction of the general demographic development of Europe from ca. 6000–500 BC emphasizes, in addition to a general population increase, that such agglomeration processes occurred at different times. In this chapter, three examples of centralization – even urbanization processes – in the sites of Okolište, Trypillia, and the Heuneburg are described and linked to the question of social power and social control in prehistoric societies. In consequence, the development of the Hallstatt period emerges as a structural phenomenon already observed in Neolithic, Chalcolithic, and Bronze Age societies. Because we are confronted with processes not necessarily known from historical or ethnographical records, I introduce a new term – controlled social agglomeration ("agglo-control") – that highlights prehistoric centralization processes as triggers of social control in nonliterate societies.

The social constitution of a society and the role that an individual may play in it depend on many factors. Two of the most formative aspects are the size of the communal group acting and the density of the population within a reachable area: Yet, demographical reconstructions of past societies are one of the most challenging tasks in archaeological research (Hassan 1981). Despite the difficult task of reconstructing group sizes, village populations, and the population

values of demographic processes, archaeological investigations have to tackle this field of research, addressing questions concerning group size and population densities involved in political systems. The possibilities for mobilizing people for either communal activities or individual power structures, organizing the exchange of items, and creating identities depend on such population sizes.

Very closely linked to the reconstruction of population sizes is the reconstruction of settlement patterns. Dispersed and agglomerated population distributions in the landscape have an impact on the means of control or noncontrol of people. In a dense space of a sub-urban settlement, one thousand people are much easier to control than the same number of people in a diverse distribution of single farmsteads over a huge area. The density of a demographic unit influences power structures, the costs for the mobilization of people for economic activities, or the need to establish institutions for the regulation of societal affairs. Clearly, the agglomeration of people in a dense space enables forms of economic activities, political organization, and social control that have been systematically considered in prior archaeological research. New forms of labour division and specialization are closely linked to the maintenance of manpower in such demographic units. This chapter compares three examples of very high population agglomerations in European prehistory: Late Neolithic Okolište, Chalcolithic Taljanky, and Iron Age Heuneburg (Figure 7.1).

We have to consider that the decisions and processes leading to a dispersed or agglomerated settlement pattern and the concentration of populations in settlement areas, large villages, or the first cities are deliberate: The more densely a population is concentrated, the longer the transport routes for subsistence products to the more densely populated places and the longer the return transport distances of tools to the surrounding places. As a result, the development of low-cost means of transport clearly determines the options of how highly agglomerated people live together (see Fujita et al. 2001: 68, fig. 5.4). Nevertheless, even if the costs of transport are as low as possible, thereby allowing an agglomeration of people, the political framework of a society still may leave the possibility open not to agglomerate: A dispersed settlement pattern could be viewed, for example, as a deliberate decision made to reduce the influence of power structures on daily life (Vansina 1978).

In consequence, the questions concerning population size ("How many are we?") and population densities ("How closely agglomerated do we live?") are linked to the character of both the political and social institutions of societies, and with the resultant questions of how many decision-making institutions are necessary (already raised by Johnson 1982) and how many persons can be mobilized for communal activities (e.g. Roscoe 2012). Population sizes and densities are also linked to the economic formation of a society (i.e. how specialization

7.1. Extremely high population agglomerations in European prehistory in comparison: Late Neolithic Okolište (5200–4600 BC), Chalcolithic Taljanky (3800–3600 BC), and Iron Age Heuneburg (600 BC) (author).

is organized within a society). The trigonal relationship between demography, economy, and social constitution determines the political formation of a society.

On a historical scale, the reconstruction of population values and densities allows a diachronic comparison. One of the main research issues in European prehistory is whether, in the context of the immense variability of societal formations (hunter-gatherer communities, specialized foragers, settled horticulturalists, early agriculturalists, complex farming societies with early chiefdoms, or urbanized societies and first kingdoms), the development of "denser" structures with a concurrent rise in the complexity of the social formation represents a linear process, or whether certain structures are repeatedly known at different times in different societies, while the technological and demographic premises of these societies do not alter dramatically. Until now, there are interpretations

in favour of an "up and down" process of complex and less complex structures, at least during Central European prehistory until the La Tène period (Müller 2005; Zimmermann 2012), and of a social evolution from small and noncomplicated to large and complicated societies (Grünert 1982; Johnson/Earle 2000; Otto 1981). In the scope of this volume, the question is posed whether centralization processes of the Late Hallstatt/Early La Tène Cultures in South Central Europe are the first in Central European prehistory or if similar processes could already be observed for earlier periods in European prehistory, for example from the Neolithic onwards.

Therefore, in the following I reconstruct some processes of agglomeration and dispersion in combination with a broader reconstruction of population development. In the cases described, the processes are linked to questions of economic and technological change.

GENERAL DEMOGRAPHIC DEVELOPMENT IN LATE PREHISTORIC EUROPE

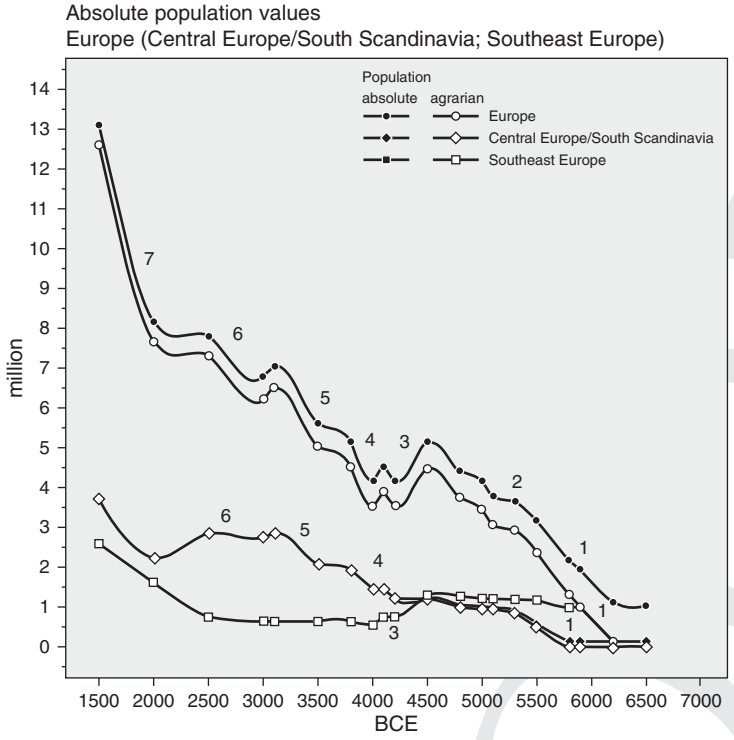
Many archaeologists, geographers, and demographers continue to explore the question of population densities in Europe and the Near East. More than 150 published studies have reconstructed absolute densities in core areas of development (i.e. highly populated settlement basins used for agriculture) or global population densities (both core areas and less settled or uninhabited areas of the regions) (compare Müller 2013a, 2013b). At least ten different methods have been employed (Figure 7.2), although not yielding a priori different results. On a continental and subcontinental scale, the average curves of the various reconstructions were used to produce relative and absolute population curves. The advantage of this approach is that the local and regional estimations of archaeologists, who have huge expertise on the respective features and local conditions, could easily be implemented for general studies. The results are quite striking (Figure 7.3a). In absolute terms, a population increase from ca. 1 million inhabitants around 6500 BC to 8 million around 2000 BC and to 14 million around 1500 BC was reconstructed. Although a steep exponential growth of the European population with fluctuations is visible, the relative population density (Figure 7.3b) displays a smooth, more or less linear increase from 0.5 to 1.5 inh/km² (except for the steep rise in densities after 2000 BC). In conclusion, the highest rate of increase in the long term is linked to the colonization or acculturation of increasingly larger areas (from 1 million km² around 6000 BC to 5 million km² around 2000 BC).

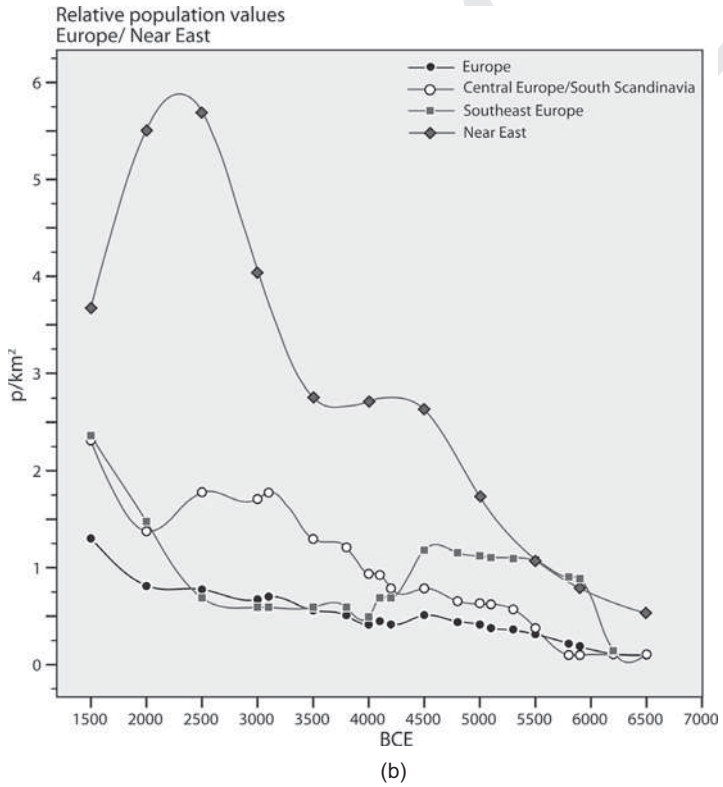
Nevertheless, fluctuations in the curve might be due to significant changes in technologies. The shifts in population dynamics are, in my opinion, due to these technological and social changes within the societies (cf. numbers in Figure 7.3a):

	Characterization	Method	Examples	Results
1	*Ecological/ethnographical estimations*	Population densities of recent non-literate societies in different ecological areas are used as proxies for similar palaeoecological areas occupied by prehistoric groups with similar subsistence techniques.	Binford 2001	Absolute demographic values
2	*Ecological/ethnographical/archaeological estimations*	Carrying capacity is reconstructed with the help of ethnographic parameters and environmental reconstructions as an upper limit of prehistoric population densities. Archaeological remains of contemporaneous sites are used (also with ethnographic parallels, e.g., of group sizes in houses) for the lower limit of absolute population densities.	Hassan 1981	
3	*Ecological/archaeological estimations*	Archaeological information is used to reconstruct the technological level of subsistence economies of prehistoric societies. For reconstructed environments, the productivity of prehistoric groups is calculated according to the technological basis and transferred into population values and rates.	Poulsen 1981; Buck 1985; Milisauskas/Kruk 1984	
4	*Archaeological estimations based on data from burials*	For periods and areas of interest, the loss of burials through prehistory and history is reconsidered by source criticism and the living population is reconstructed by anthropological data from the burials.	Struve 1979; Kristiansen 1985; Wendt et al. 2010	
5	*Archaeological estimations based on data from domestic sites (houses)*	The number of contemporaneous households is reconstructed for "well researched" test areas, the determined number of houses is applied to other settled regions, and the household size is then estimated by ethnographic comparisons.	Zimmermann 2004; Müller 2007; Hinz et al. 2012	
6	*Archaeological estimations based on data from domestic sites (sites)*	Reconstructed population sizes of settlements on the basis of contemporaneous houses are transferred into figures about inhabitants/hectare and this value is then applied to settlement areas, detected, e.g., by surveys.	Russell 1958; Wilkinson 1999	
7	*Archaeological estimations based on data from single object types*	The number of site inhabitants is reconstructed by the use time and the processed amount of cereals, e.g., from contemporaneously used millstones, which is then transferred to likely nourished individuals, whose number is calculated by nutrition models.	Castro et al. 1998	
8	*Palaeodemographic estimations based on date from burial sites*	The age/sex ratio of burials at cemeteries can be used to recalculate the fertility rate and end up with relative estimations about the demographic development in an area.	Bocquet-Appel 2002	Relative demographic values
9	*Estimations based on indirect proxies from 14C-values or pollen analysis*	Sum calibrations of radiometric data are used as indicators of human activity, which could be translated into a model of the relative development of demographic values. A correlation with palynological human impact indicators is possible. A scaling of results by population estimations in test areas (derived by other estimation methods) might be possible to translate the relative values into absolute population figures.	Shennan/ Edinborough 2007; Hinz et al. 2012; Müller 2009b	
10	*Estimations based on mutation rates of DNA*	The mutation of haplotypes might indicate the relative population numbers for selected areas.	Brotherton et al. 2013	

7.2. Different categories for the reconstruction of population densities. Categories 1–7 yield absolute population ranges (p/km²), the other mostly relative values. In addition to archaeology, the fields of palaeodemography, ethnology, genetics, and ecosystem research are also involved (after Müller 2013b).

- The establishment of horticultural and agricultural practices in many regions of Europe (cf. Bánffy 2000; Guilaine 2007; Kozłowski/Raczky 2010; Lüning 2000; Müller 2009b) was responsible for the population increase from ca. 6500–5500 BC.
- The immense development of the southeast European Early Chalcolithic, with the introduction of new technologies such as copper smelting and





7.3. Absolute population values and values for the agrarian population in Europe (a) and relative population values in Europe and the Near East (b) from 6500 to 1500 BC. Numbers indicate technological innovations and social changes described in the text (after Müller 2013b).

mining and the farming of new crops, as well as the social concentration of people in core areas of power (e.g. Hansen 2010; Hofmann et al. 2012), was responsible for population peaks from ca. 5500 to 4500 BC.

- A decline in population was linked to the termination of many of these core areas and the change from stable, agglomerated settlement patterns to dispersed organizations of social space after ca. 4500 BC (e.g. Parkinson 2006; Windler et al. 2012).
- The neolithization of Northern and Northwestern Europe (probably with new forms of slash-and-burn agriculture; Feeser et al. 2012; Schier 2009) was also one of the causes for the population increase observed.
- The introduction of the plough and developing technologies (e.g. the introduction of the wheel) (cf. Mischka 2011) might also be causes of rising population figures from ca. 3500–3000 BC.
- The establishment of subcontinental value systems, such as the Corded Ware and Bell-Beaker phenomena (Czebreszuk/Szmyt 2003; Furholt 2004), in contrast to regional identities, might have triggered different reactions in different areas, leading to fluctuating population levels.
- The introduction of Bronze Age ideologies, including bronze as a technology, triggered the spread of Neolithic and Bronze Age societies to vast areas of Europe (e.g. Earle/Kristiansen 2010). A major population increase is observed in both the areas already settled as well as in new areas of interest.

Thus increases and decreases of populations were, apart from the general growth tendency, dependent on economic and social changes. The introduction of new technologies was often linked to changes in the social organization of societies, and thus was connected to the variable organization of social space.

Such might also be true for the development of agglomeration processes within the distribution of a generally growing population. Although in the Near East the difference between the population rate in core areas to the general population increased continuously (compare Müller 2013a), in Southeast and in Central Europe agglomeration is linked to political decisions on how to deal with the landscape. Whereas in Southeast Europe a very high agglomeration of people is linked to the "tell phase" of the Neolithic and Early Chalcolithic, in Central Europe such an agglomeration of people is visible with the *Linearbandkeramik* occupation of the *Lössbörden*. Obviously, agglomeration patterns are based on social and political decisions.

Agglomeration, Social Control, and the Maintenance of Huge Structures

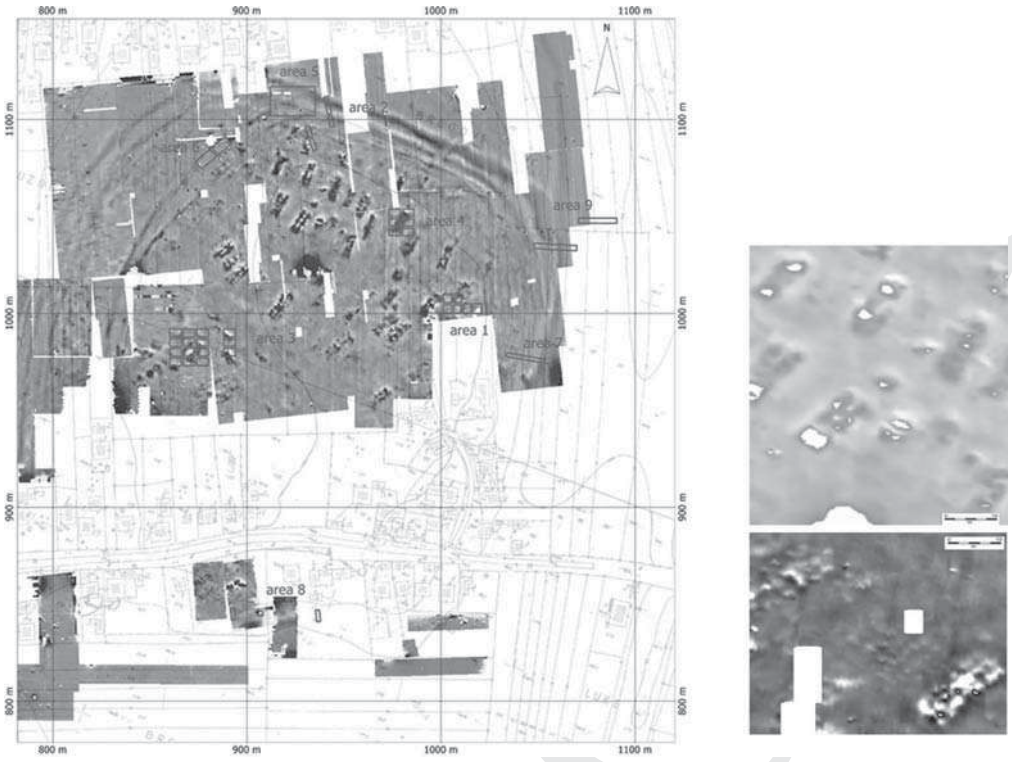
If we focus on Central Europe, the huge defended *Fürstensitze* appeared as a new feature of population agglomeration (Krausse et al. 2016; see also Chapter 22, this volume), especially considering the population reconstruction of 5,000 inhabitants for the Heuneburg in the early 6th century BC and

the 3,000 for the Ehrenbürg, in contrast to the general pattern of single farmsteads or small hamlets with populations of about 10 to 20 inhabitants (Müller-Scheessel 2007). Nevertheless, it is quite clear that the full carrying capacity of the surroundings was not reached (e.g. the 6 km territory around the Heuneburg could have fed 9,000 people; see Fischer et al. 2010). The average population of about 1.5 inh/km² also did not indicate a general shift from Bronze Age or Neolithic conditions. Considering the difference in size between normal and agglomerated settlements of the Hallstatt period, one could ask if such agglomeration processes also occurred at other times in European prehistory.

In particular, the discussion on the function and history of the Heuneburg is linked to the question of what triggered the agglomeration of so many people at one place. One of the most common interpretations emphasizes that both the conglomeration of typical farmsteads ("*Gehöfte*") on the fortified promontory and the quarters with farmsteads in the large outer settlement areas ("*Aussensiedlung*") are linked to a kind of flat stratification (cf. Kurz 2010: 251ff., "Big Men system"). The agglomeration of some 5,000 people ceased around 540/530 BC with the destruction of the mudbrick wall and of the farmsteads both on the plateau and in the lower settlement areas. Social tension probably existed within the ruling families, as well as between these families and the "others" (Kurz 2010: 253). As a consequence, most of the farmsteads in the surrounding quarters of the fortified part of the Heuneburg were abandoned, and their inhabitants dispersed into the surrounding lands; then there arose a new kind of settlement structure of new "chiefs." Exercising power differently from earlier leaders, these chiefs made the Heuneburg and the richly furnished and marked burials (*Prunkgräber*) in areas of the original outer settlement into symbols of their power. In spite of the new kind of power structures, which lasted only for two to three generations, the social control over a huge number of people at one place, which existed before 540/530 BC, did not persist. The change might be the result of an attempt by the families of the outer settlement to limit access to social control that had developed in the huge "agglo-control" site. These instabilities contributed to the unsustainable developments of the proto-urban settlements of the Late Hallstatt/Early La Tène Cultures.

BUTMIR AND TRYPILLIA: TWO EXAMPLES OF PROTO-URBAN DEVELOPMENTS?

Although in Central Europe before the Urnfield Culture no other evidence for such a kind of agglomeration exists, in Southeast Europe and the Pontic area different examples of proto-urban developments are already known for the Neolithic and the Chalcolithic. Until now, the best investigated region is the Late Neolithic of central Bosnia. The longstanding investigations in this



7.4. At Late Neolithic Okolište a planned enclosure encompassed the domestic space, small longhouses existed, and a population of not less than 2,000 people was agglomerated at the site. The size of the site contrasts to what is known in general from the Late Neolithic or Early Chalcolithic of southeast Europe. The planned layout of the settlement is visible in the geomagnetic survey, and the contemporaneity of houses was proved by targeted excavations (after Müller et al. 2013).

area describe a development of agglomerated and diverse settlement patterns that could be associated with social changes within the society.

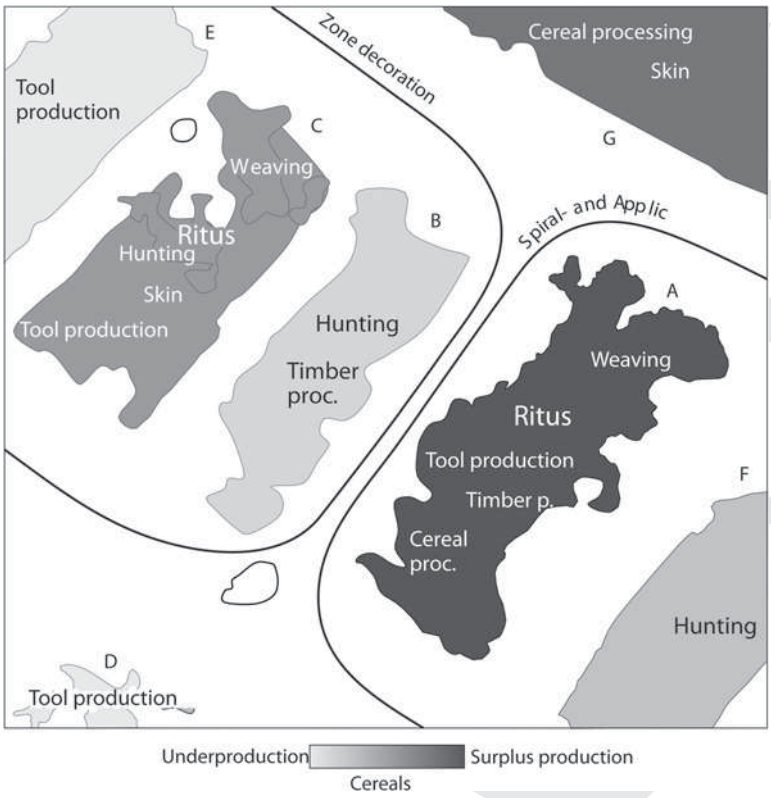
The investigated test area, the Visoko basin, measures about 150 km² in size and is located on the Upper Bosna, 35 km northeast of the Bosnian capital, Sarajevo. Fieldwork was undertaken by Kiel University, the RGK Frankfurt, and the National Museum of Sarajevo from 2002 to 2008. A multidisciplinary team was able to reconstruct the environment, settlement pattern, and economic and social developments (cf. Müller et al. 2011; see also Hofmann 2013, 2015). After the first Neolithic communities had settled in the area from approximately 5900 BC, the 7-ha settlement of Okolište was planned and constructed around 5200 BC at the most fertile site and along the Bosna-Neretva line of communication linking the Adriatic with the Danube via various Butmir settlement areas ("*Siedlungskammern*"). A planned enclosure encompassed the domestic space, small longhouses existed, and a population of not less than 2,000 people was agglomerated at the site (Figure 7.4). The size of the site contrasts to what is known in general from the Late Neolithic or Early Chalcolithic of Southeast Europe: There the "normal" settlement size measures less than 2.5 ha, with

probably not more than 200 people living together at one space. Although the size of Okolište is extraordinary in terms of demographic concentration, its economy is not. Subsistence practices hint at the usual Neolithic economy with cattle breeding and cereal production. The main differences from other, smaller domestic sites both in the Visoko basin as well as in most other Butmir sites are the enclosed space and the concentration of ritual activities at the site. Anthropomorphic and zoomorphic figurines, which are interpreted as signals of ritual practices, are concentrated at Okolište.

The reason for the demographic agglomeration at Okolište is as yet unclear. The enclosure, which was probably used as a fortification, and the geometric settlement arrangement hint at a clear construction plan: Okolište was a planned space right from the beginning, involving conscious decisions made by a larger acting group of communities, rather than the result of the steady agglomeration of people. In addition, the selection of its site, which is surrounded by the most fertile stretch of land, indicates detailed knowledge on the part of these agrarian people and the organization of space not only in the settlement but also in the entire Visoko area.

This site was in use for around ten generations, but after some decades the amount of space that was occupied decreased. Probably the full carrying capacity of the area was reached then, and the subsequent reduction in population size reflects a process that reduced conflicts with other villages. Within Okolište, a specialization of households is visible. The households differed not only with respect to general productivity (e.g. in processing cereals) but also had differing specializations: Some were engaged in timber work and others in fur production or in weaving. But no spatial differentiation between craft quarters could be determined. Instead, different part-time specializations within adjacent neighbourhoods indicate a community organized on "equal terms" (Figure 7.5). In spite of this, some economically and demographically productive households stood out from the rest. Presumably, the role of these families within the village led to the destruction of these big households around 4900 BC. Around that time, the size of the site was reduced rather abruptly to a normal-sized village, the enclosure was no longer in use, and further dispersed sites were established at other places in the Visoko basin or in the vicinity. Both the hierarchical settlement system and the huge concentration of people at one place had collapsed, probably due to social rather than environmental changes. There thus seems to be an overall link between population concentrations, the increased opportunity to control people, and demographic development (compare also Arponen et al. 2016).

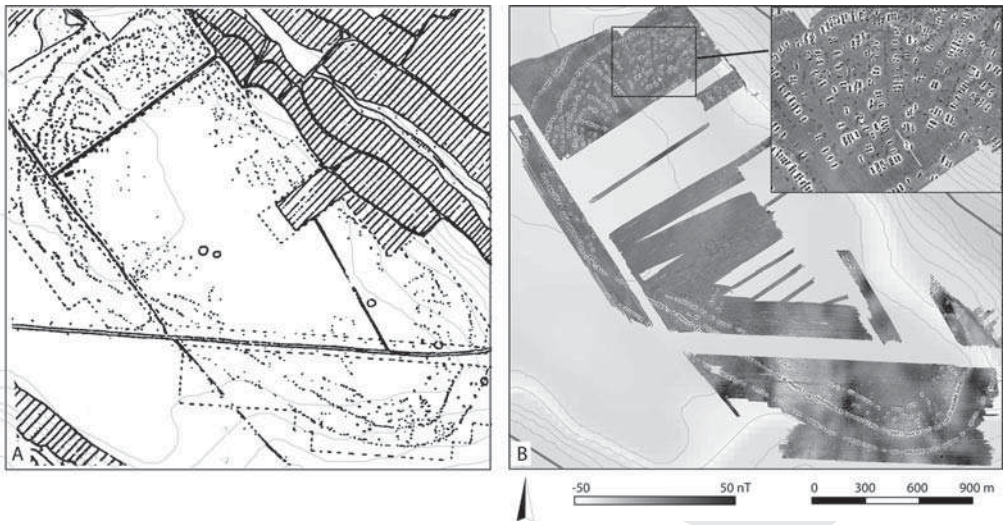
The regional development in central Bosnia may parallel that at other Late Neolithic/Early Chalcolithic sites in the Danube area (former Mega-Vinca-sites), but the settlement processes have not yet been investigated in detail. There are comparable processes in other Southeast European tell-societies, in



7.5. In Late Neolithic Okolište part-time specializations within direct neighbourhoods indicate a community organized on "equal terms." In spite of this, some economically and demographically productive households were outstanding. The area represented in the image equals area 3 in fig. 7.4 (author).

which newly increasing social inequalities are assumed to be responsible for their collapse (Windler et al. 2012).

Another fascinating development of early demographic agglomerations is known from the Pontic steppes, but of quite a different character. Starting around 4800 BC, the Cucuteni-Trypillian settlements in the Ukraine, Moldavia, and parts of Romania are characterized by a huge variety of sizes and construction types (Chapman/Bisserka this volume, Chapter 6; Chapman et al. 2014; Diachenko/Menotti 2012; Kruts et al. 2001; Mantu et al. 1997; Müller et al. 2016a; Rassmann et al. 2014, 2016; Videiko 2012). Nevertheless, one of the main principles of site formation is a deliberate circular or oval spatial arrangement of the houses (if the landscape is flat), which are oriented in radial alignment to the centre of the sites. The distribution of this settlement pattern probably originated in the Cucuteni area near the Eastern Carpathian Mountains and then expanded eastwards, reaching the huge steppe plains near the Dnieper and the Dniester around 4200 BC. During this centuries-long process, in which earlier Mesolithic landscapes were transformed into spaces for



7.6. Taljanky. (A) Interpretation of an early geophysical plot/aerial photograph of Taljanky; (B) New geophysical plan of the Frankfurt-Kiel-Kiev research project. Both the structural planning of the settlement and the huge size of contemporary structures become obvious (author and C. Mischka/K. Rassmann; Rassmann et al. 2014).

Neolithic and even Chalcolithic formations, the size of the largest settlements increased, although smaller settlements were still being built at the same time. Around 4000 BC, mega-sites appeared on the Ukrainian plain, each covering 200–340 ha (Figure 7.6). Taljanky, Majdanetskoe, Dobrovody, and Nebelivka are the largest domestic sites of European prehistory and as large as the partly contemporary Mesopotamian Early Bronze Age city of Uruk (see also Chapter 6, this volume). It is of interest that smaller sites (e.g. Apolianka [20 ha]) had similar settlement features and a similar layout to the four known mega-sites: The structural similarities are a general principle of Trypillian occupation.

The common elements of site planning in these mega-sites are huge concentric circuits of two to four houses, built parallel and at right angles to the oval "enclosure," The inner space of a site is generally kept "empty," but quarters with houses are also known from the inner part and are constructed (e.g. at Taljanky) near water sources outside the settlement. Within the buffer zones in between the circuits, different types of houses that are in general called "mega-structures" have also been observed. Furthermore, in many cases structures are found beyond the outer circuit. New geophysical surveys confirm the observation from Maydanetskoe that about five houses cluster in delimited areas, separated by empty spaces and forming some kind of inner quarters (Shmaglij/Videiko 2002–03). It is conceivable that the house clusters were associated with some kind of kinship groups. In contrast to many other European prehistoric contexts, Trypillia houses are preserved in situ with most of the daily equipment that is necessary for an agrarian social life and still in place on the house floors (e.g. querns, fireplaces, and storage facilities indicate the

different economic and social activities, such as cereal processing, timber work, and husbandry) (Müller et al. 2016a).

Estimated at a total of 360 ha, Taljanky includes large central areas (90–120 ha) devoid of building traces. Although Maydanetskoe is smaller (260 ha), it has a higher building density. Its central (unbuilt) area is also smaller, measuring only 15–20 ha. When this is taken into account, the developed areas in Taljanki (250 ha) and Maydanetskoe (230–250 ha) are comparable. The geomagnetic surveys and the targetted excavations that have and are taking place indicate that we are dealing with at least 1,500 houses in Taljanky and a similar number in Majdanetskoe. The typochronological indications of the ceramic finds indicate a relative short duration of the mega-sites (Trypillia B2/C1) of less than eight generations, although the planned layout of the settlements and the results of C14 datings suggest a contemporaneous occupation of the visible structures at least during one stage of development (Müller et al. 2016a). For these reasons, population estimations have been reached of about 10,000–20,000 inhabitants.

We are dealing here with highly organized structures. Not only the layout of the house arrangements described and the division of the sites into circuits of houses, built quarters, and an empty inner space but also pit arrangements near the rows of houses, mega-pits, and observable pathways and tracks within the settlements indicate elaborate waste-management schemes, as well as a clear structure of daily communication paths (Ohlrau 2015). In addition to these attributes, the sheer size of the sites has also hindered a clear archaeological strategy to disentangle their composition: Differences between the houses and the house inventories of the few excavated sites have seldom been noted, and until now no indication of important economic, social, or political differences between houses or quarters has been visible. In this respect, the social constitution of the mega-sites seems again to indicate egalitarian and "democratic" decision-making processes. A place for such decisions to be made could be the enclosed and built so-called mega-strutures, which are placed at spatial knots of communication lines within most of the C1 megasites. However, the interpretation of these special building as assembly halls (Chapman et al. 2016), club houses or places of communal economic activities still has to be verified. In contrast to development in the Near East, where a hierarchical state society developed within the contemporary site of Uruk, an administrative centre and centralized area of public buildings never developed in Trypillia mega-sites.

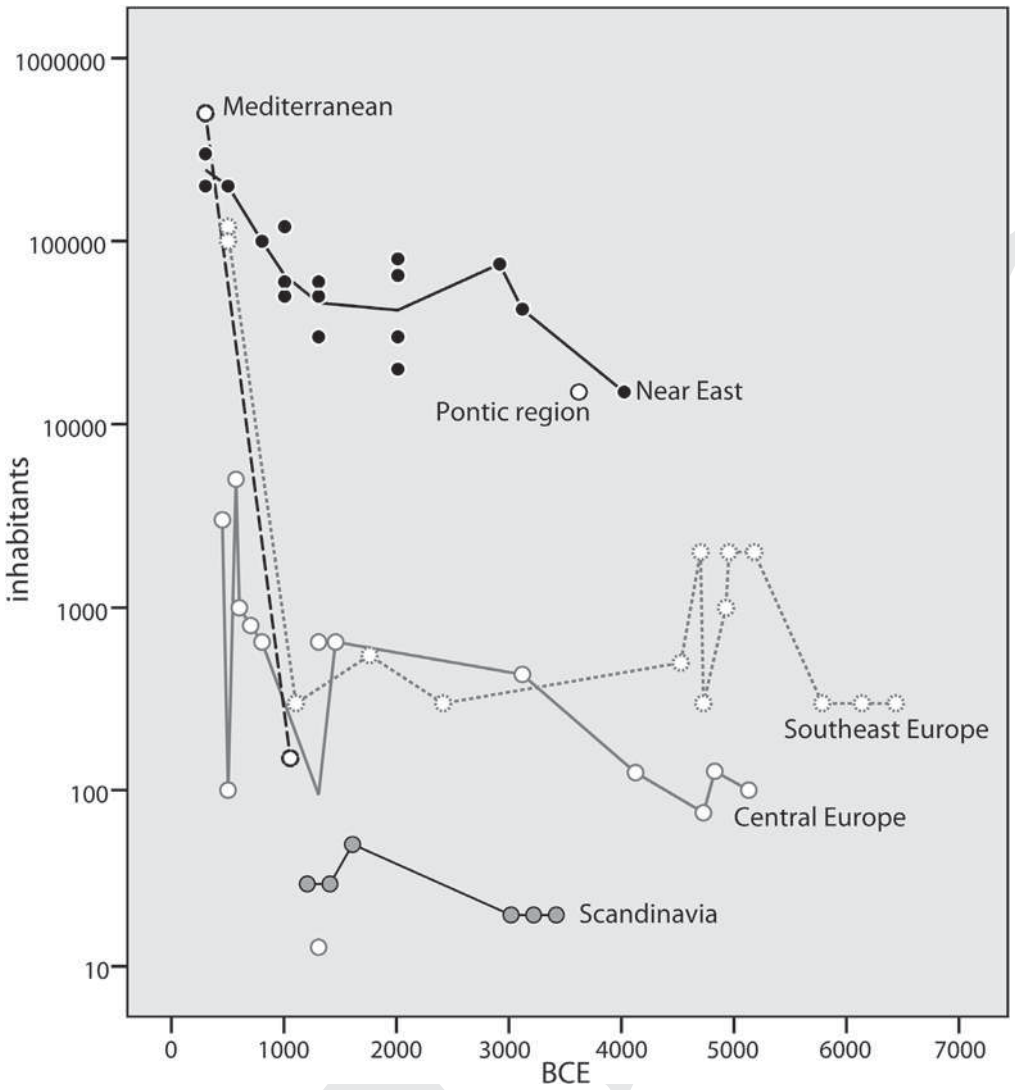
We do not have much knowledge of why development occurred at Trypillian settlements or why the mega-sites collapsed. A subsistence economy with cereals, herding, and hunting is clearly indicated (Kirleis/Dal Corso 2016), but the relation between cattle breeding and cereal nutrition is quite unclear. In

many studies, the occupation of new areas is also linked to changes in the track system: The frequency of slide and wagon-wheel traces increases in Trypillia phase B2/C1. This seems to be contemporaneous with the development of our mega-sites. In this respect, an association between the lowering of transportation costs (e.g. from and to arable land in the surroundings) and the rise of mega-sites is plausible, rendering invalid the much-invoked argument against populations in large sites (e.g. long transportation paths).

Studies on Cucuteni-Trypillian settlements, as with those on Heuneburg and Okolište, indicate that in spite of the huge number of inhabitants the full carrying capacity of their ecosystems was not reached (Ohlrau et al. 2016). But at a certain point in their proto-urban development, the mega-sites were abandoned again: Most of the houses were destroyed by fire, and the settlement pattern reverted to smaller sites. The task for future research lies in determining whether problems with water resources or in the management of large groups without a change in the nonliterate communication system, or even social problems, are responsible for the abandonment of the mega-sites.

DEMOGRAPHIC DEVELOPMENT AND SOCIAL CONTROL

Neither indications of a growing population in Europe nor variations in this growth are linked to a clear pattern in the agglomeration of people in core areas or in domestic sites. The foundation of the 3,000-inhabitant site of Okolište (around 5200 BC) is not linked to an immense general population increase in the Balkans; the same is true for the 10,000+-inhabitant Trypillian sites around 3600 BC and for the 5,000-inhabitant site of Heuneburg around 600 BC (Figure 7.7). The creation of such huge sites is based on economic and social decisions made by communities. A concentration of people at one place enables social control over them, which might entail a control regime within a stratified or a more egalitarian society. The social models that are proposed for Okolište or the Heuneburg posit social disruption and competition between internal groups of the society as one reason (of perhaps a combination of different reasons) for the reduction in population size. Because of a lack of research on Trypillian sites, the trigger for the demise of mega-sites in the Late Neolithic Ukraine is not yet clear. In contrast to Mesopotamia, where internal changes in the state system did not lead to a breakdown of economic and social systems, proto-urban developments in prehistoric European population agglomerations did not last long because of instabilities within the still vulnerable societies. Although the proto-urban features of the Late Hallstatt/Early La Tène societies came to an end after four to five generations (Krausse 2010; Krausse et al. 2016), the Late Hallstatt development still represents a part of the early European story: The creation of social inequalities (in the cases described linked to



7.7. A comparison between the largest settlement agglomerations in the Near East and Europe displays huge differences: whereas in Mesopotamia cities are known already from the Early Bronze Age onwards, in most other regions comparable settlement sizes do not start until after 1500 BC. The Pontic Trypillian sites are an exception (author).

population agglomerations) is followed by the destruction of the class system and not by the sustainable establishment of permanent social control within urban sites. Such is the contrast between the Near East (including parts of the Mediterranean World) and "Old Europe." Because we are confronted with processes not necessarily known from historical or ethnographical records, a new term – controlled *social agglomeration ("agglo-control")* – is useful, which highlights prehistoric centralization processes as triggers of social control in nonliterate societies.

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