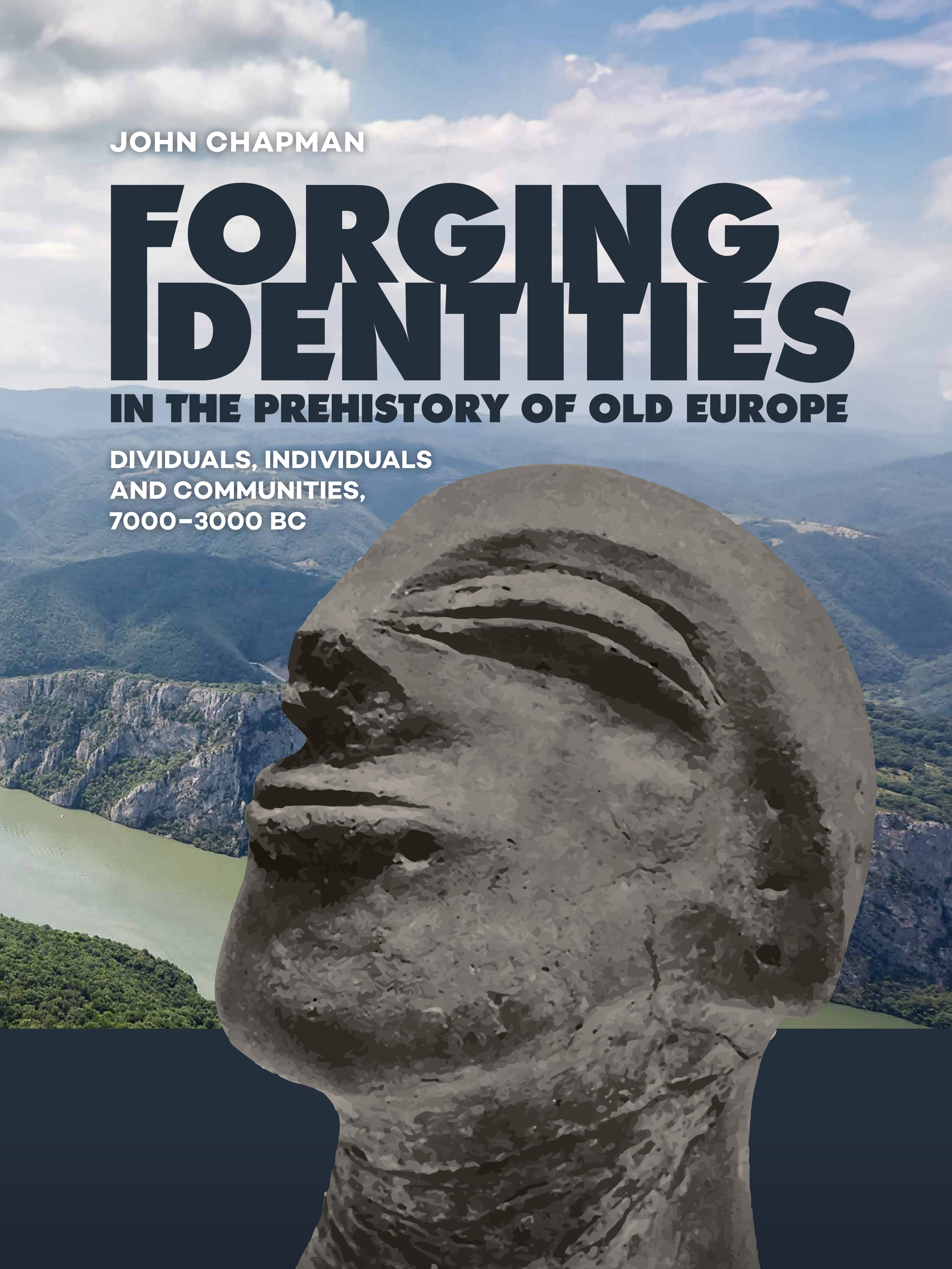

JOHN CHAPMAN
FORGING IDENTITIES
IN THE PREHISTORY OF OLD EUROPE
DIVIDUALS, INDIVIDUALS AND COMMUNITIES, 7000–3000 BC

FORGING IDENTITIES

IN THE PREHISTORY OF OLD EUROPE

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“Like the ruins of Troy with its nine cities one above the other … each scrap of reality requires the archaeologist … to decipher it; and it may be that literature is nothing but this archaeology applied to life itself” (Magris 1989: 252-3).

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Published by Sidestone Press, Leiden
www.sidestone.com

Imprint: Sidestone Press Academics
This book has been peer-reviewed. For more information see www.sidestone.nl

Lay-out & cover design: Sidestone Press
Photograph cover: Figurine, Balbunar, Bulgaria (based upon photo by A. Raduntcheva);
Danube river at Iron Gate gorge (Happy Images | stock.adobe.com)

ISBN 978-90-8890-948-1 (softcover)
ISBN 978-90-8890-949-8 (hardcover)
ISBN 978-90-8890-950-4 (PDF e-book)

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Preface

This book (or an earlier apotheosis) should have appeared in 2000. Vicki Peters at Routledge had commissioned a synthesis of Balkan prehistory and I set out to research it, spending one month of museum visits in each of Hungary, Romania and Bulgaria in autumn 1996. But, during those visits, I became increasingly convinced that there was a different story to be narrated – one involving fragments. Vicki was enormously generous in allowing me to change the focus of the book to 'Fragmentation in archaeology' (Chapman 2000a), instead commissioning Doug Bailey to write a synthesis, which appeared in the same year, as 'Balkan prehistory' (Bailey, D. 2000). So Routledge got two books for the price of one (a benefit that readers did not share!) and the narrative of deliberate fragmentation of landscapes, objects and bodies began its journey, spreading from the Balkans to most other continents.

In fact, the gestation of this book has been even longer, for it is a summary of the best part of my career, spanning 50 years from the start of my undergraduate days at the University of London Institute of Archaeology (October 1969) to the present, three years after retirement from Durham University. I wish to pay tribute to the inventiveness, stimulation and dark Balkan humour of my lecturer, and later PhD supervisor, John Nandris, who invited me to join his ill-fated fieldwalking expedition to the former Yugoslav Republic of Macedonia in July 1970 and the later, more successful if less eventful, Romanian field trips to Gornea, Zorlenţu Mare and Balta Sarată. I discuss his biosocial approach to Balkan prehistory in the introductory chapter. As soon as I started spending time in the countries of what in this book I shall label as 'Old Europe', I realised that there was a vivid, welcoming openness about most of the people (even some of the prehistorians) that made a strong impact on me and which made me want to return – a feeling of deep personal connections which I had rarely found in the UK. Gestures of spontaneous kindness to a complete stranger occurred too frequently to be entirely fortuitous and often transcended the economic transition towards capitalism that the countries of Old Europe suffered from the late 1980s onwards. Moreover, the places of the greatest beauty and personal significance that I have encountered in my entire life I visited because I was an archaeologist – whether in Old Europe, China or the New World. I would summarise my life experience in Old Europe as a time of immense good fortune – of which this book is an inadequate reflection. I am planning to narrate the personal aspects of my life in Balkan prehistory in my next book – a memoir of the stories of a life framed by the study of Old Europe.

I realised early in my Balkan visits that the settlement data was far richer than that available in the Neolithic of North-West Europe and that the number of objects far exceeded those found on, e.g., British Neolithic sites (more than one ton of pottery was standard for one season of a major tell excavation, as compared to a headline haul of 30 sherds from a British Neolithic settlement). But there was little settlement archaeology *sensu* David Clarke or Eric Higgs in Old Europe and the principal use of the vast pottery assemblages seemed to be the development of ever-finer typo-chronologies which would be soon be redundant with the growing number of ^{14}C dates. As a child of processual archaeology (the breakthrough books '*Analytical Archaeology*' and '*New perspectives on* *archaeology*' were published the year before I started as an undergraduate), I saw the potential for a fusion of Western theory and method and Balkan data. Thus, the theme of my career has been an attempt at realising the amazing latent potential of Balkan prehistory for social narratives. Although few prehistorians specialising in this region followed this route in the 1970s and 1980s, this path is now much more established, with the emergence of Hungarian and Slovenian processualism in the 1980s and Serbian processualism, following the Iron Gates archaeological science-led revolution, in the 1990s. This path has led to disputes with colleagues, including fieldwork partners, and it is a source of great regret that I have failed in the aim of joint publication with the local co-directors of each of our three major 'collaborative' fieldwork projects – the Neothermal Dalmatia Project, the Upper Tisza Project and the Trypillia Megasites Project. It is my hope that the publication of each project has brought some lasting benefits through new interpretation to the archaeology of each region.

In the Acknowledgements, I try to list the majority of those who have not only made important contributions to this book but who have helped me along the way. My apologies – and gratitude – go to those whose names have been omitted or forgotten – a sadly inevitable fate but one that has kept the Acknowledgements to a decent length. The personal qualities and academic reputation of so many of my friends and colleagues listed overleaf have given a distinctive flavour and deep pleasure to my professional life. This book could truly have never been written without you.

Acknowledgements

I have benefited greatly in my research from the support of four universities: the Institute of Archaeology, then an independent Institute of the University of London, where Professors John D. Evans, Geoffrey Dimbleby, Henry Hodges and their colleagues – especially John Nandris, Mark Newcomer and Mike Rowands – helped shape an anthropologically-aware, environmentally-minded prehistorian; the University of Beograd, where I held a University of London scholarship sponsored by the late W. F. (Peter) Grimes and where I had the benefit of regular tutorials with the finest Vinča scholar of his day – the late Milutin Garašanin. My first academic post was at the University of Newcastle upon Tyne (1980-1996), where successive Heads of Department – Professors Martin Harrison and Peter Fowler – encouraged me to develop my Balkan research. Later, I made the adventurous (26km) move South to Durham University (1996-2017), where Heads of Department Anthony Harding, Colin Haselgrove, Chris Gerrard, Chris Scarre and Robin Skeates backed my research ideas and gave me the benefit of their scholarship.

Five funding bodies have been instrumental in supporting projects and ongoing research. The British Academy not only supported all three major projects – the Neothermal Dalmatia Project (NDP), the Upper Tisza Project (UTP) and the Trypillia Megasites Project (TMP) as well as collaborative salt research but also sponsored countless Inter-Academy exchange visits, mostly through the good offices of Jane Lyddon, which were central to sustaining and developing contacts in all the countries of Old Europe. I am deeply grateful to the Arts and Humanities Research Council for providing a six-figure sum to complete the TMP. Both the Society of Antiquaries of London and the Prehistoric Society provided invaluable small grants for all three major projects, with the SAL also supporting salt research. Finally, the National Geographic Society also provided funds for the UTP and the TMP. Without this support, I doubt whether this book would have taken the form it has taken.

The same three major projects were embedded in local research institutes to whom I pay tribute for their support over years of intensive fieldwork: the University of Zadar (for the NDP), Eötvös Loránd University Budapest, the Central European University, Budapest, and the Institute of Archaeology (HAS) (for the UTP) and the Kyiv Institute of Archaeology (NAS) (for the TMP).

Another form of vital research interaction occurred in the committees on which I served, of which two stand out: the European Association of Archaeologists, where I learnt much from the experience and expertise of Henry Cleere, Felipe Criado Boado, Kristian Kristiansen, Willem Willems and many others on the Executive and Editorial Boards; and the Prehistoric Society, through serving with successive Presidents and Council members – Tim Champion, Gabriel Cooney, Clive Gamble, Julie Gardiner, the late David Harris and Clive Ruggles.

I have benefited in the revisions of various drafts of this book from many friends and colleagues who have commented on my texts. My deepest gratitude goes to Alasdair Whittle and Andy Jones, who read and commented on the whole book and to Josh Pollard and John Robb, who made valuable comments on major sections of the book. I also pay tribute to the following who commented on specific chapters: *Chapter 1* – John Barrett, Eszter Bánffy, Laci Bartosiewicz, Alex Bayliss, Katalin Biró, Peter Bogucki, Maxime Brami, Alice Choyke, Marga Díaz-Andreu, Eva Fernandez-Dominguez, Chris Fowler, Clive Gamble, Katalin Kóvacs, Cătălin Lazăr, Arek Marciniak, Josh Pollard, Pál Raczky, Ben Roberts, Wolfram Schier and Stella Souvatzi; *Chapter 2* – John Barrett, Diane Bolger, Josh Pollard and John Robb; *Chapter 3* – Laci Bartosiewicz, Amy Bogaard and Alice Choyke; *Chapter 4* – Alice Choyke, Chris Fowler, Becky Gowland and Dushka Urem-Kotsou; *Chapter 5* – Eszter Bánffy and Stella Souvatzi; *Chapter 6* – John Barrett, Cătălin Lazăr, Pál Raczky and Wolfram Schier; *Chapter 7* – Becky Gowland, Raluca Kogălniceanu and Mihai Gligor; *Chapter 8* – Peter Bogucki, Bill Parkinson and John Robb; *Chapter 9* – Carl Knappett, Katalin Kóvacs and Katalin Biró; *Chapter 10* – Tom Booth, Maxime Brami, Eva Fernandez-Dominguez, Clive Gamble and Ben Roberts; and *Chapter 11* – John Barrett, Laci Bartosiewicz, Katalin Biró, Alice Choyke, Chris Fowler, Katalin Kóvacs, Cătălin Lazăr, Arek Marciniak, Josh Pollard, Ben Roberts, Wolfram Schier and Stella Souvatzi.

I should also like to thank those friends and close colleagues who have been discussing prehistory, archaeological theory and the Balkans with me for decades – Laci Bartosiewicz, Alice Choyke, Clive Gamble, Kristian Kristiansen, Mihai Gligor, Anthony Harding, Andy Jones, Ghiţa Lazarovici, János Makkay, Dan Monah, Josh Pollard and Pál Raczky. Your work has often inspired me and always stimulated me, often through the dialectics of disagreement.

As with many mid- or late-career European prehistorians, I have benefited from the insights and knowledge of the great post-War generation of scholars studying Old Europe. The luminaries whom I met and gained most from include Alojz Benac, Ida Bognár-Kutzián, Sándor Bökönyi, Draga Garašanin, Milutin Garašanin, Marija Gimbutas, Nándor Kalicz, Zagorka Letica, Ana Raduntcheva, Andrew Sherratt, Dragoslav Srejović and Henrieta Todorova.

In addition to those mentioned so far, there is a group of prehistorians whom I meet regularly when in their part of the world. The listing by country is an over-formal way of recording my personal thanks to you all for your company and insights, your freely shared information, literature and the finds you have shown me:

Bulgaria: Krum Bacvarov, Aneta Bakamska, Yavor Boyadzhiev, Elena Bozhilova, Dimitur Chernakov, Stefan and Aleksandur Chohadzhiev, Kalin Dimitrov, Todor Dimov, Boyan Dumanov, Mariana Filipova, Georgi Ganetsovski, Ivan Gatsov, Małgorzata Grębska-Kulova, Maria Gurova, the late Ivan Ivanov, Petur Kalchev, Ruslan Kostov, Petur Leshtakov, Elena Marinova, Georgi Nekhrizov, Bogdan Nikolov, Vassil Nikolov, Nikolai Sirakov, Vladimir Slavchev, Petur Stanev, Stoika Terziiska-Ignatova, Spassimir Tonkov, Tsoni Tsonev, Ivo Vajsov and Petar Zidarov.

Moldova: Valentin Dergachev, Igor Manzura, Stas Ţerna and Mariane Vasilache.

Ukraine: Dmitrij Chernovol, Aleksandr Diachenko, Svetlana Ivanova, Dmitrij Kiosak, Alexei Korvin-Piotrovskiy, Nadja Kotova, the late Volodimir Kruts, Galyna Pashkevych, Edvard Ovchinnikov, Yuri Rassamakin, Vitaly Rud, Taras Tkachuk and Mykhailo Videiko.

Russia: Evgeny Chernykh and Natasha Shishlina.

Romania: Radian Andreescu, Adrian Bălăşescu, Cătălin Bem, George Bodi, the late Vasile Boroneanţ, Alexandra Comşa, the late Eugen Comşa, Ovidiu Cotoi, Alex Dragoman, Florian Draşovean, the late Gheorghe Dumitroaia, Dragoş Gheorghiu, Puiu Haşotti, Sabin Luca, Magda Lazarovici, Zoia Maxim, Silvia Marinescu-Bîlcu, Felicia Monah, Marin Nica, Nona Palincaş, the late Iuliu Paul, the late Mircea Petrescu-Dîmboviţa, the late Dragomir Popovici, Eugenia Popuşoi and the late Nicolae Vlassa.

Hungary: Alexandra Anders, Gábor Bertok, Laci Domboróczki, István Ecsedy, Erika Gál, Attila Gyucha, Feri Horváth, Attila Kreiter, Enikő Magyari, Kristian Oross, Judit Regenye, Éva Richter, Zsuzsa Siklósi, Kati Simán, Zsuzsa Tóth, the late Otto Trogmayer, Magdi Vicze and the late István Zalai-Gaál.

Serbia (former Yugoslavia): Dragana Antonović, Stasa Babić, Olga Bajčev, Lidia Balj, Dušan Borić, Adam Crnobrnja, Mile Bogdanović, the late Borislav Jovanović, the late Sergei Karmanski, Dušan Krstić, Ana Marić, Dubravka Nikolić, Djurdja Obradović, Ivana Pantović, Slaviša Perić, Marko Porčić, Miljana Radivojević, Miloš Spasić, Duško Šljivar, Milorad Stojić, Nenad Tasić, Nikola Tasić, Boban Tripković, Sava Vetnić and Jasna Vuković.

Croatia (former Yugoslavia): Jacqueline Balen, Šime Batović, Alexander Durman, Stašo Forenbaher, Smiljan Gluščević, Bruno Marijanović and Kornelia Minichreiter.

North Macedonia (former Yugoslavia): Irena Nasteva and Goce Naumov.

Slovenia (former Yugoslavia): Dimitri Mlekuž, Predrag Novaković, Agni Prijatelj and Božidar Slapšak.

Central Europe (outside Hungary) & Low Countries: Otto Braasch, Philippe Della Casa, Dasha Dreslerová, Bata Govedarica, Detlef Gronenborn, Hans-Peter Hahn, Svend Hansen, Volker Heyd, Tobias Kienlin, Raiko Krauß, Rudiger Krausse, Ian Kujit, Martin Kuna, Eva Lenneis, Verena Leusch, Johannes Müller, Evzen Neustupný, Ernst Pernicka, Knut Rassmann, Agata Reingruber, Eva Rosenstock, Natasha Venclová and Steve Zäuner.

Mediterranean (including France): Silvia Amicone, Burcin Erdoğu, Paolo Biagi, Antonio Blanco Gonzalez, Serge Cassen, Leo Garcia, Fotis Ifantidis, Kostas Kotsakis, Laurence Manolakakis, Stratos Nanoglou, Mihriban Özbasaran, Onur Özbek, Catherine Perlès, Pierre Pétrequin, Marga Sanchez-Romero, Michel Séfériades, John Watson, Olivier Weller, Joao Zilhão.

Northern Europe: Elizabeth Beausang, Knut Bergsvik, Dani Hofmann, David Fontijn, Gitte Hansen, Tove Hjorungdahl and Jarl and Elisabeth Nordbladh.

New World & beyond: Bruce Albert, David Anthony, Doug Bailey, Peter Biehl, Brian Buchanan, Mickey Dietler, Linda Ellis, Ernie Elster, Roland Fletcher, Haskell Greenfield, Yannis Hamilakis, Ian Hodder, Noah Honch, Greg Johnson, Tim Kaiser, Nam Kim, Kostya Kremenetski, Richard Lesure, Pat McAnany, Lynn Meskell, Sarunas Milisauskas, Marianne Nikolaidou, Tim Pauketat, Innocent Pikirayi, Doug Price, Ivana Radovanović, Judy Rasson, Rissa Russell, the late Charlie Schwartz, Adam Smith, Mira Stevanović, Ruth Tringham, Barbara Voytek and Kirrily White.

UK and Eire: Miranda Aldhouse-Green, Umberto Albarella, Manuel Arroyo-Kalin, Geoff Bailey, Graeme Barker, Penny Bickle, John Bintliff, Clive Bonsall, Richard Bradley, Keri and Terry Brown, Cyprian Broodbank, Jo Brück, Andy Cochrane, Ollie Craig, Tim Darvill, Robin Dennell, the late Pavel Dolukhanov, Richard Evershed, Andrew Fleming, Charley French, Duncan Garrow, Mark Gillings, Chris Gosden, Paul Halstead, Karen Hardy, Tom Higham, Richard Hingley, Ron Hutton, Glynis Jones, Simon Kaner, Bob Layton, Malcolm Lillie, Roy Loveday, Andrew Millard, Preston Miracle, Maria-carmela Montesanto, Tom Moore, Marco Nebbia, Billy O'Brien, David Orton, Barbara Ottaway, Mark Pearce, Mark Pollard, Colin Renfrew, Mike Rowlands, Steve Shennan, Robert Shiel, Anvar Shukurov, Jo Sofaer, Michela Spataro, Marie Louise Stig Sørensen, Tim Taylor, Roz Wallduck, Trevor Watkins, David Wengrow, the late Tony Wilkinson and the late Marek Zvelebil.

In the end, I decided to omit my special list of Negative Acknowledgements – those who have (un)successfully blocked my onward path in Old European research. All I can happily disclose is that the list is substantially shorter than the positive list compiled here.

I should also like to thank my illustrators – principally Lauren Woodard and Bisserka Gaydarska but also Christina Unwin and Yvonne Beadnell – who have taken my third-rate cartoons and disparate groups of images and converted them into figures that communicate what I was originally thinking.

These expressions of gratitude could not be complete without recognising the decisive contribution of my wife and fellow Old European prehistorian, Bisserka, who has spent the last 14 years with me and helped in more ways than she could even imagine (or remember). For her critical and technical talents, her patience and her love, I dedicate this book to her.

Chapter 1

Introduction

"Writing was in its origin the voice of the absent person"
(Sigmund Freud 1930, Chapter 3).

By definition, we shall never meet the people appearing in the pages of this book. Absent people remain at the core of archaeology, just as readers of most books (perhaps fortunately) never meet the absent author. The technical term 'presencing' – literally 'to make present' – means exactly what Freud was describing – the way that writing could 'presence' the absent author. In the same way, the material remains of the past can 'presence' those who made them, used them and discarded them in two ways: in the first place to other people living in those times but, in the second place, to us – the students of prehistory.

What are the essential characteristics of this part of Europe? Anyone who has read an article about the Balkans or studied an excavation report will have gained a flavour of a prehistory quite different from similar periods further North, West and East. If you are accustomed to a diet of a typical British Neolithic sample of 100 sherds per excavation season, it may be a shock to realise that one ton of sherds is not atypical for one season's excavation at a Late Neolithic site in Hungary. There was also a far higher proportion of 'special' finds, not least the figurines which are very rare in North-West Europe. But the greatest difference lay in the domestic character of most deposits, with early 5th millennium BC *Rondels* and latest 4th millennium BC barrow burials the exception. These finds show that this region in the Neolithic and Chalcolithic was a mosaic of different cultural worlds.

Introducing the research questions

It is important to introduce the research questions that dominate and frame this book at the outset, for the sake of orientation (for more details, see below, pp. 37-38). Each of the three principal research questions relates to a defining characteristic of the prehistory of our region: (1) how were social relations created in the past through individual, dividual[1], communal and global/local relations?; (2) why were there so many settlements and so few cemeteries in this region?; and (3) why was there such an amazingly diverse and rich material culture in both domains but especially in the domestic arena? These questions frame the relations between the three basic actors in the pageant of our study region: people, places and objects. But before we can start to understand how these questions can be answered, we need to understand more about palaeo-environment, place and time.

1 The term 'dividual' is defined below on pp. 46- 7

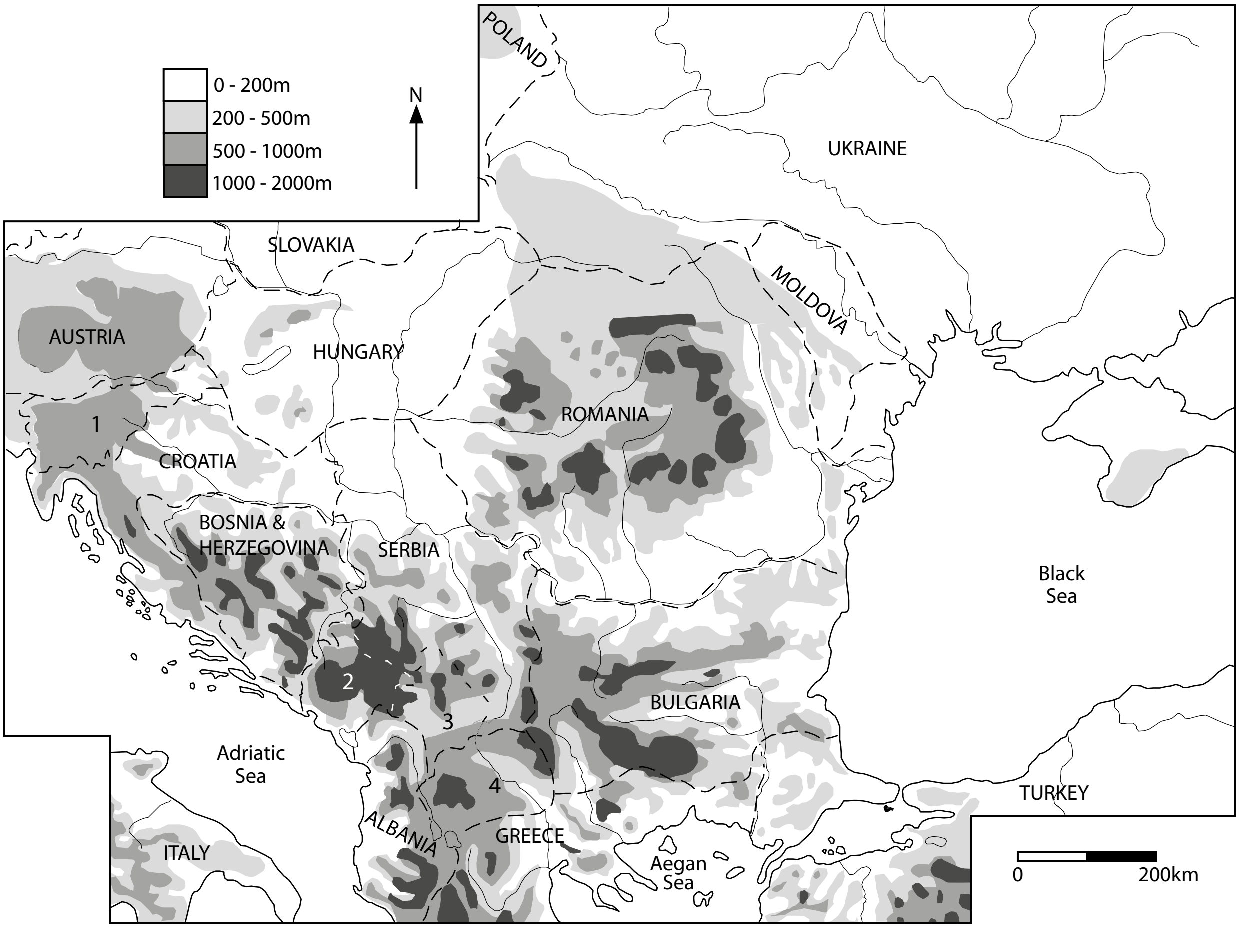


Figure 1.1. Political geography of study region. Key: 1 – Slovenia; 2 – Montenegro; 3 – Kosova; 4 – North Macedonia (L. Woodard, based upon B. Gaydarska).

The study region

The boundaries of modern states Old Europe in 2019 were not the same as those prevalent even 20 years ago. The study region is defined to include Ukraine[2], Moldova (including Transdniestria), Romania, Bulgaria, the Republic of North Macedonia (previously 'FYROM', 1991-2018), Serbia and Montenegro, Croatia, Bosnia-Hercegovina, Slovenia, Hungary and those parts of Slovakia and Austria that lie in the Carpathian Basin (Fig. 1.1).The term for geo-political instability and sub-division – 'Balkanisation' – emphasises the point that these boundaries are not necessarily a good guide to significant cultural boundaries in the past, even though the modern names given to groups of prehistoric communities often varied dependent on which side of a modern political line they happened to fall (e.g., similar pottery is termed 'Trypillia' in Ukraine, 'Tripolye' in Russia and 'Cucuteni' in Romania and Moldova). Curiously the boundaries of prehistoric social practices rarely coincided with such physical divisions as mountain ranges and river catchments (Fig. 1.2).

The most apposite descriptive term for the study region for this book has provoked more discussion from readers of earlier drafts of this chapter than any other theme. One early suggestion was 'the Balkans' but objections were raised by colleagues from Hungary and Ukraine. The omission of Greece and Albania from detailed coverage made it hard to talk about 'South-East Europe', while the term 'Central and Eastern Europe' did not properly include the Central and East Balkans. In the end, I have chosen an adaptation of the term originally used by Carl Schuchhardt (1919) for the title of four editions of his prehistory of Greece, the Danube Basin, Central and Northern Europe – '*Alteuropa*'. While Schuchhardt used this term primarily in a geographical sense (Eggert 2010), Marija Gimbutas (1974) repurposed the term as a cultural entity – 'Old Europe' – the sense in which the term was

2 As of autumn 2016, the South-Eastern part of Ukraine has become a Russian zone of influence but not yet an occupied area claimed by Russia, as happened to the Crimea in 2014.

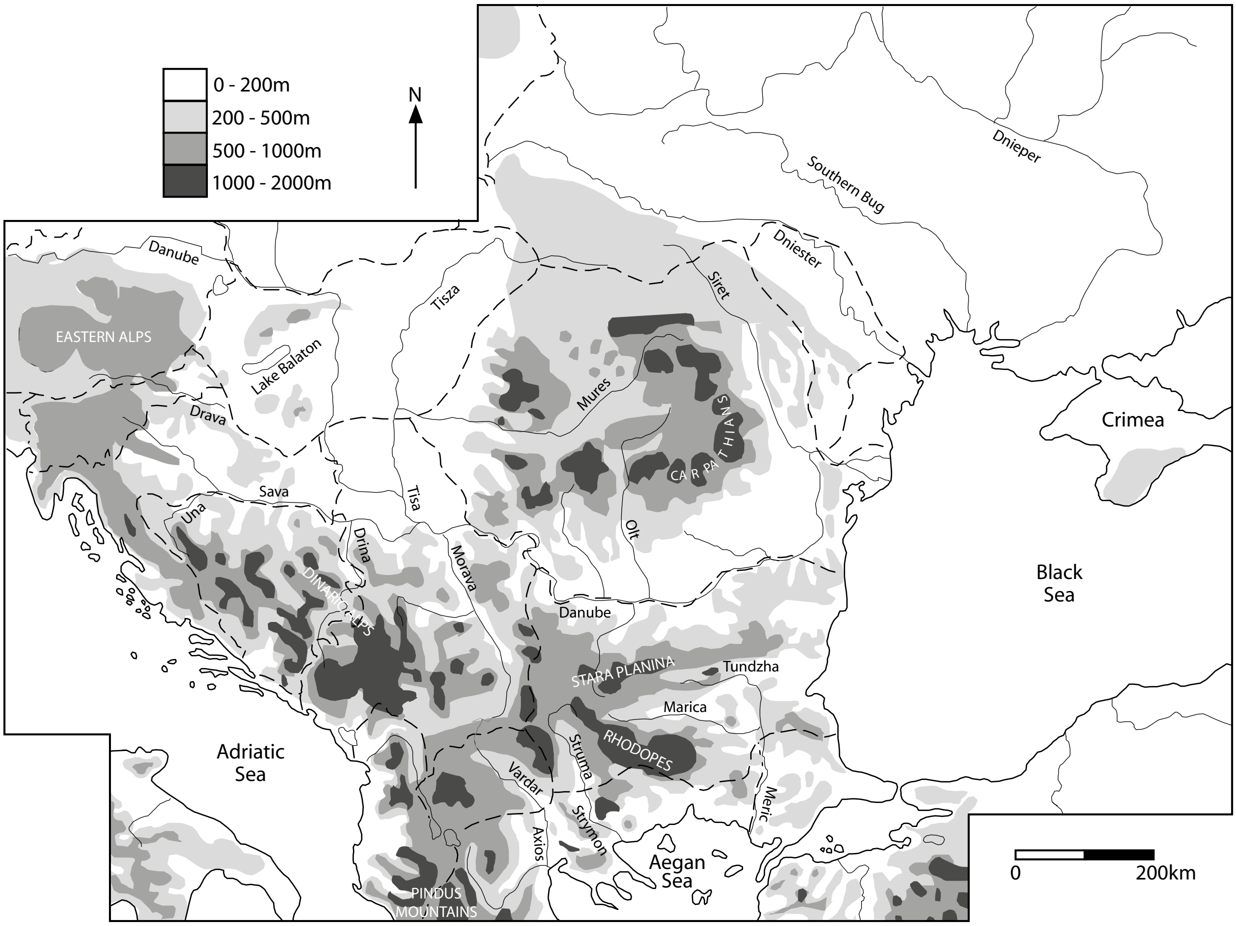


Figure 1.2. Physical geography, with hydrology, of study region (L. Woodard).

selected by David Anthony (Anthony & Chi 2010) for his recent excellent summary of our study region. It is in this sense of a geographically delimited region linked by distinctive long-term cultural practices that I have chosen to use the term 'Old Europe' in this book.

The palaeo-environment

The quantity and quality of palaeo-environmental research in Old Europe has improved enormously over the last decade, particularly in respect of well-dated proxy sequences (e.g., '*The Holocene*' Volume 21 (2011)). We can identify two cross-cutting trends in this research narrative – long-term trends in European climate and episodes of rapid climate change (Denton & Karlén 1973).

The stadial terms used since the Blytt-Sernander system (Pre-Boreal, Boreal, Atlantic and Sub-Boreal) have been replaced by a three-stage division of the Holocene into an Early Holocene wetter stage, a transitional stage and a Mid – Late Holocene aridification stage. The Early Holocene stage was a period dated 9500 BC to 5000 BC by some (Galop et al. 2009), 9500-6000 BC by others (Brayshaw et al. 2011; Sadori et al. 2011; Peyron et al. 2011). N. Roberts, N. et al (2011) identify a stable Early Holocene boundary in the Adriatic Sea between a wetter Eastern Mediterranean and a West Mediterranean zone where warm, wet westerlies had less impact. It is important to recall that major glaciers continued to exist until cca. 4800 cal BC, cooling the global climate mainly through the introduction of melt-water into oceans (Wanner et al. 2008). The Late Holocene aridification phase marks a period of decreasing precipitation in the east Mediterranean, beginning at some point in the 4th millennium cal BC (Galop et al. 2008; Brayshaw et al. 2011) and continuing until the present day. Several commentators (e.g., Roberts, N. et al. 2011) have suggested that the difficulties in interpreting proxy records for the transitional period (7000-4000 cal BC: Brayshaw et al. 2011; or 5000-3500 cal BC: Galop et al. 2008) relate to the unknown strength of anthropogenic influences on local and regional ecologies in relation to climate-forced changes to vegetation history. There is still no agreement on the causes of the aridification trend or the ways in which this was materialized in proxy records.

The identification of synchronous episodes of rapid climate change has been attempted by Majewski et al.

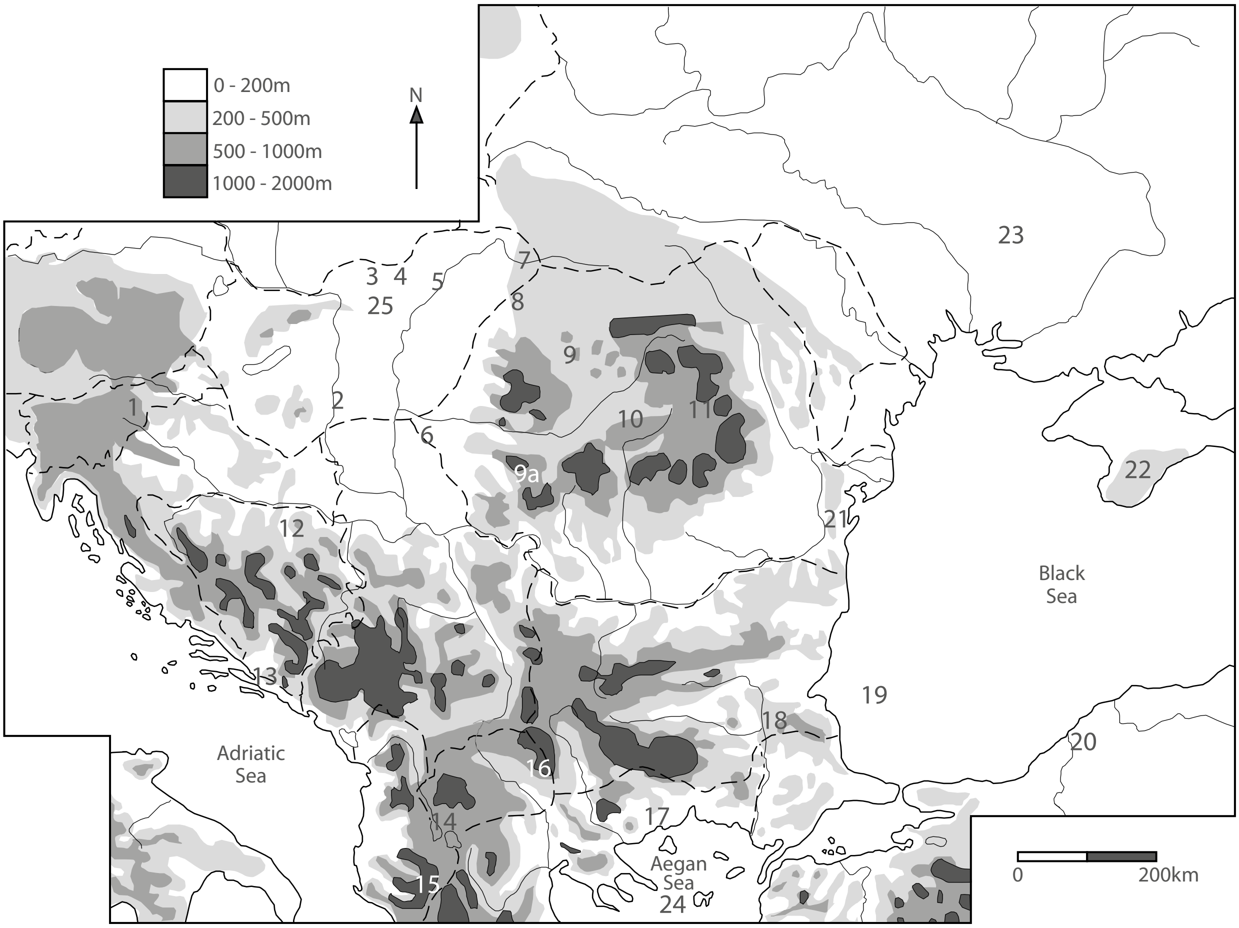
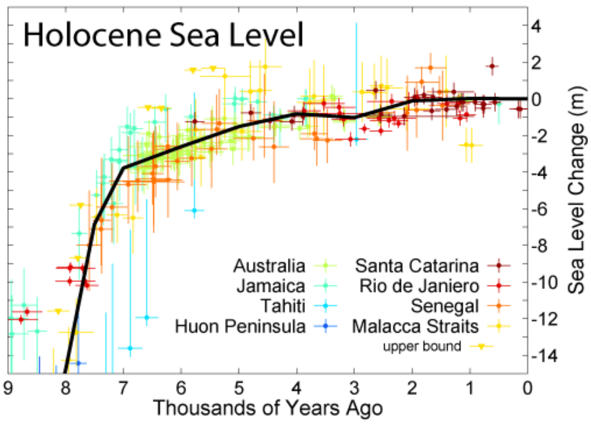


Figure 1.3. Location of pollen coring sites. Key: 1. Griblje; 2. Lake Kolon; 3. Sirok; 4. Kismohos; 5. Sárlo-hát; 6. Kiri-tó; 7. Preluca; 8. Turbata; 9. Lake Stiucii; 10. Lake Brazi, Taul; 11. Avrig; 12. Prokoško jezero; 13. Malo jezero, Mljet; 14. Lake Prespa; 15. Lake Maliq; 16. Lake Ribno Banderishko, Pirin Mountains; 17. Tenaghi Philippon / Dikili Tash; 18. Straldzha; 19. Black Sea cores; 20. Sofular cave; 21. Durankulak; 22. Heraklea; 23. Nebelivka; 24 Mount Athos Basin; 25. Mohos lake (L. Woodard, based upon author's data).

(2005), Magny (2006) and Giesecke et al. (2011). The last-named underline that such efforts are based upon the dynamic equilibrium climatic hypothesis (Prentice et al. 1991), by which directional changes in climate can produce changes in the spatial patterning of species distributions[3]. Since Majewski et al. (2005) work at a millennial time-scale, it is hard to discern the effects of episodes of rapid climate change on local communities because of the fuzziness of their temporal definition (see strong critique of the so-called '8200BP event: Chapman 2018). Peyron et al. (2011, 141) propose that the '8200BP event' was caused by weakening of the thermohaline circulation in the North Atlantic, in turn leading to more ice-cover in Baltic Seas, stopping the penetration of mild, moist Atlantic air into Europe and allowing greater penetration of the Eurasian/Siberian high, which led to cooler, drier winters and springs. They suggest an initial change in vegetation, with progressive destabilizing effects on other vegetation cover, such that the 'event' acted as a large-scale disturbance. However, an analysis of 25 well-dated proxy records in Old Europe (Fig. 1.3) shows that vegetational changes were recorded in only four of the records (Chapman 2018), suggesting a minimal effect of the 'non-event' on cultural developments.

A similar question of scale applies to global trends in Holocene sea-level change and local outworkings of these trends (Fig. 1.4). The two coastlines of the Balkan Peninsula are utterly contrasting in physical form. The Adriatic coast is the 'wet' coast of the Balkans, highly indented, often steep and rugged, with caves formed in predominantly Mezozoic

3 The other hypothesis – the 'disequlibrium hypothesis' – involved differential expansions of species from plant *refugia* (Prentice et al. 1991).



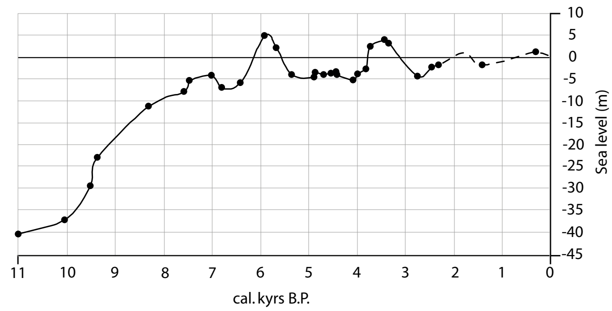


Figure 1.4. (left) global sea-level change (Rohde 2006 (source: Wikimedia)); (right) Black Sea sea-level changes (L. Woodard, re-drawn from Filipova-Marinova & Christova 2004, Fig. 2).

carbonates. The 'dry' North and West Black Sea coast is, by contrast, a largely cave-free lowland coastline[4] of gentle gradients which includes the Danube Delta (Giosan et al. 2009). There are hardly any islands on the Black Sea coast, which made them attractive to settlers. Broodbank (2013, 75-6 & Fig. 2.9) draws out contrasting implications for the two coastlines: likely hotspots for early seagoing developed in areas with convoluted coastlines (such as Dalmatia), while land movement was as good as sea-faring in areas with flat, straight coastlines (such as the West Pontic).

There were two principal effects of the long-term sea-level rise in the Adriatic: the creation of an irregular, island-rich coastline and the loss of fertile arable land. The creation of an indented coastline close to many islands was in many ways a social creation as much as a physical process. Tartaron (2013, 183-5) has described how this new 'coastscape' acted as a lens for maritime activity at the local scale (cf. Broodbank 2000), with coastal dwellers developing distinctive, specialized knowledge about both domains and perceiving coasts as centrality – where sea meets land, with coasts both central and liminal.

The second effect on the emergence of Adriatic agriculture was the loss through flooding of ca. 1,200 km^2 of the most fertile soils first, with the next best soil being subsequently lost (Shiel 1996, pp. 43-45 & Fig. 21). This displacement of settlements inland was possible because of the extensive Zadar Plain but the rarity of such lowlands led elsewhere to the adoption of more mobile strategies (Forenbaher & Kaiser 2005). What this meant for the communities living in the Adriatic zone was that their landscapes were generally stable over the generational time-scale (20-25 years).

The lack of dating precision for episodes of tectonic and landslip change and coastal erosion (Tonkov et al. 2014, 283-4) prevents us from understanding the long-term settlement changes on the Black Sea coast but the probability is that there were more sudden, unpredictable changes in coastline morphology, leading to different settlement responses for those living closest to the shoreline (cf. Bailey G. et al. 2017) (Fig. 1.4). The least dramatic community responses to such coastline changes would have been short-distance (5-10km) re-locations to a safer, more predictable inland ecotone. The research into Black Sea level change generated by the 'Noah's Flood' hypothesis has been as welcome as the implications of the original article were misinformed.

The attraction of the Noah's flood story, probably derived from Early Bronze Age flood stories in Sumer, is that it is a universal tale of sin and downfall, a heroic voyage and new beginnings. Ryan and Pitman (1999; cf. Ryan et al. 1997) were the first to link the two 'events' – the flooding of the Black Sea at 5660-5560 BC and the Flood story of the 3rd Millennium BC. The forced migration of Pontic refugees to Mesopotamia seemed as improbable as the forced movement of Pontic groups to kick-start the Central European Neolithic; now, the re-dating of Noah's Flood to an earlier millennium – viz., c. 7150-6910 BC (Ryan et al. 2003) – simply reinforces the impossibility of Ryan's scenarios. In the light of recent research, the excellent summary account provided by Düring (2011, 18-19) requires modification in two ways: (1) the Caspian Sea, riverine run-off and increased precipitation, especially in the Allerød period, led to the slow, gradual rising of the Black Lake level to c. 44mbsl by the middle of the 8th millennium BC; (2) in the late 8th millennium BC, the first signs of a saline water inflow from the Mediterranean can be identified, with a more serious inflow from 6950 BC onwards, bringing the sea-level to 33 mbsl by the mid-7th millennium BC and converting the Lake into a Sea. Thereafter, continued deglaciation brought the Black Sea to within a few metres of modern sea levels by the 2nd millennium BC.

4 However, Holocene cave occupation can be found in the North Dobrudja limestone hills (e.g., La Adam cave).

In summary, although vegetational change can be recognised in many species, with variations in Middle Holocene closed and open forest particularly marked, these changes were not focussed on specific episodes, not to mention 'events', in which rapid climate change would have had serious local and regional impacts. Environmental affordances may well have fluctuated in line with climatic gradients but these were occurring at a slow rate of change, leaving communities time to adapt within a generational timescale of 15 years. With the exception of coastal zones, it is likely that major local landscape changes were caused as much by human impacts as by climatic fluctuations (see below, pp. 69-70). The global rise in Holocene sea-level created two strikingly different coastal zones – a highly indented, island-rich Adriatic coastline with a slow, continuous rise in sea-level and a less varied, almost island-free Black Sea coast with the possibility of major short-term changes related to tectonic activity and coastal erosion.

Temporality

We are now well into the Third Radiocarbon Revolution (Bayliss 2009). The first Revolution was initiated by the physicist Willard Libby (Arnold & Libby 1949); it provided an independent means of dating archaeological finds. This Revolution extended the time-scale of the European Neolithic by several millennia by comparison to the ultra-short chronologies of 1960s supported by prehistorians such as Stuart Piggott. The Second Radiocarbon Revolution was created by Hans Suess (1967) using the dendrochronological calibration of radiocarbon dates. The effect was to make the European Neolithic chronology still longer, as Colin Renfrew (1973) demonstrated for the Balkan sequence, creating the platform for the theorization of local reasons for cultural change in the Later Neolithic. The Third Radiocarbon Revolution (Buck et al. 1991; Bayliss 2009: 2015) is based on the application of Bayesian statistics to large series of AMS dates, using stratigraphic and taphonomic data and an assessment of the quality of the AMS samples as prior information to constrain the final sequence. The main application of Bayesian modelling of AMS dates in Old Europe has been Alasdair Whittle's ground-breaking 'The Times Of Their Lives' (or 'TOTL') Project (Whittle 2018), which has taken the bull by the horns and collected more dates from a select number of key sites than has ever been amassed before. Apart from TOTL, a large number of radiocarbon dates is now available for Old Europe (e.g., 14SEA: www.14sea.org). However, the application of a simple two-stage measure of quality control[5] to these radiocarbon dates shows that relatively poor chronological data are available for this region.

Radiocarbon research over the last decade has led to robust statements about the duration of: *Individual sites* (e.g., the Varna cemetery: Higham et al. 2018; the Cernica cemetery: Stratton et al. 2018; the Vinča-Belo Brdo tell: Tasić, Nenad et al., 2015; 2016; the Uivar tell: Draşovean et al., 2017; the Alsónyék complex: Bánffy et al. 2016); specific *'cultural groups'* (e.g., the Vinča group: Borić 2009; the Körös group: Oross & Siklósi 2012); *related cultures* (e.g., East Hungarian Neolithic and Copper Age: Hertelendi et al. 1995; Raczky & Siklósi 2013); or certain *processes of change* (e.g., dates for early farming sites in the Starčevo group: Whittle et al. 2002; origins of Neolithic: Brami 2017).

However, most Balkan debates still occur over 'cultural groups' with a typical duration of 500 years (+30 generations) (e.g., Boyadzhiev, Y. 1995). Moreover, there are very few tells with firm chronologies for building horizons. This means that the best we can usually do is to place sites with a specified ceramic assemblage somewhere within a 500-year period. In the next section, we discuss the cultural framework of Old Europe and seek to link this framework to AMS chronology to provide a general chronological framework for our enquiry.

An alternative biosocial perspective on temporality is provided by Kilmurray (2009), who advocates a 15-year Neolithic generation instead of the much longer (25-30-year) generation currently in widespread use (e.g., for Alsónyék: Bánffy et al., 2016, 299) (see below, pp. 261-2). This insight necessitates the development of different relations within families / household members and between human generations and the houses in which they lived, with intensive research by the TOTL Project defining house use-lives of between 10 and 80 years at different sites in Old Europe.

The cultural framework

The most basic terminological division in the sequence in Old Europe is between the three terms 'Mesolithic', Neolithic' and 'Copper Age'. The significance and ubiquity of the terms means that each comes with weighty prior baggage. The term 'Mesolithic' has not been greatly favoured in Old Europe, with specialists preferring to import Western European terms such as 'Final Gravettian', 'Epigravettian' or 'Final Tardigravettian' to amplify their preferred term for the 'Mesolithic' – 'Tardenoisian' (Păunescu 1999: 1999a; Chirica et al. 2013). The conceptual issue at stake here is that the choice of Western European terms implies that East European industries were but a pale reflection of Western lithic progress – hardly the case for a region boasting the Iron Gates Mesolithic!

The term 'Neolithic' is such a key term in prehistoric debate that it would be unrealistic to expect colleagues to

5 First, the quality of each date, in terms of its source (preferably a well-stratified single context, with a secure connection to the dated event) and short-life species (grains or articulated animal bones rather than structural charcoal); and secondly, the number of AMS dates with standard deviations generally smaller than 30 years (Bayliss 2015).

Phase	Time Range (CAL BC)	Groups included
1	8000-6300	Early and Late Mesolithic (Soroki group; Iron Gates Early & Middle Mesolithic)
2	6300-5300	Iron Gates Late Mesolithic, Karanovo I – II, West Bulgarian Painted Ware, North Bulgarian Monochrome Ware, Starčevo, Körös and Criş, Impressed Ware
3	5300-47/4500	Hamangia I/II, Karanovo III – V, Samovodene, Dudeşti, Vădastra, Boian, Pre-Cucuteni, Vinča A – C, Lumea Nouă, Zau, Linearbandkeramik (all regional groups), Tisza – Herpály – Csőszhalom, Sopot, Early Lengyel, Kakanj, Butmir, Danilo
4	47/4500-4000	Cucuteni A & AB/ Trypillia A & BI, Varna, Sava, Karanovo VI, Kodzhadermen, Gumelniţa, Stoicani-Aldeni. Petreşti, Sălcuţa, Tiszapolgár, Bodrogkeresztúr, Lasinja, Late Lengyel, Vinča-D and post-Vinča, Lisičice, Hvar.
5	4000-3000	Cucuteni B, Trypillia BII & C, Coţofeni, Sălcuţa IV – Hunyadi halom, Baden, Vučedol.

Table 1.1. The five Phases of the Balkan Mesolithic, Neolithic and Copper Age.

reach agreement on its meaning (for an apt discussion, see Price, T. D. 2000, 1-7). Does 'Neolithic' refer to a stage in cultural evolution (Childe 1928), a process (sometimes called 'Neolithisation': Price, T. D. 2000), a symbolic transformation (Cauvin 1972: 1994; Hodder 1990) or a suite of changing social relations (Thomas, J. 2013)? What traits, if any, were found in all of the different 'Neolithic' regions in Eurasia? Was the transition to settled life the key characteristic (Harris, D. 1996) or was the domestication of plants and animals the key 'economic' driver (Zvelebil 1986)? How did the 'creation of new worlds' (Whittle 1996) encompass all of these changes? Is the challenge of the Neolithic 'to link the scale of individual decisions and practices to the larger scale historical patterns' in emergent causation (Robb 2013, 660)?

In this book, I seek to present a regional Neolithic framed in the longer sequence of the Mesolithic and Chalcolithic as a network of interacting communities, local settlement clusters and regional groups. But there is also the sense of dividual networks, where the relations connecting groups are as important for the identity of the networks as the individual nodes themselves. It is proposed here (Chapter 10) that the classic innovations associated with the 'Neolithic' spread into South-East Europe along exchange networks developed between foragers and farmers – each of whom had key attractors for the other which sustained the growth of the networks and led the foragers into Neolithic ways of life.

A prime characteristic of Old Europe is the existence of a stage between the Neolithic and the Bronze Age with a large number of copper objects. Defined as the 'Copper Age' in the AD19th century (Pulszky 1884), this period has also been termed the 'Chalcolithic' and the 'Eneolithic'. While no-one seriously doubts its existence[6], there are contrasting views on the significance of the Chalcolithic, each depending on the author's views on the relationship between copper and society (Renfrew 1969). The shrinking band of traditional diffusionists, best represented by Ernst Pernicka (1990), associate the Chalcolithic with innovations in copper metallurgy diffused from Western Asia in the 5th and 4th millennia BC. At the other end of the spectrum, Lichardus & Echt (1991) sought to characterize the Copper Age as a historical epoch, on a par with the Neolithic and the Bronze Age. Lichardus saw copper metallurgy as just one of over 25 innovative traits which, collectively, comprised a major step in cultural evolution. However, a devastating critique of the notion of a 'historical epoch' by Wolfram Schier (2014) showed that the vast majority of Lichardus' alleged 25 innovations were not innovations at all, having been attested earlier or later than the Copper Age and, in any case, were not particularly ubiquitous in Old Europe (Schier 2014, 427-431, Table 1 and Fig. 11)[7]. We are left with a series of important changes still requiring explanation (see Chapter 10).

In a supra-cultural external framework for the four millennia under study, five principal phases are used, each based upon a combination of major socio-cultural changes and chronological dates. Instead of using terms adapted from earlier studies (*e.g.* the 'mature Neolithic: Sherratt 1984, 127; 'climax societies': Nandris 1978; Sherratt 1984, 126), as I did in an earlier book (Chapman 2000a, Table 1.1), I employ simple Phase names – Phases 1-5, each with a calibrated 14C date-range. This decision has been taken because it is important to understand the full range of social practices operating simultaneously in any single Phase. This means that cultural developments once placed in the same Period of the 'Climax Copper Age / Late Neolithic' in Chapman (2000a) (viz., the Late Hungarian tells of the Late Neolithic and the Late Copper Age of the East Balkans) are now separated into different Phases because of their 14C chronology (Table 1.1).

In Phase 1, late hunter-gatherers are known from the Balkans in the period 8000 BC – 5000 BC, lasting well into Phase 2, with a particularly significant time overlap with early farmers in and around the Iron Gates Gorge of the Danube (Fig. 1.5). Outside the Iron Gates Gorge, most hunter-gatherer sites comprise short-term occupations with discard

6 A proposed new scheme for the division of the Copper Age in South-East and Central Europe into three parts (Early: 4600-3600 BC; Middle: 3600-3000 BC and Late: 3000-25/2200 BC) attempts to overcome inter-regional differences in the take-up of innovations (Heyd & Walker 2015, 675) but does not map well onto the scheme used here.

7 Schier's critique is reminiscent of attempts to undermine the temporal cohesion of Sherratt's Secondary Products Revolution (see below, pp. 76-81).

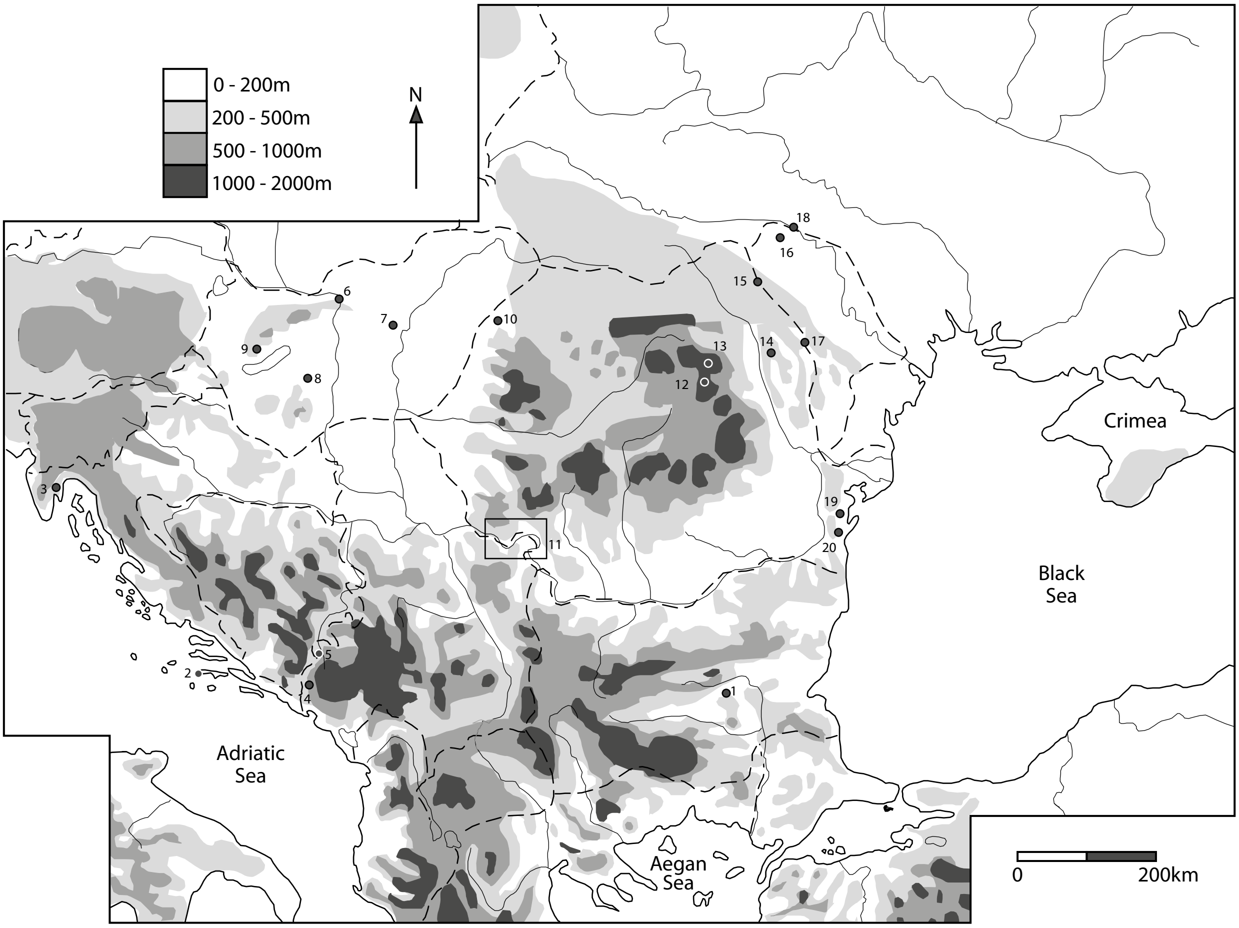


Figure 1.5. Phase 1 sites in the study region: 1 – Ezero; 2 – Vela spilja; 3 – Pupićina jama; 4 – Crvena Stijena; 5 – Odmut; 6 – Sződliget; 7 – Jásztelek I; 8 – Regöly; 9 – Szentgál radiolarite source; 10 – Ciumeşti; 11 – Iron Gates gorge sites (Băile Herculane, Climente I, Cuina Turcului, Gura Văii, Lepenski Vir, Ostrovul Corbului, Ostrovul Mare, Padina, Schela Cladovei, Vlasac); 12 – Bicaz; 13 – Ceahlău; 14 – Erbiceni; 15 – Ripiceni; 16 – Bulboci; 17 – Taxobeni; 18 – Soroki; 19 – Târguşor; 20 – Medgidia (source: author) (L. Woodard).

of chipped stone, animal bones and shells. The cultural floruit of the Iron Gates Mesolithic is defined through elaborate trapezoidal structures and rich and varied material remains, including at Lepenski Vir boulder art dubbed 'Europe's first monumental sculpture' (Srejović 1972).

Phase 2 concerns that millennium from 6300 BC to 5300 BC when the first evidence for many elements of Gordon Childe's original 'Neolithic package' – domesticated plants and animals, pottery, polished stone tools and sedentary life – is found in Old Europe and early farming settlements developed over a wide range of landscapes, coeval with latest foragers (Fig. 1.6). These communities represent people whose daily cooking was largely based on parts of domesticated plants and animals mostly deriving from Anatolia and/or the Aegean. The twin settlement forms of the tell and the flat site showed regional variations, as did painted wares, while other forms of material culture (figurines, bone spoons, stamp seals, antler sickles, and coarse wares) were found in each region. Intra-mural burials predominate, with few grave goods and little gender differentiation.

Phase 3 covers the half-millennium from 5300 BC to 4700 BC (Fig. 1.7). After five centuries or more of farming, social integration and improved farming techniques led to greater sedentism as well as settlement nucleation, and an expansion in settled areas. The development of enclosure was marked, especially in the Carpathian Basin. Typically south Balkan lifeways, such as tell living, became more common North of the Danube and in the Carpathian Basin. Local and regional identities were marked materially by using diverse decorated wares, figurines, and other ritual equipment. Alongside intra-mural burials, corporate cemeteries of individual burials emerged as a focus for consumption of prestige goods. The principles differentiating gender and sex became of increasing importance.

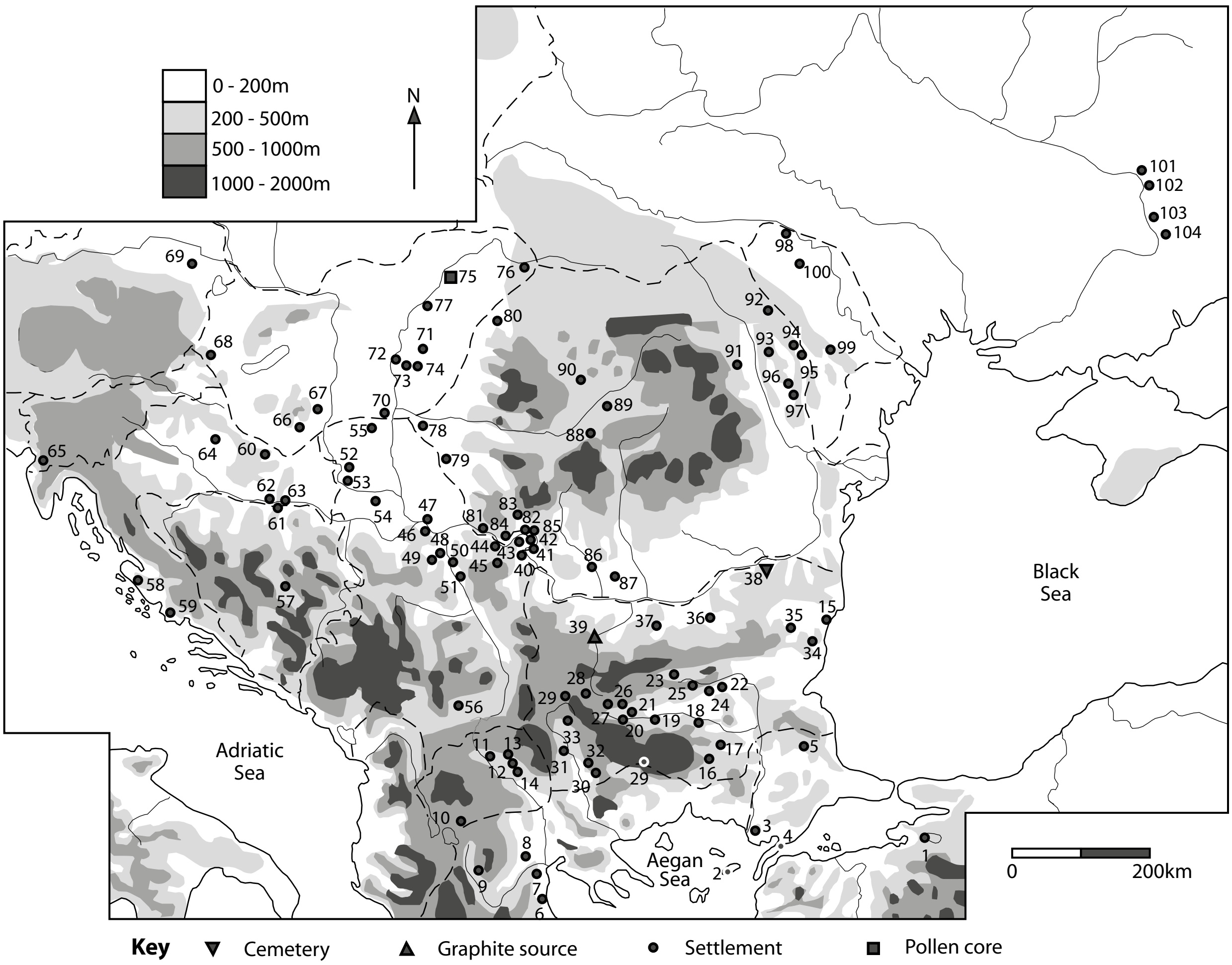


Figure 1.6. Phase 2 sites in the study region: 1 – Ilipinar; 2 – Gokceada; 3 – Hoça Çeşme; 4 – Hamaylitarla; 5 – Aşaği Pinar; 6 – Revenia; 7 – Paliambela; 8 – Nea Nikomedea; 9 – Mavropigi; 10 – Porodin; 11 – Tumba Madžari; 12 – Anza; 13 – Ruk Bair; 14 – Lakavica; 15 – Pobiti Kamani; 16 – Kardzhali; 17 – Orlovo; 18 – Yabulkovo; 19 – Muldava; 20 – Kapitan Dimitrievo; 21 – Rakitovo; 22 – Karanovo I – II; 23 – Kazanluk; 24 – Azmashka moghila; 25 – Stara Zagora – Okruzhna Bolnitsa; 26 – Chavdar; 27 – Mirkovo; 28 – Kremikovci; 29 – Sofia-Slatina; 30 – Kovachevo; 31 – Balgarchevo; 32 – Eleshnitsa; 33 – Galabnik; 34 – Usoe; 35 – Ovcharovo – Gorata; 36 – Koprivec; 37 – Devetashkata Peshtera; 38 – Maluk Preslavets; 39 – Ignatitsa graphite source; 40 – Velešnica; 41 – Korbovo / Ostrovul Corbului; 42 – Ajmana; 43 – Hajdučka Vodenica; 44 – Lepenski Vir; 45 – Rudna Glava copper mine; 46 – Vinča – Belo Brdo; 47 – Starčevo; 48 – Zmajevac; 49 – Divostin I; 50 – Supska; 51 – Drenovac; 52 – Donja Branjevina; 53 – Bač; 54 – Golokut; 55 – Ludas-Budžak; 56 – Gladnice; 57 – Obre I; 58 – Tinj; 59 – Pokrovnik; 60 – Virovitnica; 61 – Slavonski Brod; 62 – Galovo; 63- Zadubravlje; 64 – Dubravica; 65 – Trieste caves; 66 – Lánycsók; 67 – Alsónyék; 68 – Pityerdomb; 69 – Brünn II; 70 – Röszke-Ludvár; 71 – Ecsegfalva 23; 72 – Szolnok; 73 – Szarvas 8/23; 74 – Endrőd 39 and 119; 75 – Sarló-hát pollen diagram; 76 – Méhtelek; 77 – Tiszaszőlős – Domaháza; 78 – Dudeştii Vechi; 79 – Foeni-Salaş; 80 – Ciumeşti; 81 – Gornea; 82 – Ostrovul Golu; 83 – Băile Herculane; 84 – Cuina Turcului; 85 – Schela Cladovei; 86 – Verbiţa; 87 – Cârcea; 88 – Miercurea Sibiului; 89 – Iernut; 90- Gura Baciului; 91 – Lunca; 92 – Glăvăneşti Vechi; 93 – Erbiceni; 94 – Valea Lupului; 95 – Icuşeni; 96 – Perieni; 97 – Trestiana; 98 – Soroki; 99 – Selishte I; 100 – Sakarovka; 101 – Igren 7; 102 – Vasiljevka II & V; 103 – Vornigy I; 104 – Yasinovatka (source: author) (L. Woodard).

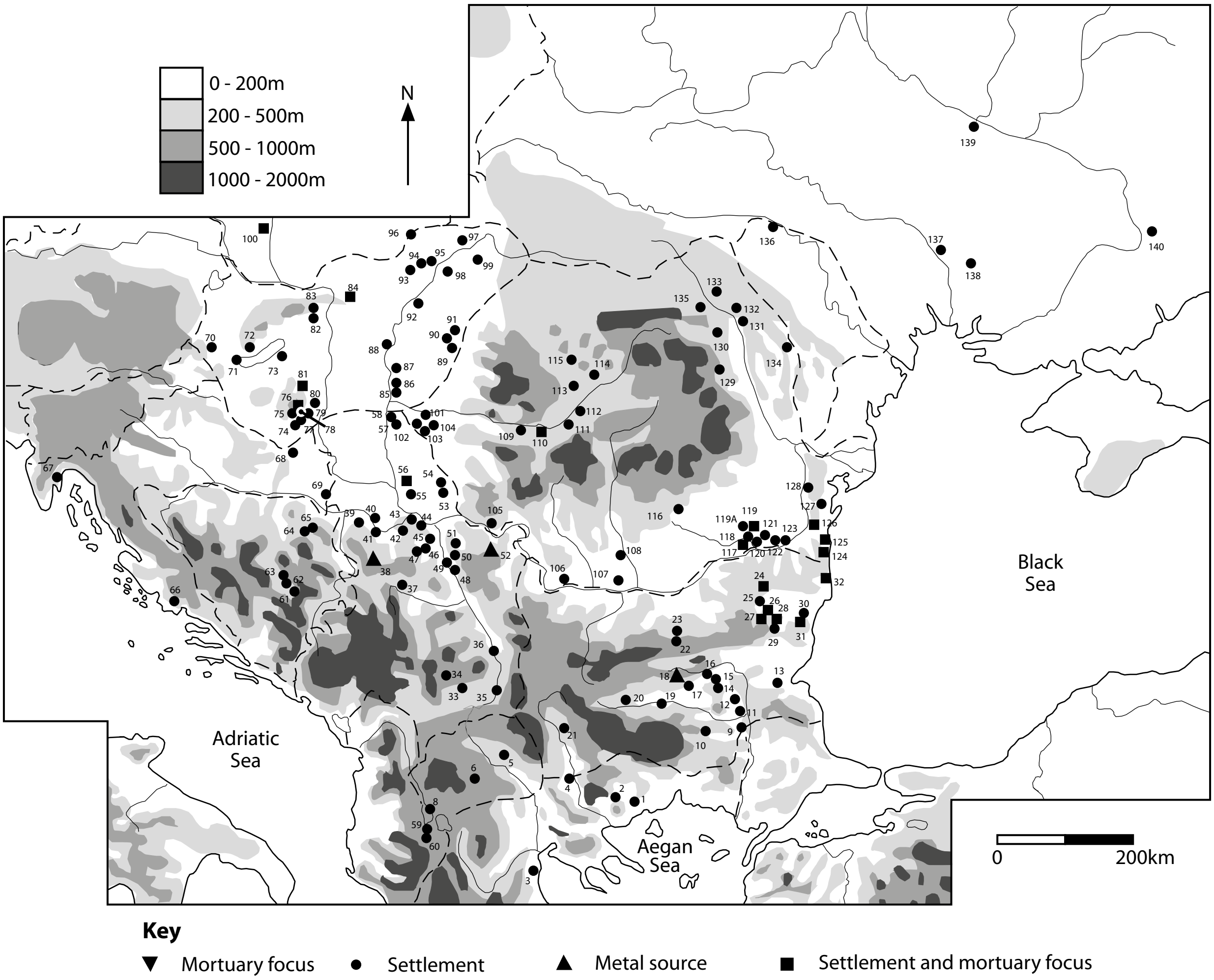


Figure 1.7. Phase 3 sites in the study region: 1 – Dikili Tash; 2 – Sitagroi; 3 – Makriyalos; 4 – Promachon-Topolnica; 5 – Anza; 6 – Vrbjanska Chuka; 7 – Suniver; 8 – Ohrid; 9 – Kapitan Andreevo; 10 – Orlovo; 11 – Kalugerovo; 12 – Drama; 13 – Sarnevo & Tell Kaleto; 14 – Ezero; 15 – Nova Zagora; 16 – Karanovo III – V; 17 – Stara Zagora – Zlatna Livada; 18 – Ai Bunar copper mine; 19 – Jasa Tepe; 20 – Kapitan Dimitrievo; 21 – Slatino; 22 – Samovodene; 23 – Hotnitsa; 24 – Radingrad; 25 – Podgoritsa; 26 – Poljanitsa; 27 – Targovishte; 28 – Ovcharovo; 29 – Vinitsa; 30 – Provadia; 31 – Goljamo Delchevo; 32 – Durankulak; 33 – Predionica; 34 – Valač; 35 – Pavlovac – Čukar; 36 – Gradac; 37 – Petnica cave; 38 – Ćer Planina tin source; 39 – Lug – Ratkovača; 40 – Gomolava; 41 – Šabac – Jela; 42 – Stubline; 43 – Beograd – Banjica; 44 – Vinča – Belo Brdo; 45 – Selevac; 46 – Divostin II; 47 – Grivac; 48 – Drenovac; 49 – Paraćin – Motel; 50 – Oreškovica; 51 – Belovode; 52 – Rudna Glava copper mine; 53 – Potporanj; 54 – Vršac sites; 55 – Opovo; 56 – Botoš; 57 – Idjoš – Gradište; 58 – Čoka (Csóka); 59 – Sovjan; 60 – Maliq; 61 – Butmir; 62 – Okolište; 63 – Obre II; 64 – Tuzla; 65 – Gornja Tuzla; 66 – Danilo; 67 – Pupićina cave; 68 – Sopot; 69 – Samatovci; 70 – ; 71 – Esztergályhorváti; 72 – Sümeg; 73 – Balatonszárszó; 74 – Villánykövesd; 75 – Személy; 76 – Zengővárkony; 77 – Szederkény; 78 – Máriakéménd; 79 – Versend; 80 – Alsónyék; 81 – Mórágy; 82 – Bicske; 83 – Csabdi; 84 – Aszód; 85 – Gorzsa; 86 – Szegvár-Tüzkőves; 87 – Öcsöd; 88 – Kisköre; 89 – Herpály; 90 – Vésztő – Mágor; 91 – Szeghalom; 92 – Tiszacsege; 93 – Kompolt-Kistér;94 – Füzesabony; 95 – Mezőkövesd; 96 – Aggtelek / Domica; 97 – Sárazsadány & Bodrogzsadány; 98 – Csőszhalom; 99 – Tiszavasvári; 100 – Nitra; 101 – Sânandrei; 102 – Uivar; 103 – Foeni; 104 – Parţa; 105 – Liubcova – Orniţa; 106 – Rast; 107 – Vădastra; 108 – Hotărani; 109 – Orăştie; 110 – Alba Iulia-Lumea Nouă; 111 – Turdaş; 112 – Tărtăria; 113 – Cheile Turzii; 114 – Iclod; 115 – Zau de Câmpie; 116 – Ciulniţa; 117 – Căscioarele; 118 – Radovanu; 119 – Cernica; 119A – Vlădiceasca 120 – Sultana – Valea Orbului; 121 – Popeşti; 122 – Andolina; 123 – Gălăţui; 124 – Mangalia; 125 – Techirghiol; 126 – Cernavodă; 127 – Cheia; 128 – Hârşova; 129 – Poduri; 130 – Traian; 131 – Costişa-Cetăţuie; 132 – Târpeşti; 133 – Târgu Frumos; 134 – Isaiia; 135 – Baia-În Muchie; 136 – Soroki; 137 – Puhach; 138 – Buzky; 139 – Strilchi Skelya; 140 – Yasinovatka (source: author) (L. Woodard).

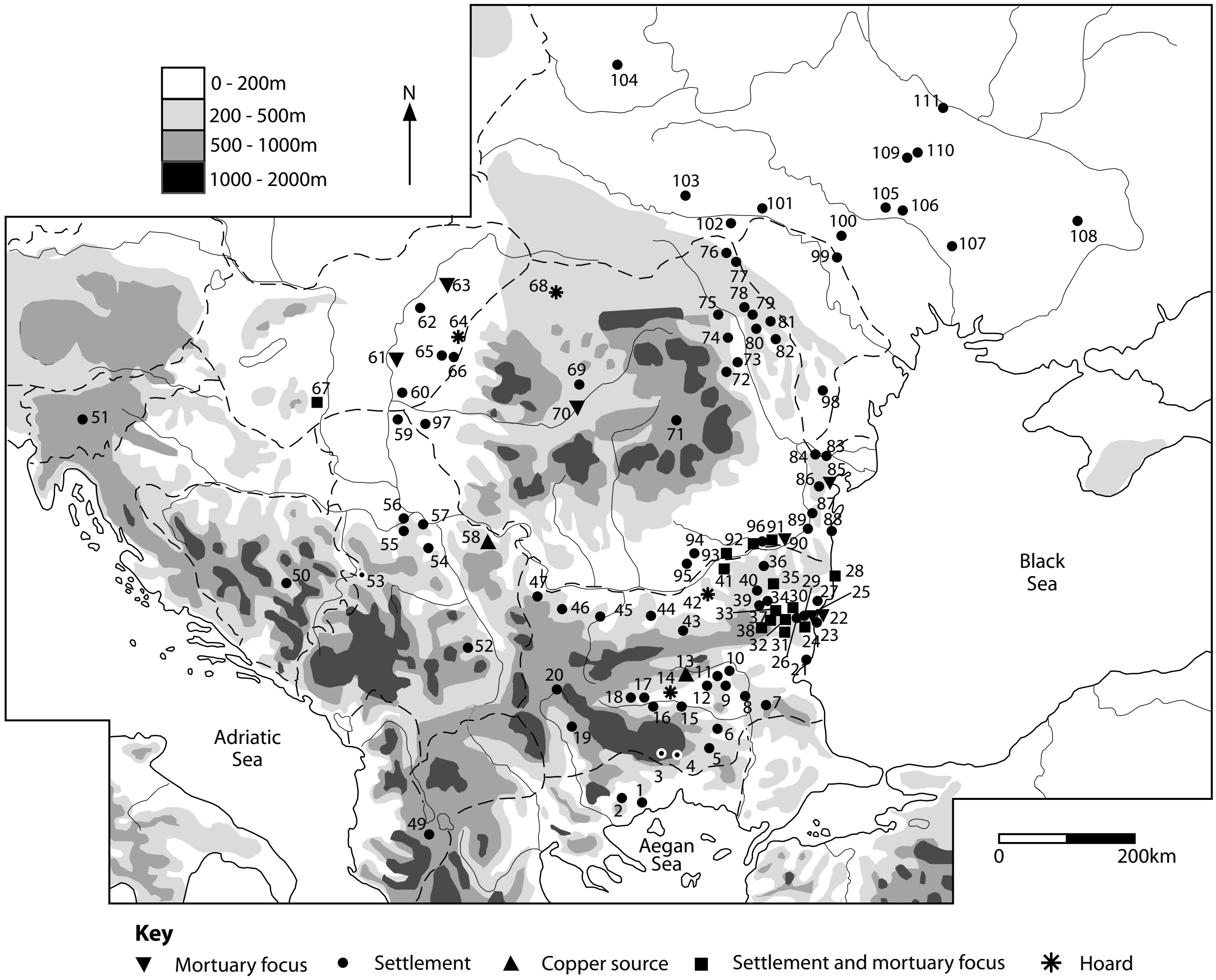


Figure 1.8. Phase 4 sites in the study region: 1 – Dikili Tash; 2 – Sitagroi; 3 – Yagodina Peshtera; 4 – Haramijska Dupka; 5 – Sedlare; 6 – Orlovo; 7 – Iskritsa; 8 – Drama; 9 – Ezero; 10 – Sadievo; 11 – Karanovo VI; 12 – Chatalka; 13 – Ai Bunar copper mine; 14 – Svoboda; 15 – Dolnoslav; 16 – Yunacite; 17 – Bikovo; 18 – Kapitan Dimitrievo; 19 – Slatino; 20 – Pernik; 21 – Kozareva mogila; 22 – Varna I cemetery; 23 – Varna – Arsenal; 24 – Goljamo Delchevo; 25 – Reka Devnja; 26 – Provadia; 27 – Suvorovo; 28 – Durankulak; 29 – Povelyanovo; 30 – Smjadovo; 31 – Vinitsa; 32 – Ovcharovo; 33 – Polyanitsa; 34 – Nevski; 35 – Radingrad; 36 – Kubrat / Balbunar; 37 – Targovishte; 38 – Omurtag; 39 – Popovo; 40 – ; 41 – Ruse; 42 – Orlovets; 43 – Hotnitsa; 44 – Devetashkata Peshtera; 45 – Borovan; 46 – Gradeshnitsa; 47 – Magura Peshtera; 48 – Bajlovo; 49 – Maliq; 50 – Okolište; 51 – Ljubljansko Barje; 52 – Pločnik; 53 – Višesava; 54 – Divostin II; 55 – Stubline; 56 – Jakovo; 57 – Vinča – Belo Brdo; 58 – Majdanpek copper sources; 59 – Srpski Krstur; 60 – Hódmezővásárhely – Kökénydomb & – Kotacpart; 61 – Rákóczifalva; 62 – Tiszacsege; 63 – Tiszapolgár – Basatanya; 64 – Hencida; 65 – Vésztő – Mágor & Vésztő-Bikeri; 66 – Okány-Futás; 67 – Alsónyék; 68 – Ciubanca; 69 – Cheile Turzii (Peştera Ungurească); 70 – Decea Mureşului; 71 – Sf. Gheorghe; 72 – Poduri; 73 – Prohozeşti; 74 – Traian; 75 – Răuceşti; 76 – Drăguşeni; 77 – Truşeşti; 78 – Cucuteni; 79 – Târpeşti; 80 – Hăbăşeşti; 81 – Dumeşti; 82 – Scânteia; 83 – Isaacea; 84 – Luncaviţa; 85 – Casimcea; 86 – Hârşova; 87 – Borduşani; 88 – Navodari on Lake Taşaul; 89 – Coslugeni;90 – Vărăşti; 91 – Sultana; 92 – Căscioarele; 93 – Pietrele; 94 – Bucşani; 95 – Vităneşti; 96 – Gumelniţa; 97 – Uivar; 98 – Beresti; 99 – Lysaya Gora; 100 – Tymkove;101 – Bernashivka I; 102 – Polivanov Yar; 103 – Kamyanets – Podilskyi; 104 – Bodaky; 105 – Mohylne III; 106 – Sabatynivka I; 107 – Aleksandrivka; 108 – Kryvyi Rih; 109 – Veselyi Kut; 110 – Onopriivka I; 111 – Pekari I (source: author) (L. Woodard).

Phase 4 covers most of the 5th millennium BC (4700-4000 BC) and heralds a period of maximum material cultural production in the East Balkans, both in terms of the quantity and the diversity of objects and the range of raw materials (Fig. 1.8). This period betokens significant regionalisation in all aspects of cultural identity. A staggering level of material diversification – whether in metallurgy, ritual, lithic technology, or ceramics – is found among communities often living on tells, but most particularly in their cemeteries. Enclosed sites are an increasingly important feature of these 5th millennium communities, which also expanded their mortuary zone, in which gendered principles of differentiation became more important.

Phase 5 covers the 4th millennium BC – a time of often shorter residential occupations together with greatly reduced material cultural diversity (Fig. 1.9). Markedly different depositional strategies reduced the quantity of material culture on small settlements, large corporate cemeteries and, more frequently, in metal and other hoards. An exception to the widespread settlement dispersion is the growth of Ukrainian Trypillia mega-sites up to 320 ha in size, constituting the largest settlements in 4th millennium Europe.

There are several key points to note when grappling with this simplified version of Old European chronology. The first is that the five-Phase system does not cope well with the millennial overlap between forager occupations in the Iron Gates Gorge and the early farming settlements near the Gorge. But, since the relationships between foragers and farmers depended upon contemporaneity, the interactions must take precedence over the strict chronological phasing. Secondly, the most recent AMS dates place part of the Hungarian Late Neolithic in Phase 3 and part in Phase 4. There is no easy solution to this question, apart from repetition of key points in the accounts of both Phases. Thirdly, there is an important general chronological pattern in which the epicentre of cultural developments showed a strong tendency towards moving to the East. Thus, in Phases 2 and 3, there are major social changes in both the West Balkans (including the Carpathian Basin) and the East Balkans. However, in Phase 4, many of the key social and cultural developments were located in the East Balkans, while continuity in material-rich communities in Phase 5 occurred only in Eastern Europe (the Trypillia – Cucuteni group). These regional shifts in social change reveal a dynamic set of contrasting, coeval communities which were the antithesis of consistent, stadial development. Uncovering the social dynamic of these changes lies at the heart of this book.

Now that we have established a time-space framework for our study, it is time to turn to the conceptualisation and explanation of the key driver in Old Europe – social change. The study of social archaeology in Old Europe can be approached in two ways – the intellectual history of archaeology in Old Europe in the 19th and 20th centuries and the social interpretations of leading prehistorians from the 1930s onwards. We begin with the former.

Research in social archaeologies

In her world history of AD 19th century archaeology, Margarita Díaz-Andreu (2007) demonstrates the significance of nationalism and nation-building for the growth of archaeology. The institutionalisation of the discipline was empowered by the ways in which “archaeologists helped the state with their understanding of the past” (2007, 400). One way of tracking such mutually supportive relations was the date of the earliest National Museums (Figs. 1.10-1.11), which show the impact of the constraining impulses of Ottoman rule or Russian influence in contrast to more enabling Austrian attitudes. There was a second, strong burst of institutional activity linked to the development of post-World War II Socialist states, many of which funded specific highpoints of their prehistoric sequences for nationalist purposes. If these trends formed the warp of the research framework for the prehistory of Old Europe, its weft comprises the strong influence of the German tradition of scholarship. Whether through key textbooks (Milojčić 1949; Schachermeyr 1955), the seminars at Marburg, Heidelberg and Wien, and latterly in Berlin and Kiel, and important syntheses (Parzinger 1993; Schubert 1999; Link 2006), German male prehistorians extended their academic structures and field methods into most parts of Old Europe. Devotees of this tradition valued sound chronology, systematic empirical observation and careful recording of data above all else, while sharing a certain mistrust of theorising with local and Russian traditions. To summarise, Old Europe has an essentially masculine German academic tradition grafted onto local ideas and interlaced with initiatives from other, principally Anglo-American and Russian, worlds.

It is interesting to pose the question ‘why are there no general social archaeologies of Old Europe written by local scholars?’- at least until recently. One reason is the entrenched interest in local and regional cultural histories shown by authors whose important social insights rarely tempt them to wider generalization (e.g., Dragoman 2013; many of the chapters in Kozłowski & Raczky 2007). More generic causes of this social vacuum were the discouragement of social theorising in the dominant German tradition and the unpopularity of creating any social theory in the Socialist East, since it would inevitably be Marxist-based (e.g., Laszlovszky & Siklódi 1990). Thus, my list of key studies in social archaeology will, regrettably, contain few home-grown products from the countries of Old Europe.

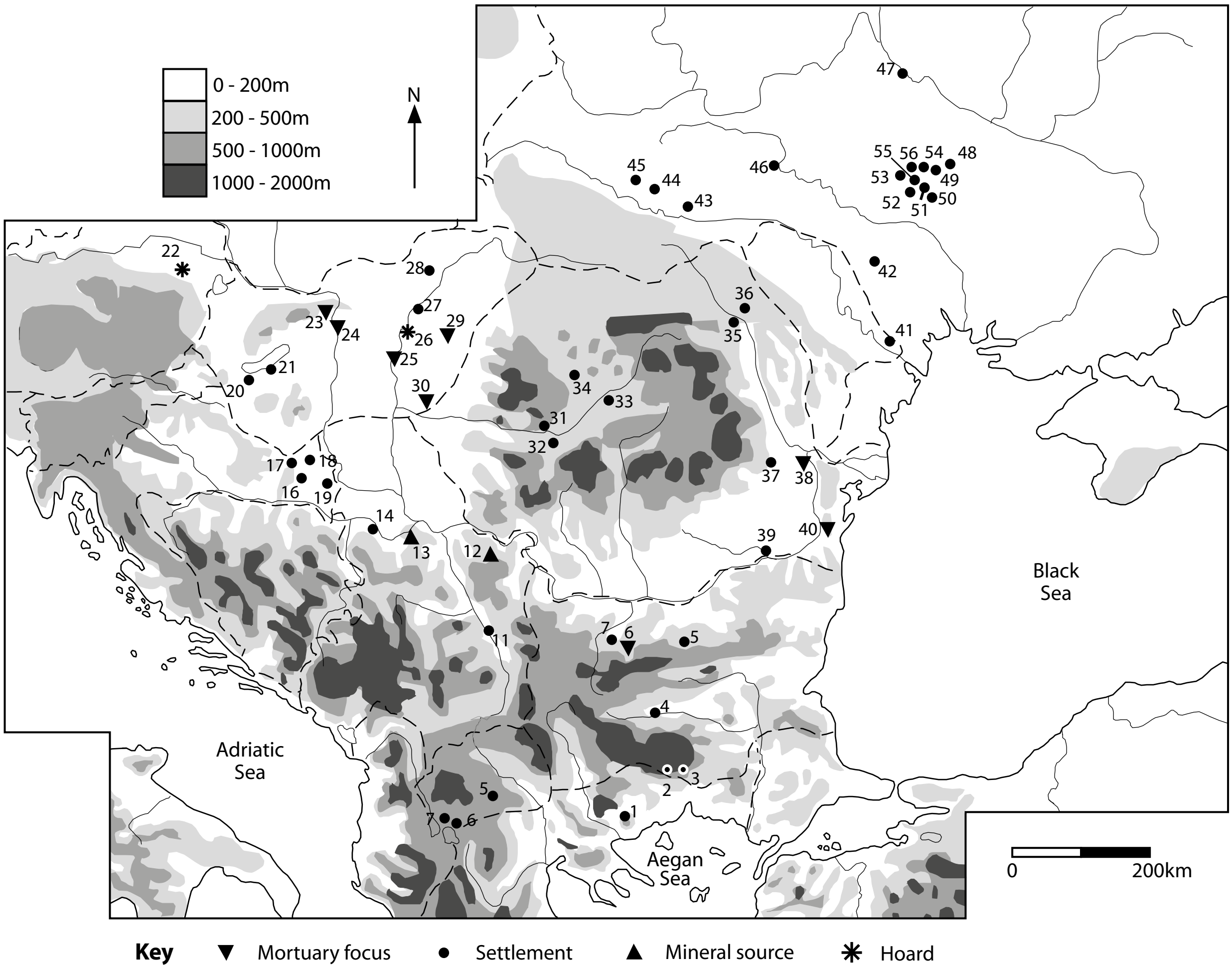


Figure 1.9. Phase 5 sites in the study region: 1 – Sitagroi; 2 – Yagodinska peshtera; 3 – Haramijska dupka; 4 – Yunacite; 5 – Hotnitsa-Vodopad; 6 – Goran-Slatina; 7 – Telish; 8 – Stari Grad – Kale; 9 – Čaniste; 10 – Lopatica; 11 – Bubanj – Hum; 12 – Majdanpek copper sources; 13 – Šuplja Stena cinnabar source; 14 – Gomolava; 15 – Pivnica; 16 – Franjevac; 17 – Beketinci – Bentež; 18 – Sarvaš; 19 – Vučedol; 20 – Balatonkeresztúr; 21 – Balatonőszöd; 22 – Stollhof; 23 – Budakalasz; 24 – Alsónémedi; 25 – Pusztataskony; 26 – Tiszaszőllős / Moigrad; 27 – Tiszafüred; 28 – Tiszalúc; 29 – Sárrétudvari; 30 – Kétegyháza; 31 – Livezile; 32 – Câlnic; 33 – Şincai; 34 – Floreşti; 35 – Ghelăieşti; 36 – Cucuteni; 37 – Sărata Monteoru; 38 – Brăiliţa; 39 – Olteniţa; 40 – Cernavoda I; 41 – Mayaky; 42 – Chapajevka; 43 – Konivka; 44 – Verteba Cave; 45 – Koshylivtsi; 46 – Voroshylivka; 47 – Khalepya; 48 – Glybochok; 49 – Majdanetske; 50 – Volodymirivka; 51 – Nebelivka; 52 – Yatranivka; 53 – Kocherzhintsi; 54 – Taljanki; 55 – Apolianka; 56 – Dobrovody (source: author) (L. Woodard).

Figure 1.10. National Museums: clockwise from top left: Slovenia founded 1821); Romania (1892); Bosnia & Hercegovina (1888); Hungary (1802); Serbia (1844); Bulgaria (1879) (source: author's photos) (B. Gaydarska).

Figure 1.11 (right page). National Museums (ctd.): Croatia; Ukraine; Moldova (source: author's photos) (B. Gaydarska).

We do well to recall the critical difference that Le Roy Ladurie (1982) made between two kinds of historians – parachutists and truffle-hunters – with the former seeking the broad view while losing detail and the latter emphasizing local specificities but with a tendency to miss the big picture. While both kinds of (pre)historian are vital for us to understand the social archaeology of any study area, it is important to set the scene with the views of the parachutists. These key studies will be grouped according to their specific scale(s) of analysis, whether supra-cultural, cultural, community-based, household or person. It is not surprising that I begin my survey of the field with V. Gordon Childe, a parachutist and a truffle-hunter, who moved seamlessly between the supra-cultural and the cultural scales, with occasional forays into communities.

Prehistorians are likely to encounter Gordon Childe (Fig. 1.12) for the first time through the medium of either the "Dawn of European civilisation" (1925) or the "Danube in prehistory (1929). The "Danube" represented the first depiction of archaeological 'cultures' on a vast canvas – a masterful synthesis of those parts of Europe with which most prehistorians were unfamiliar. Despite an explicitly diffusionist theory, with the Danubian corridor linking the Aegean and Central Europe, Childe also included elements of ecological adaptations as well as developing an important

Figure 1.12. Social archaeologists of Old Europe: clockwise from top left: Marija Gimbutas; Andrew Sherratt; Vere Gordon Childe at Kazanluk; John Nandris; Stella Souvatzi; Colin Renfrew; (sources: Gimbutas – Scaloria photo Archive, UCLA; Sherratt and Renfrew – Wikimedia; Childe – Courtesy of UCL Institute of Archaeology; Souvatzi – own photo; Nandris – own photo) (B. Gaydarska).

discussion of trade and raw material exploitation as a step towards economic prehistory. For Childe's day, this was an unrivalled illustration of long-term relations between cultures in the entire Danube catchment.

An important facet of Childe's research was his idea of the combination of innovations which combined to produce Neolithic lifeways – the forerunner of the 'Neolithic package' (Childe 1925). The principal innovations were a sedentary way of life, the domestication of plants and animals, the production of polished stone tools and the making of pottery. Although the innovations now identified as important elements of Neolithic lifeways are far more diverse than those noted by Childe (e.g., Zeder 2009) and took far longer to assemble in the Near East (Hodder 2018), the notion of the 'package endures, especially in South-East Europe where many elements were seemingly diffused at the same time.

It was only in his final years that Childe stopped seeing the cultures of Old Europe as a 'pale reflection of an ideal Near Eastern prototype' and began to perceive them in their own terms. The radiocarbon revolution of the 1960s confirmed Childe's conviction of the greater independence of Old Europe from the Near East, although the debate over diffusion vs. independent invention would shift several times in the next two decades. Most prehistorians working in the Anglo-American tradition would view social change in Old Europe as an internally-driven process. One exception was John Nandris (Fig. 1.12), whose leitmotif that "diffusion and differentiation were two simultaneously operating processes of change" (Nandris 1970) was a useful corrective to the majority view.

Nandris' main approach combined a biosocial model drawn from behavioural ecology with ethno-archaeological insights, especially from the highland zone, where he produced innovative research (Nandris 2007). He worked at the supra-cultural and cultural scales, with detailed analyses of selected communities. Nandris made the explicit parallel between the climax period of the Holocene vegetational succession – the Altithermal – and climax hunter-gatherers societies in the Iron Gates gorge (Nandris 1978). Nandris used the analogy of the spectrum of *K-strategists* and *r-strategists*: while the former occupied stable environments at or near carrying capacity, competing successfully in crowded environments and extracting high levels of energy, the latter could use a rapidly fluctuating or directionally developing environment through discovery, rapid reproduction and dispersal. Despite the emphasis on populations being able to switch strategies, Nandris (1988) linked r-strategies to the First Temperate Neolithic (henceforth 'FTN') and K-strategies to complex foragers in the Iron Gates gorge or Climax Copper Age societies such as Gumelniţa or Cucuteni-Tripolye. This complex form of explanation of change related material culture to shared social practices as much as environmental variability. If it fell short of concrete social explanations for change, this generalising approach encouraged an emphasis on long-term, multi-faceted processes of change. Nandris' thinking strongly influenced Bintliff's social-evolutionary summary of European Neolithic societies (Bintliff 1984).

A very different approach to the study region, also pitched at the supra-cultural and cultural scales, was formulated by Marija Gimbutas (Fig. 1.12) under the rubric of 'Old Europe'. The term has several senses, the narrowest being a descriptor of the study region and period of this book (Gimbutas 1974: cf. the map of the Balkan Neolithic in G. Clark 1977, 117 & Gimbutas' Fig. 52). While many of the traits defining 'Old Europe' were linked to the Near East, Gimbutas maintained the Balkan specificity of the oldest farming practices in Europe, the well-built, permanent houses, the elaborately decorated ceramic fine wares, the anthropomorphic and zoomorphic figurines and the prestige exotics in shell, copper and gold. It was Gimbutas' elaboration of the social structure of Old Europe as matriarchal, matrilinear and based upon female creativity that attracted criticism but not as much as her notions of the pantheon of goddesses and gods which formed the basis of Old European religion (Gimbutas 1974, 1982). This over-interpretation of Balkan material culture was clearly based upon outmoded palaeo-psychology and essentialist views of gender relations (Hutton 1997; Tringham & Conkey 1998; Meskell 1995). Nonetheless, Gimbutas was the first Balkan prehistorian to discuss the active role of figurines in the Balkan Neolithic world. Gimbutas was also one of the first Balkan prehistorians to relate material culture to gender issues.

Colin Renfrew (Fig. 1.12) has exerted a huge influence on the whole field of social archaeology, as adumbrated in his inaugural lecture in the University of Southampton (Renfrew 1984). Specific research on Old Europe focussed on the Radiocarbon Fault-line between regions with access to (in)direct historical dating and those without such a lifeline (Renfrew 1969: 1969a), together with the independence of the Vinča group and Balkan metallurgy from the Near East and Anatolia (Renfrew 1969: 1973). The chronological revisions led Renfrew to characterise Balkan Neolithic groups as possessing a hitherto unrecognised social and ritual complexity underpinning the corpus of figurines and the incised signs of the Vinča group.

Andrew Sherratt (Fig. 1.12) developed a key supra-cultural exploration of Neolithic social structures in Old Europe at the community level (Sherratt 1984). His study exemplified the "conjunction of general principles with the opportunities of specific landscapes and the patterns of interaction which can be traced between them" (1984, 124) – in this case, the four principles of regional adaptation, succession, interaction and trajectory maintenance and discontinuity. Omitting early farmers here, Sherratt differentiated three stages in his model: the mature Neolithic, the earlier Copper Age and the later Copper Age (1984, 127-132). The mature Neolithic was characterised by an abundance of mostly unspectacular but imported material items, moved through stable regional exchange networks as small valuables, and with all material culture taking on ritual and symbolic significance through 'ritual formalization' using principally female images. These were territorially-based, nucleated communities where cross-cutting social institutions were more important than lineages. In the earlier Copper Age, decreased sedentism and increased settlement dispersion was accompanied by a wider role for mortuary sites, with fewer, more exotic grave goods, often of copper or gold, and a reduced role for female imagery but still with no signs of an explicit hierarchy. In these societies, lineages were more important than cross-cutting institutions, with lineage leaders acting as ritual leaders uniting groups through earth cults. Exchange networks covered greater distances but were less stable than before, using kinship to create wider alliances. In the latest phase of the Copper Age, with new steppe incursions entering the Lower and Middle Danube valleys, there was a radical transformation of the settlement network, with secondary products enabling settlement of different core areas and greater differences in wealth between village headmen and their villagers rather than between nodal and peripheral areas. The kinship basis for these developments

Figure 1.13. Social archaeologists of Old Europe (ctd.): clockwise from top left: Pál Raczky; Ian Hodder; Alasdair Whittle; Ruth Tringham; Douglass Bailey; János Makkay (with his excavation team, left end of line) (sources: Raczky – B. Gaydarska; Tringham – Wikimedia; Bailey – own photo; Whittle – I. Mateiciuková; Makkay – author's photos; Hodder – own photo) (B. Gaydarska).

had the potential for hierarchical differentiation but this did not develop until the Bronze Age. In this general presentation, Sherratt did not specify explanations for the changes in social structure; this is found in other accounts of regional trajectories, which, in any case, differed from area to area (e.g., Eastern Hungary: Sherratt 1982: 1982a: 1983). What is important here is that Sherratt sought to specify the social structures for each of the main phases of the Neolithic of Old Europe. It is interesting to note that houses and households did not play an important role in this model.

Andrew Sherratt's research in Eastern Hungary was one of the key influences on the research of János Makkay[8] (Fig. 1.13), whose 1982 book (unfortunately not translated from the Hungarian) focussed on the cultural and community scale, setting the agenda for what we may term 'Hungarian processualism'. Apart from his early articles on 'structured deposition' in Hungarian prehistoric contexts (Makkay 1975: 1983), Makkay used settlement and artifactual data to argue for a two-level social hierarchy in the Hungarian Late Neolithic and Early Copper Age, with tells as local central places with key ritual and exchange functions, and farmsteads providing tribute for their centres. Makkay's book stimulated a decade of research on Late Neolithic tells (Kalicz & Raczky 1987), establishing a baseline for the development of an alternative model of 'tribal cycling' for Late Neolithic and Copper Age society (Parkinson 2002: 2006).

In contrast to Makkay's approach, one mid-1990s study sought to shift the focus of Neolithic research in Old Europe to the community. Alastair Whittle's (1996) account of the creation of new worlds in the European Neolithic focuses on community archaeology, with inter-lineage or inter-household differentiation and competition almost absent. For Whittle (Fig. 1.13), Neolithic community identity was stable, even if people moved around, since it was re-affirmed by gathering, gift exchange, the sharing

8 János Makkay also confirmed (p.c., J. Makkay, 1984) that my 1981 BAR volumes on Vinča were also an influence on his processualist thinking.

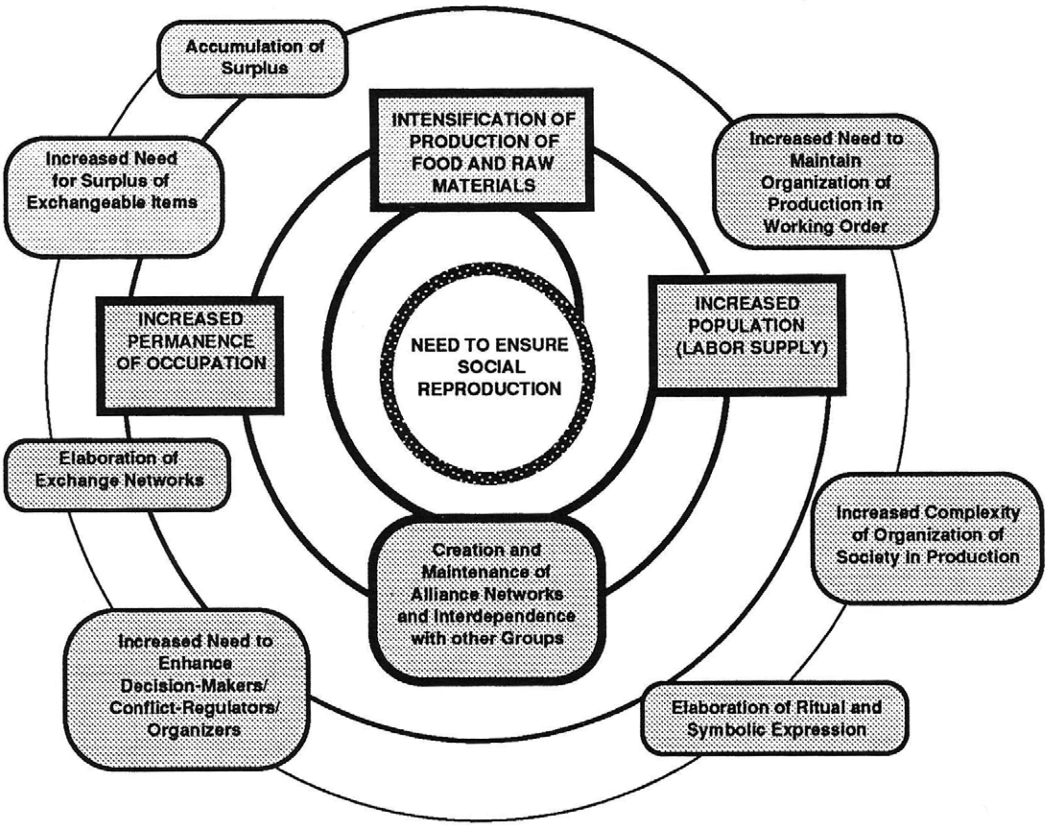
of food and drink and the celebration of joint rituals (1996, 355). Whittle emphasises the web of materiality that bound people together, with common ways of making and using buildings, pottery, stone tools and, later, copper and gold. The key long-term settlement practices were mobility and dispersion, as important for early farmers as for the Holocene hunter-gatherers. Thus Whittle emphasises breaks in settlement continuity, even on tells, where aggregation developed in order to integrate wider populations (1996, 107). In the Climax Copper Age, Whittle contrasted well-established settlement areas, where 'old histories' are prolonged through tradition, renewal and re-affirmation, with newly-settled zones, where communities create their senses of ancestry and position in 'new histories' (1996, 121). The major dispersion phase in the post-Climax Copper Age was enabled by a strong sense of prior integration developed on tells rather than a sign of major settlement changes – a shift to central places of the dead and away from places of the living (1996, 140-1).

This version of the Neolithic of Old Europe applies a model of settlement dispersion and mobility perhaps more characteristic of the British Neolithic to the Balkan material. In the early version (1996), Whittle noted the almost complete absence of warfare, competition between autonomous households, social differentiation and hierarchy, marking out this model of the Neolithic of Old Europe as a form of 'peaceful prehistory' (Keeley 1996). This marks a very different writing of Balkan prehistory than that attempted here – emphasising continuities rather than disruptions, a flatter sequence with fewer peaks and troughs and with community ethos comprehensively limiting accumulation. The themes were developed further in the 2000s, in two conference volumes (Bailey et al. 2005: 2008) and an excavation report (Whittle 2007), by which time Whittle had integrated warfare and inter-village raiding into his account. By the mid-2010s, Whittle (2015, 1054-9) had withdrawn from the mobility model, instead emphasising communality in settlements, burials and material culture.

The new millennium got off to a good start for prehistoric syntheses of Old Europe, with two appearing in 2000 – Douglass Bailey's 'Balkan prehistory' and my own 'Fragmentation in archaeology', in which I introduced the deliberate fragmentation premise, personhood, fractals and dividuals and enchained social relations to Balkan prehistory (for more details, see Chapter 2). These were the last two general books written on the Neolithic of Old Europe. Bailey's own life experiences in the Balkans marked him for many years (see 2000, xv, 287), influencing his emphasis on 'illusion' and 'exclusion', alongside 'incorporation' and 'projection', as important social strategies. Bailey (Fig. 1.13) identified an explosion of the physical expression of individual and group identities at the start of the Balkan Neolithic, together with three key new social environments – the house, the household and the village – all of which anchored people to particular places. For Bailey, houses declared and established otherwise invisible sets of social relations as explicit and materialised (2000, 268). Emphasising the increasing durable and permanent character of identities and relations in households and villages, Bailey contrasts "the anchored inflexibility of the new settled lifestyles" with the "flexible adaptability of the more mobile communities" (2000, 283). A key role in these new social environments were the expressive things that came to dominate daily life, made of a huge variety of materials, in a vast range of shapes and sizes, and with an almost unlimited durability (2000, 270). This synthesis sought to identify long-term social strategies without ever dwelling on the subsistence-based distinctions between foragers and farmers. The volumes of these Cardiff colleagues presented contrasting ways of interpreting the Neolithic of Old Europe. Bailey followed Tringham & Krstić (1990a) in stressing the importance of households and permanent dwelling strategies more than Whittle but both developed a notion of community ideals and values, rather than hierarchy and competition, as central to Old European societies.

Running in parallel to Bailey and Whittle's investigations of communities was a wide-reaching exploration of the importance of households in Balkan Neolithic archaeology. The post-Second World War funding scheme of the Smithsonian Institution's Foreign Currency Program enabled the completion of several key excavation projects in former Yugoslavia, including Obre (Gimbutas 1974a), Anza (Gimbutas 1976), Divostin (McPherron & Srejović 1988), Selevac (Tringham & Krstić 1990) and Opovo (Tringham et al. 1992). While all of these excavation reports provided fascinating new data, the key contribution to social theory was the Selevac report, in which Ruth Tringham (Fig. 1.13) developed a complex theory concerning the emergence of Neolithic sedentism (Tringham & Krstić 1990a; cf. also Kaiser & Voytek 1983).

Tringham sought to establish dialectic relations between the degree of sedentism, the extent of agricultural and non-agricultural intensification, the nature of population changes and the size of the key social units in three periods – the early farming period, the mature farming and the post-Climax period, using the central Balkans as an exemplar. She argued that the early farming settlements were semi-sedentary, small in size, based upon low-productivity horticulture and forming loose-knit, flexible corporate social units held together by lineages in villages (Tringham & Krstić 1990a, 575). For Tringham, the key change was a switch from village units to fixed, long-lasting households as autonomous units in villages. She argued that this change led to the possibility of larger population aggregates and also stimulated increased sedentism, as documented at Selevac. She developed the core notion of the 'spiral of sedentarization' (Fig. 1.14),



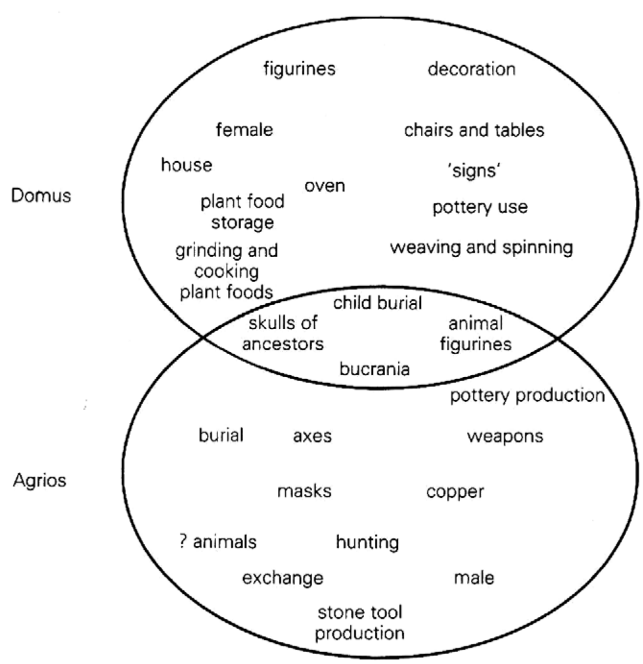


Figure 1.14. (top) The spiral of sedentarization (source: Tringham & Krstić 1990a, Fig. 16.5); (bottom) *domus* and *agrios* (source: Hodder 1990, Fig. 3.5) (B. Gaydarska).

which began by seducing villages into sedentary life but which tightened and made social life more complex, so that it was later impossible to produce sufficient resources for larger populations without sedentary life (Tringham & Krstić 1990a, 579). This spiral also enabled short-term inequalities between households, based upon differential access to productive processes, rather than the hierarchies between settlements proposed by Chapman (1990). For Tringham, the abandonment of nucleated mature farming settlements was caused by several factors – partly the limits that had been reached for co-operative social order in such large settlements and partly the collapse of key exchange networks supplying senior persons with prestige goods. Instead of choosing hierarchical organisation, the aggregates fissioned into smaller hamlets, still maintaining the household as the key social unit but reducing their number to a few per settlement. This impressive model of changing modes of Neolithic life in Old Europe has important implications for the complete range of household architecture and artifacts. There is only one major weakness: the speculative reason for the emergence of autonomous households in the first place. Tringham (Tringham & Krstić 1990a, 605) suggests, without supplying any supporting evidence, that competition between early farming domestic groups for prestigious alliances with hunter-gatherers may have lifted constraints on productive intensification and allowed the relatively early independence of these domestic groups.

The Tringham model was one peak in the theoretical tendency towards the primacy of the household in the Neolithic of Old Europe. The house was also the principal stimulus for Ian Hodder (Fig. 1.13) to write a synthesis of the European Neolithic (1990). Hodder found it impossible to write an account of Neolithic social action for lack of evidence, switching to a fully structuralist account based upon two opposed metaphors which framed decisions over social practices: the *domus* and the *agrios* (Fig. 1.14). For Hodder, early Neolithic material symbolism was involved in the celebration and control of the wild and death – the control of social power through the representation of male and female and the organisation of domestic space (1990, 11). Thus, rather than relating to plants and animals, the process of domestication was at root a social process – a metaphor for the control of society (1990, 12). Thus, the *domus* became the conceptual and practical locus for the transformation of the wild into the cultural; later, bodies were moved out of the house (1990, 39-40) (fig. 1.14b). Old Europe in the Mesolithic, Neolithic and Copper Age became prime examples of the strength of the *domus* principle in the European Neolithic. *Domus* relations included networks of marriage exchange connecting warm, comfortable and life-supporting households. By contrast, the *agrios* laid more stress on warring, feasting, hunting and long-distance exchange, all of which connected to the greater emphasis in the Copper Age on cemeteries with exotic metalwork (1990, 76-82). In the later Neolithic and Copper Age, the *agrios*-based social strategy of dominant groups was to forge more extensive ties with remote groups, with increasing community production allowing stronger, more competitive exchange relations. While this model explains many features of the Balkan prehistoric sequence, including the focus on houses in the Neolithic and the weakening attention on settlement deposition in the post-Climax Copper Age, the account suffers from the lack of attention to human relations, and especially gendered relations. Feminist critics have noted with disapproval how Hodder has located the start of the gendered division of social space – male public vs. female private – as far back as the Neolithic (e.g., Engelstad 1991).

Stella Souvatzi's (2008) book on households in Neolithic Greece dealt with a region not covered in detail in this book but whose relevance to the Balkan debate centres on her examination of similar social formations. Souvatzi (Fig. 1.12) seeks to escape from a stereotypical, ahistorical household by recognising significant variability in household practices in both time and space. Instead, households are seen as shifting loci of action and a collection of actors with joint and conflicting interests. She marshals various arguments against vertical social hierarchies, including the open distribution of products and their uniform consumption within sites, the continuing emphasis on communal, outdoor spaces for cooking, ritual, work areas, gatherings and large-scale construction and the notion that households were in a state of continual transition. These points indicate that there is indeed evidence for social inequalities between individuals, between households and between communities in the Greek Neolithic but these differences were not developed into stable, vertical hierarchies. Mediated as it is by continued references to the importance of households, Souvatzi's emphasis on an alternative ideological identity of commonality would seem to be curious conclusion for a book on households; in this, it bears a close resemblance to Whittle's (1996) emphasis on the community as the key element in Neolithic Old Europe.

In a further investigation of the rich architectural record of Old Europe, Dušan Borić (2008: 2015) seeks to apply Lévi-Strauss' notion of 'house societies' to Old Europe. For Lévi-Strauss, the house in a 'house-society' played the role of a collective agency, a social institution with hereditary occupants and many more kin and non-kin residents, a moral 'person' who was keeper of the domain of material and immaterial property and who promoted the transmission of the name, the fame and the fortune of the house society into the future. Examples of house-societies were the NW American Coast Indian societies and European or Japanese royal households. Other scholars have watered down this original definition so as to make the original model virtually unrecognisable, to include any society where houses were active social agents mediating between the individual body and the landscape and where the house was the outer shell of a metaphorical body. Borić applies the house-society model to the Iron Gates Mesolithic, the Early Neolithic tell sites of the South Balkans and the Late Neolithic of the entire Old Europe, while appreciating that early farming sites in the north Balkans were too mobile for such a concept. However, just because the importance of house ideology in the early farming period connected different communities in a web of shared meaning and symbolism, it does not necessarily follow that these communities formed house societies. This research appears to take an over-specific ethnographic model and seek archaeological analogies in a suite of very different social contexts from those for which the model was originally conceived (cf. support for the house society model: Thomas, J. 2013).

Another approach to social archaeology is based upon in-depth research into a single site. Representative of this tradition is Pál Raczky[9] (Fig. 1.13), a prehistorian who has moved from processualist ideas based on detailed typological knowledge (Raczky et al. 1997) to a multi-scalar symbolic interpretation of two key Hungarian tells – Csőszhalom and Öcsöd. For the last two decades, Raczky has probed explanations of both tells not as 'normal' dwelling places as much as central places which marked space and time with symbolic significance. In this voyage, he has moved further and deeper than any other Central European prehistorian. I focus here on Csőszhalom.

The starting-point of these interpretative changes was the 'cultural' view of the contrast between the tell enclosed by three concentric ditches and the much larger 'horizontal' settlement – seen as the synthesis of Tisza and Lengyel traditions (Raczky et al. 1997). Almost every specialist report revealed the strong contrasts between the settlement and the tell deposits, leading Raczky to infer the binary opposites of the perception of horizontal and vertical and linear and cyclical time, as well as the development of different rules for the two parts, based upon the construction of a communal-sacral space on the tell (Raczky & Anders 2008: 2010). This led to a rather functionalist interpretation of the tell's 'religious coalition' mitigating the tensions and scalar stress of everyday life on the settlement through tell rituals and feasting (Raczky & Sebők 2014). In addition to the presumed astronomical significance of the four ditch 'entrances' was the more concrete alignment of the North-east entrance on the distant Mount Tokaj (Raczky & Sebők 2014). In a recent article, Raczky sees the tell as a cognitive representation of a metaphorical world for 'housing the community's body', with the tell seen as a monumental history house by outsiders and an embedded ritual interior by initiates (Raczky 2018). This interpretative voyage shows Raczky's immersion in Eurasian archaeological theory, and challenges any tell excavator to re-consider their own interpretations of these iconic monuments of Old Europe.

In the 2000s, the growing influence of bodies, corporeality and personhood in theoretical archaeology made itself felt in research into Old Europe. The two books on the deliberate fragmentation of objects and bodies (Chapman 2000a; Chapman & Gaydarska 2007) established the importance of enchainment to cultural processes as well as the contributions of both dividuals (persons created by the relationships they had with others) and individuals to cultural life. A study of figurines showed two contrasting ways of forming personhood in Neolithic Old Europe. This led to insights on the relationship between personhood and the development of new personal skills which emerged at major transitions such as the introduction of farming and the emergence of copper and gold metallurgy (Chapman & Gaydarska 2011) (see below, pp. 124-6).

Andy Jones extended this approach in an important argument about the significance of new forms of personal relationship to the origins of the Neolithic (Jones, A. 2005). Jones built on Gosden's (2005) distinction between 'things of quality', which were embedded in local relations, acted as part of those relations and helped to produce dividuals, and 'quantifiable objects', which were disembedded from local relations and perhaps operated more abstractly in a wider social universe where they helped to produce individuals. Jones posited that persons were produced by the totality of relations with other people, things, architecture and the environment, including the specific cosmological engagements developed between persons and their environment. Jones noted that the two major phases of tell- and village formation – in the mid-7th millennium BC in the south Balkans and the 5th millennium in the Carpathian Basin – can be contrasted with more dispersed, homestead-type settlement, with each settlement form having different densities of social networks and different regularities of social interaction. Thus in dense settlements such as tell villages, people would relate to kin-based identity groups, which were likely to be a product of the dense local networks of enchained social relations and would have led to the formation of one kind of person. By contrast, more dispersed homestead-based settlement networks would have had less social interaction but more spatially extensive networks of enchainment, leading to a more fluid form of personhood, where the exchange of objects cemented kin ties and created new relationships with neighbouring foragers. The correlation of contrasting forms of personhood formation with two common types of settlement form – the village and the homestead – follows Tringham & Krstić (1990a) in using settlement form to build wider schemes but goes on

9 For biographical details, see the introduction to his Festschrift (Anders & Kulcsár 2013).

to provide a platform for diversifying the kinds of persons living in the Neolithic of Old Europe.

The images which these persons made led to Douglass Bailey's (2005, 198) insight that "the Balkan Neolithic was a particular corporeal politics of being and figurines were at the core of this politics". Downplaying the search for specific uses and meanings of figurines, Bailey argues that the more important, and perhaps unintended, use of figurines was as the manifestation of the body in Neolithic communities: "figurines saturated communities with particular images and senses of being human" (2005, 199). Bailey makes the far-reaching claim that, as a whole, "Neolithic figurines in Old Europe were striking in the absence of variation in specific, appropriate ways of modelling and decorating the body" (2005, 199). Despite the fact that Bailey later contradicts this claim (2005, 204), the claim underpins his interpretation of "a standard, corporeal register" (2005, 199) which tied individuals to the greater whole (society) amid increased group coherence and led to the suppression and denial of difference. Bailey comments on the paradox of miniaturism, with small but powerful images related to other scales of being and other worlds. But it has to be observed that not only was there an enormous range of ways in which humans were portrayed in most Neolithic and Copper Age groups in Old Europe but there were also many examples of ambiguous, ambivalent and hybrid images (for terminology, see Aldhouse-Green 2001: 2004), whether half-human – half-animal, half-human – half-bird-like and half-bird-like – half-animal (Chapman 2010, 110-111). These images and the great variability of human images undermines Bailey's fundamental claim of a 'standard corporeal register' for all figurines, in favour of the huge diversity in the use of human images, which varied in time and space in complex ways well beyond the explanatory power of Bailey's hypothesis. Nonetheless, a key point that Bailey emphasises – the notion that figurines altered the way that people saw the world around them" (2005, 201) – is undoubtedly correct and has prompted important questions about Neolithic figurines in Old Europe. Lastly, while Bailey accepts the importance of permanent architecture and bounded social space – and therefore the household and the community – in forming contexts for figurine use, he resolutely maintains his emphasis on the individual body as the essence of the communal through repeated visual practice.

This panorama of social archaeologies in Old Europe has shown us the impact of big themes often originating outside the region. Although each of the researchers discussed here developed their ideas at a multi-scalar level, some ideas were targeted at specific scales: the supra-cultural level (Childe, Sherratt), the community scale (Whittle, Bailey, Raczky), the household scale (Tringham, Hodder, Souvatzi, Borić) and the personal scale (Jones, Bailey). It is the aim of this book to contribute to a social archaeology of Old Europe by considering the impact of change at all social scales in order to answer three key research questions.

Research questions

Archaeologists have to understand the historical process by analysing dead and static debris. To do this they identify what they regard as key themes that made human history possible and they explain how those themes can be examined by reference to the material. As we have seen from the summary of social archaeologies in Old Europe, a wide variety of prehistorians saw key themes such as the origins of agriculture and its diffusion from the Near East and the development of social and material complexity, orientating patterns in the material to provide access to those themes. In this book, I explore three rather different research themes: (1) the relationships between people, animals and objects, (2) the emphasis on settlements rather than the mortuary domain and (3) the sheer mass of material remains in Old Europe.

I share the recent approach to social archaeology known as the practice-based approach (Barrett 2001; Conneller 2011; Jones, A. 2012). This is essentially an interpretative form of archaeology in which important roles of agency – causing things to happen – are attributed not only to humans but also to places and objects. In this interactive approach, social practices rather than human behaviour are considered to be the key marker of past events and processes. Bourdieu's (1977) concept of the *habitus* also plays an important role, in which practices are sedimented into a social tradition of implicit action through repetition and by the absence of any obvious alternative – 'it goes without saying because it comes without saying' (Bourdieu 1977, 166-7).

However, the other strand of recent prehistoric enquiry is concerned with the formation of social relations in the past. The first research question is how did social relations develop in Old Europe? The proposal here is to intertwine a multi-level account of social practices in the later prehistory of Old Europe with the development of four different kinds of relationship – individual, dividual, communal and global/local. It is often challenging to diagnose the kinds of relationship implied by particular acts of deposition, burials or house-burning episodes. But the practice-based account would be incomplete without a consideration of the formation of social relationships and the way that, through time, the tensions between these different forms provided one of the dynamic causes of change. This approach shows how local communities negotiated their lives in four nested levels of social networks: personhood and individual actors (embodying both individual and dividual relationships: Chapters 4 & 5); the household as a fundamental unit of social and economic relationships (Chapter 6); corporate groups in the settlement (Chapter 7) and mortuary context (Chapter 8); and regional settlement networks and beyond (indexing global/local relationships: Chapters 9 and 10).

Two of the important aspects of the formation of personal relations in the prehistory of Old Europe concerned the processes of enchainment and accumulation and the emergence of personhood through gendered, skill-based perspectives. The creation and maintenance of social relationships through various forms of enchainment and accumulation are fundamental to the communities in question (Chapman 2000a; Gamble 2007). In later prehistory, relationships of enchainment and accumulation connected persons to each other, persons to objects, persons to places and objects to places. The archaeologically most visible forms of enchainment and accumulation are when objects were enchained to, and accumulated by, persons. This happened on a daily basis on dwelling sites, where artifacts acted as material metaphors of inter-personal relations at various socio-spatial scales. The use of objects made from low-quality, locally available sources materialized a narrow range of perhaps inter-household relations, whereas objects made from materials that were not locally available denoted wider social networks with greater power dynamics. Special attention will be paid to claims for the occurrence of alienated objects whose value was created from its own inherent novelty, rarity or exoticity.

A gendered perspective on the emergence of personhood is essential to the understanding of the complexity of the social structure in these millennia. Since the emergence of gender archaeology in the early 1990s, much progress has been made in raising awareness of the significance of men, women and children in particular cultures. However, to my knowledge, there is not a single major archaeological synthesis in which gendered insights are central to the narrative. In this book, it is my aim to develop such a long-term, multi-scalar perspective, taking into account the fluidity of sexual and gender identities and relations through the life-course (Gilchrist 2000). It is expected that persons would grow in different ways depending upon whether they lived on a dispersed homestead of a dozen people or in a small tell village of 150 people. Gendered personhood will be further explored through studies of the images of people (figurines) that are so common in the prehistory of Old Europe and those embodied skills that led to increasingly individualized persons. The archaeology of maintenance activities will play a key role here. Moreover, there are many gendered implications in the notion of objects as material metaphors of inter-personal relations. Other aspects of gendered practice concerned the contribution of men and women to social practices in the public domain, whether public or ritual space in the community, the mortuary domain and the gendered dead's performances in the settlement or the cemetery. However, there is a still a roadblock in the assessment of gendered contributions to more public practices such as warfare, trade and exchange (and perhaps more widely, according to a critique of gender archaeology in the Neolithic: Robb & Harris 2018).

The remaining two principal research questions in this book relate to the two defining characteristics of the Mesolithic, Neolithic and Chalcolithic of Old Europe – why were there so many settlements and so few cemeteries?; and why was there such an amazingly diverse and rich material culture in both domains but especially in the domestic arena? These materially related questions play directly into the nature of dwelling in the landscape and the active role of material culture. Insofar as the former is concerned with the ways in which people mark the places which are important to them, the question deals with deposition as an intervention in a place. The latter is approached through the aesthetic principles of object colour, brilliance and geometric order, and the spatial principle of exoticity, to show how objects shaped social practices (Helms 1988: 1993; Keightley 1987). Exotic exchanges often constituted key aspects of global/local relationships; after all, Cooney & Grogan (1999) have aptly characterised the Neolithic as 'local worlds linked by exotic elements'.

The integration of answers to these three questions will lead to a (relatively) unified theory of cultural engagement for the people living in the mosaic of different landscapes and antecedent settlements that characterize this 'Balkanised' region. This theory underpins my response to Alasdair Whittle's (2003, 166) challenge of examining how profound social change in three periods – the emergence of farming, the development of copper and gold metallurgy and the emergence of urbanism in the Trypillia mega-sites – required transformations in all of the dimensions of what constituted identity.

Book contents

One feature that I hope will help to clarify the exposition is the summary for each chapter. In the second chapter, the three long-term structuring principles – concerning enchainment and accumulation, personhood and the art and science of objects and structures – are characterized separately before an attempt is made at integrating a gendered perspective into the main narrative of the book. This chapter forms the theoretical basis for the analysis of selected 'local histories' at the personal, household, site and regional levels, which are presented in Chapters 6 to 10. Those readers who agree with Macneish's view of theory – "Theory is like perfume. Put on the right amount and the suitors will swarm around you. Put on too much and they'll think you're covering up the smell of bad data" (quoted in Flannery & Marcus 2012, p. xiii) – may wish to proceed directly to Chapter 3. However, those making this choice should be aware that the interpretational framework for the remaining chapters is set out in this chapter.

In Chapter 3, I discuss the long-term changes in Mesolithic, Neolithic and Chalcolithic foodways, as elaborated in five main stages: (1) growing and tending, including the human impact stories from a handful of sites with nearby proxy records; (2) allocating or storing; (3) cooking; (4) eating and (5) cleaning up. The exploration of subsistence intensification will consider the scale of agricultural practices, Andrew Sherratt's secondary products scenario and transhumance.

In Chapter 4, the two principal modes of creating gendered personal relationships are outlined – the dividual mode linking persons to other persons, places and objects, and the individual mode, based upon the development of embodied skills, perceptions and awareness of appropriate practices. Two main periods of intense development of new embodied skills can be identified – the emergence of farming and the development of advanced copper and gold metallurgy. In a related development, the novel objects made in all of the four periods in this study embodied geometric principles which indicated further incremental growth of skills and perceptions and the growth of a means of creating memory. In a third sense, the making of complex objects favoured discrimination between appropriate and inappropriate ways of their use. A parallel strand of gendered relationships concerns the anthropomorphic fired clay figurines that were so common in Old Europe. The active use of figurines in gender negotiations on a daily basis helps to explain many puzzling features of their distribution and form.

Just as megalithic monuments dominate the Neolithic of North-West Europe, so the domestic domain is the principal arena of later prehistory in Old Europe. In Chapter 5, the household is discussed in terms of its embodiment of communal relationships for people, animals and objects, with gendered persons emerging primarily from their home. A biographical approach is taken which aligns the number of persons living in the house with the structure itself. Just as the materials used for the construction of houses showed marked regional and cultural variation, differences in their size and geometric shape were linked to specific sites rather than strong regional contrasts. Equally, the social practices enacted in the house varied in time and space, linked not only to the solidity of the house but also to the number and variety of internal features and fittings. The most dramatic moment of many house biographies was their deliberate destruction by fire, complete with a household 'death' assemblage whose relation to the house's 'living assemblage' is often hard to establish.

Chapters 6 and 7 are concerned with the summary statements which communities made about themselves. In Chapter 6, the degree of planning of settlement layout is considered in diachronic form. The presence of completely or largely excavated settlements exemplifying a high degree of spatio-social planning is one of the most interesting, and obviously trans-generational, aspects of the prehistory of Old Europe. Concentric circular and grid-plan principles formed polar opposites, in contrast with the creation of settlement enclosures, often in juxtaposed with flat or tell settlements. Here, there were two, and sometimes three, forms of relational identities, each in tension with the other(s). The two normal forms of relational identities arose from the communal relations of the household and those of the entire settlement. In the Trypillia megasites, intermediate communal forms of relationship emerged through the creation of Neighbourhoods and Quarters. At the opposite end of the size/order spectrum come the mass of small, dispersed homesteads and the equally common but much larger 'horizontal' villages – both settlement forms with shorter occupations and less organized spatial layouts than found on tells or mega-sites. The implications of variations in site form are considered for Old Europe.

In Chapter 7, the four archaeological results of the disposal of the dead body are discussed – the absence of bodies, disarticulated burial, individual body burial and cemeteries. Intramural burial of part or whole bodies is assessed in terms of human body fragmentation and the creation of enchained dividual links with the living. The long-term creation of the 'normal' burial rite is used to reflect upon those relatively rare cases of 'deviant' burials. The strongest contrast here is between nucleated settlements, with no or very few known cemeteries, and dispersed homesteads, whose most prominent landscape feature was a large corporate cemetery.

The nucleation – dispersion settlement continuum is used as a basis for the discussion of settlement forms across the landscape in Chapter 8. The principal forms of settlement are presented, with special emphasis on tells and flat sites. A series of diachronic regional settlement trajectories is developed, based upon the varying quality of regional settlement data and linking developments to regional vegetation histories wherever possible.

The results of the changing settlement of Old Europe are used as the basis for a consideration of social networks in Chapter 9. Here, the impact of global and local links is considered diachronically in the formation of relational identities. Two classes of object are used to provide information about social networks – stylistic parallels for specific objects and exotic materials. The former demonstrate links connecting different and often remote regions in the Balkans, based upon a wide range of object types. The latter provide more precise links between source and place of deposition. The key distinction between resources available to upland and lowland communities is taken up in a diachronic account of key exotica. The question of centrality in these social networks is discussed through the identification of four different kinds of 'central' sites – focal sites, Gateway communities, betweenness sites and depositional centres. The surprisingly varied time-space distributions of networks involving flint and obsidian, polished stone (including jadeite), decorated ceramics, copper and gold, *Spondylus* shell ornaments and salt are discussed in terms of their contributions to the emergence of communal value and (in)dividual fame.

The thematic emphasis in chapters 4-9 gives way in Chapter 10 to an integration of the disparate threads of the argument concerning the effects of the three major innovations of this 4,000-year period – the origins of agriculture; the development of advanced metallurgy, with special reference to the Varna cemetery; and the growth of the first cities in prehistoric Eurasia in the Trypillia megasites.

In the final chapter, the main conclusions are tabulated by chapter before an attempt is made to summarise the answers to the three principal research questions of this book – the formation of relationships in the past, the predominance of the settlement domain and the proliferation of material objects.

Chapter 2

Framing the enquiry

"I am part of all that I have met" (Alfred, Lord Tennyson (1833) *Ulysses*: line 18).

Introduction: living within the rules

I have enlisted the aid of an adolescent male called Igor[10] to put the social practices and rules which we discuss in this chapter into a more human context. Igor was the oldest son of a family of six, who lived in a house on a tell settlement near the River Maritsa (modern Bulgaria). It was a crowded house and the houses were so close to one another that the young people had to keep quiet after dusk. But the house was the same size as the ancestral home so, as his father always reminded him, 'if the house was big enough for his grandfather's family, it was big enough for Igor'.

For a boy-man of 15 years, Igor already had responsibilities for the family, including taking the neighbourhood flock of sheep to their riverine pasture, helping out with roofing because of his skill at gathering Maritsa reeds and knapping small flint tools from river pebbles. If he was not swimming in the Maritsa or counting the sheep flock, Igor would make tools which he could use to cut the reeds for house repairs and home jobs. Gathering nuts and berries in the gallery forests could lead to meetings with teenage girl-women for additional foraging tasks. Autumns were busy for everyone and Igor's least favourite job, after spinning thread once or twice per week, was grinding grain on the saddle quern next to the fireplace. But this was what eldest sons did in their settlement before they got married.

What few eldest sons could do was to make long blades from the brown spotted flint from over the Northern mountains. Nor could any sons make fired clay figurines for firing in the household oven before use in female rituals. And Igor's skill at forming thumb-pots did not qualify him to make larger vessels – certainly not the wide feasting-plates standing high on four legs or the tight-fitting lids which kept vermin out of storage-jars. How could Igor make the regular fluting decorating the dishes and bowls? But he enjoyed the way the light reflected on the smooth, black surface and dazzled his eyes. Moreover, even though he wanted to learn, his mother didn't teach him to make the hot stews and gruels so appetising in late autumn. Igor lacked the strength to cut down trees for making new houses and he was slow to pick up martial skills in the rough-and-tumble of male fighting. But the neighbourhood relied on him and his inseparable sheepdog, Karaman, to keep the sheep safe, and households were happy to give him small gifts for repairing their roofs with the reeds he cut with such precision to the same length each time.

One summer's day, a man and a woman made their way down the steep track on the side of the Southern hill. Igor was among the first to see the strangers from the top of the mound where he was sitting, whittling a bone flute with his flint knife. He alerted the others and soon a group of senior men and women set off to meet the strangers. One of

10 Not his real name!

his village women spoke what to Igor was a strange kind of speech to the strangers, who understood everything she said. It transpired that they had come over the mountains from the Southern sea, bringing gifts of shining white shell ornaments. No-one in the village had ever seen such finery before, and the senior women were keen to be given the gifts in return for some long flint blades. Igor had never seen such a striking woman before – her black hair and the gleaming greenstone hair-pin and strikingly different costume performed a style quite alien from those in his village. The strangers stayed for a roast lamb feast in their honour, prepared by the senior men and accompanied by barley beer brewed by the women. Most of the adolescents were allowed beer that they drank in a handled mug – another kind of pot that Igor couldn't make. But he had a good appetite for lamb stew and beer and looked forward to other visits of strangers to his village. Maybe Igor could learn the strange words from the village 'translator', cross the mountains and swim in the sea. That would be more fun than having to help dig a pit on the edge of the village after the strangers left to put the bones of the lamb and all of the smashed fragments of the feasting-plates and the beer-mugs. Igor thought it was crazy to smash up such beautiful pots but this is what happened after village feasts – no-one seemed to know why! – perhaps because the ancestors had told them to do so.

Igor's story is a story of what the French sociologist Pierre Bourdieu (1977) called his *habitus* – his unspoken acceptance of the ways that things were done in his village, and in dozens of other villages in the Maritsa valley, in what archaeologists would call the Karanovo III group, in the late 6th millennium BC. Igor was a dreamer, a sensitive boy with some male desires, not a fighter but with some musical skills, some artistic appreciation but little talent and a feminine side which was frustrated because 'that was not what oldest sons did!' Igors would have been found in every prehistoric village, following the strict rules of age and gender, enjoying the experience of the 'Other' but probably not being able to learn other dialects and so staying with Karaman and his sheep by the river. In Igor's traditional community, the ancestors had a say in the way that new houses were built on the ground-plans of the ancestral dwelling or the aesthetic principles for making pots, figurines and flint tools. So much to stop an adolescent from doing what he wanted – so much to learn in the first place. Igors would have been reliant on the socialisation of many people in the village, even perhaps, occasionally, strangers. Slowly, Igors would have become themselves, perhaps marrying and having children, explaining to the oldest son what fathers need to do, keeping alive the memories of dark-haired women from over the mountains. The sites excavated in the Maritsa valley show us that change happened over the centuries of the Karanovo III group and after. But how could anything have altered the lifeways of Igor and his community? How could the familiar grip of ancestral traditions ever have been loosened?

Igor's tale is also a 21st century perception of his village life – and not one that Gordon Childe would ever have written. Since the advent of explicit story-telling (for the Balkans, see Tringham 1991: 1994), the genre has sought to humanise the social group under study – to make it easier for 21st century readers to understand the social contexts of the deep past and to associate with the actors in that deep past. In this genre, there is an implicit recognition of the difficulties of juxtaposing a human face with the myriad potsherds, pits and houses characterizing the settlements.

In this chapter, I seek to find ways to make the transformation from 'mute stones'[11] to local narratives and broader comparative essays. In Igor's story, I have introduced some important players in the drama of Old Europe: teenagers (male and female), parents, grandparents, the ancestors, visiting groups with exotic ornaments, sheep and goats, houses, grindstones, figurines, spindle-whorls, pots, flint blades, feasting events. Each of these players, whether humans, plants and animals, structures and objects, was in the forefront of the action at certain times and places, having an *effect* on the other players. I begin with the question of how widespread social practices were in Old Europe, before turning to a discussion of some basic terms on which I shall rely for the remainder of the book. I then examine approaches to be used to answer the three research questions posed in this book, starting with the four kinds of nested relationships which form the structure of the book – (in)dividual, household, community and global/local. I move to the question of settlements and the mortuary domain, before switching to concepts related to the proliferation of objects, including Neolithic 'art' and 'science', colour and brilliance.

Questions of scale

At first sight, the vast time-span of this book, covering anything from 130 to 300 generations, depending upon the length of the mean 'Neolithic' generation (see below, p. 44), would appear to vitiate any attempts to find long-term trends shared by all or most people in Old Europe (see above, p. 16). However, Old Europe was highly inter-connected through many forms of social networks, including exchange and stylistic zones (see Chapter 9). All of the five principal ways of forming relationships – individual, dividual, household, communal and global/local – were implicated in these networks.

A study of the distribution of objects similar to those from the single site of Orlovo in South-East Bulgaria revealed a surprising result (Chapman 2010) (Fig. 2.1). Formal or decorative parallels were identified for three object

11 The phrase 'mute stones' appears in the title of MacKendrick's (1962) popular book on archaeology – 'The mute stones speak'.

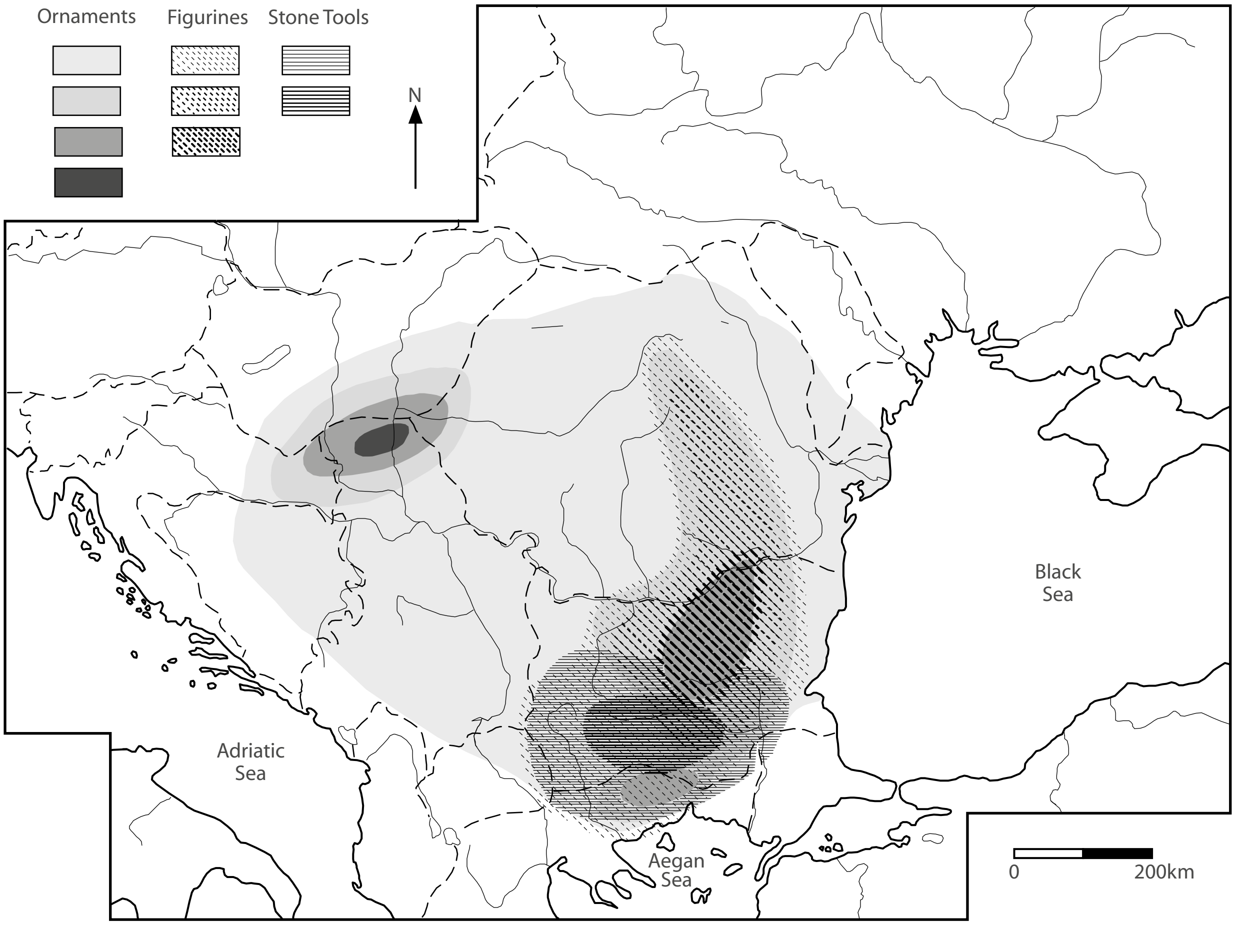


Figure 2.1. Spatial links in raw materials with Orlovo: (a) shell (tones); (b) stone (hatched); (c) shell and stones (tones & hatching); diamond – site of Orlovo (L. Woodard, redrawn from Chapman 2010, Fig. 5.4).

categories – figurines, personal ornaments and polished stone tools – over all of Old Europe, in an area including over a dozen archaeological 'cultures' – that is, sites linked by similar material culture and differentiated from adjoining areas with different material culture[12]. The study of the Orlovo networks indicated varying spatial and temporal distributions for different objects rather than a single, mutually reinforcing distribution. Therefore, instead of 'cultures', I shall talk of 'groups' as sets of communities using similar pottery (e.g., the Trypillia-Cucuteni group), while reserving the use of the term 'networks' for communities linked for other reasons, such as breeding or exchange networks. The existence of such large-scale material networks supports the notion of a specifically 'Balkan' Neolithic – Chalcolithic phenomenon, as distinct from the Neolithic of any other part of Eurasia and characterised by shared traditions linking the everyday life of many individual settlements. While the local histories created in settlements both bound people together and pushed them apart by emphasizing different bodies of memory (Hendon 2010, 237), the common use of such similar artifacts indicates broadly similar ways in which persons interacted with the objects. This suggests a material network approach to our three principal research questions – on relations, settlements and objects. I start the building of a framework of understanding by looking at some basic terms – social practices, relationships, dwelling and objects.

Basic terms[13]

Social practices have been well characterised as the ways in which persons are produced and performed (A. Jones 2005). Such practices could potentially include the full range of plants, animals and places and also the acts which persons are capable of and their duration

12 My objection to using the term 'archaeological culture' in this book concerns the unjustified dominance of decorated fine wares over all other aspects of communities' social practices (Shennan 1977; cf. discussion of 'cultures' in Chapman & Dolukhanov 1991).

13 There is story circulating among social anthropologists that no colleague could ever buy a second-hand car from Claude Lévi-Strauss because they could never agree on terms.

may have been very variable. People and groups drew upon different aspects of the general structuring principles which we can identify to create their own social practices. To the extent that these practices continued in use for generations rather than weeks, months or years, they may have become embedded in the habitual framework of dwelling, gaining authority from their longevity or widespread distribution in coeval communities (Hendon 2010, 5). Such authority as was attached to such practices could have begun to symbolise more than a repeated way of accomplishing a task, taking on a representation of aspects of the practice. Most social practices could be related to other entities by material metaphors; the denser the nexus of connections, the more important the social practice was as an illustration of the large-scale social projects which enshrined the long-term structuring principles. In this chapter, I seek to address some of the most important long-term continuities in Balkan Neolithic practices. Needless to say, there was a wide variety of settlement contexts and material proxies for such practices.

In a thought-provoking attack on conventional demographic wisdom, Kilmurray (2009) has challenged the use of modern notions of a 'human generation' for prehistoric populations. If it is assumed that a 'generation' begins at the one-third mark of a person's life, modern generations begin at 25 years and last 25 years. However, most prehistoric persons would have lived no longer than 30-35 years, with a generational 'cohort' maturing at the age of 15, half-way through their lives. Therefore, we can think of a Neolithic generation as beginning at about 15 years of age but over within 15 years (Kilmurray 2009, 47). If we combine this insight with Hewlett's (1991) key observation that, in both hunter-gatherer and farming populations, c. 40% of all people were under 15 years of age, the picture emerges of a very different prehistoric age structure than the one we have been using, with multiple implications for household / family structure, genealogies, memories and the organisation of production.

The first implication concerns the age structure of the household/ family. Whereas before, a three-generational family was accepted as normal, with some years' overlap time between the generations for cultural transmission and socialization (Johnsen & Welinder 1995), now there were fewer years in which grandparents overlapped with grandchildren, or even parents with children. Such a distribution raised the significance of old people – persons living past 50 years – as bearers of tradition and cultural memory (Appleby 2010). There would still be a handful of older people in a modal tell population of 150 persons but the probability of an old person (a grandparent) in every household was very low. The acceleration of every aspect of household development led to the standard pattern of earlier, sub-adult pregnancies and births in many households.

Secondly, the ontological basis of the Neolithic changed from long generations to a succession of shorter generations combined with lengthy genealogies, with faster progression through age-sets and juniors becoming elders far more quickly. This prompted a re-thinking of the world and the recognition of a distant past of increasing potency. This in turn affected the significance of commemoration. Whether the more rapid generational replacement made acceptance of social change easier, or whether the greater attention to memorialisation of past values and practices constrained rapid change is an important question for future discussion.

Some of the most important implications of the shorter generation concerned the production of memory itself. The rarity of grand-parentage overlap raised questions about the storage, reactivation, and transmission of social memory (Kilmurray 2009, 48-49). Kilmurray (2009, 45) further notes that "generations are a bridge between individual and collective memory … a link in the intersection of individual and collective *identity*. Changes made in one generation act to limit *and* facilitate the actions of the following generations". While Kilmurray's emphasis on communal monuments in the transmission of social memory is particularly apposite for North-West Europe, such mortuary monuments were rare in South-East Europe, where the key sites were domestic (especially monumental tells), replete with large quantities of objects. It is suggested here that tells and objects were the principal mnemonic devices for the Neolithic of Old Europe.

The fourth implication for the short Neolithic generation concerned the organisation of production. Kilmurray (2009, 47) suggests that we are talking of a period where the builders of Neolithic monuments would have been within the 17 to 25 year old bracket – which is the most important formative stage for social memory. In Old Europe, the importance of subadults (viz., teenagers) for the building of houses and the creation of site layouts has never been considered.

In summary, Kilmurray's insights into the short Neolithic generation of 15 years opens up the way for a profound re-imagination of Neolithic ontology in Old Europe and beyond. Its ramifications will echo throughout this book.

Another point concerns 'gender relations' in Old Europe. The absence of a gendered perspective on prehistoric lifeways is a striking aspect of many general accounts of prehistory. Robb & Harris (2018) offer an explanation through their proposal for a major difference between the ways gender is performed in the European Neolithic from the ways typical of the European Bronze Age, with a transition in the Copper Age. For Robb and Harris, Bronze Age gender principles and practices were clear, binary and ubiquitous, while Neolithic performances were fuzzy, local and diverse, making their comprehension very complicated. Clearly, this is a significant hypothesis which this book will investigate.

Theorization of 'sex' and 'gender' has proliferated since 2000 (Sørensen 2000; Joyce 2000; Alberti 2007; chapters in Bolger 2013). In general, 'sex' relates to the biological characteristics of a person insofar as they pertain to personal identity, while 'gender' concerns the co-emergence of a gendered identity and the development of gendered cultural attributes and practices (Sofaer 2013; Grauer & Stuart-Macadam 1998). It could be summarised as follows: sex was more inherent than performed, while gender was more performed than inherent. Three points of convergence can be proposed from the debates of the 21st century: the social construction of gender applies equally to sex (Meskell & Joyce 2003); a potential multiplicity of sexes and genders has been identified, whether androgynes / hermaphrodites, third sex persons or persons identifying with Queer status (Alberti 2013); and these points present major challenges to working with the concepts of sex and gender in the Neolithic and Chalcolithic context (Robb & Harris 2018). Nonetheless, sex and gender cannot be excluded from Neolithic studies, since much of everyday practice took place in households – the place where masculinity and femininity came together fruitfully (Bloch 2010). The re-discovery of children (Sofaer Derevenski 2000) and the elderly (Appleby 2010) provides new theoretical potential for the study of household relationships and the work done there (Claassen 1997). One of the most unfortunate aspects of post-Gimbutassian gender archaeology is that there has been a virtual taboo on discussions of women's biology, reproduction and motherhood (Whitehouse, R. 2006, 768). This taboo not only removes a vital part of women's activities from debate but also allows supporters of the patriarchy to deny a fundamental material difference between men and women (Escoriza Mateu 2002). There has also been little discussion of mothering in archaeology (Wilkie 2000). In this book, I hope to find a place for birth and children in Balkan prehistory.

The process of 'dwelling' has been the subject of major debates in the last two decades (Hirsch & O'Hanlon 1995; Brück & Goodman 1999; Whittle 2003; many chapters in David & Thomas 2008). A frequently cited approach to landscapes and places has been Ingold's (2000) 'dwelling perspective', in which dwelling is recognised as central to life and prior to building. For Ingold, a place owes its character to the experiences it affords to those who spend time there, with the tasks of different places giving rise to 'taskscapes' – landscapes replete with the remains of audible social action. However, this version of the dwelling perspective can readily downplay the political factors present in every taskscape. While appearing to be firmly grounded in the details of everyday living, the dwelling perspective can avoid the everyday questions of negotiation, contestation and dispute. An expanded dwelling perspective starts from the premise that place-value is always a contested field of practice, in which political action is as important as dwelling practices (Shields 1991; Massey 1994; Chapman 1998, 109-111).

An important aspect of dwelling concerns the terms used to categorize sites. Accurate identification of site types enables the definition of recurrent combinations of site types – i.e., a settlement pattern (Kowalewski 2008). In parallel to burial sites such as cemeteries and mortuary barrows, there were seven principal site types: four residential (tells, flat sites, enclosed sites and lake-dwelling sites) and three specialised (pit sites, extraction sites (flint or copper mines, quarries, salt exploitation sites, etc.) and cave sites). Overlaid on this typology of sites is a social categorization of settlement units usually based on the size of the artifact scatter forming the 'site' – homesteads (or farmsteads), hamlets, villages (Chapman 1989) and, uniquely in the Trypillia case, towns or 'proto-cities' (Chapman et al. 2014, 2014a). While these terms undoubtedly carry the baggage of European Medieval history, and in particular the recent history of Britain, they do have some heuristic value for the scale of dwelling at one place. 'Towns' relate only to the Trypillia mega-sites and may be defined as "settlements with a minimum of 1,000 people, with a planned layout and differentiation between domestic and public and/or specialized buildings". What is currently less easy to characterise is whether the mega-sites were seasonal agglomerations rather than permanent, long-term occupations (see Chapter 9). The term 'village' is defined as: "A more or less nucleated settlement occupied year round, permanently or semi-permanently, or seasonally as a permanent base, with a community size range of 50-1,000 and a community service range often related to its size." This definition clarifies the distinction between villages and the two remaining terms – the hamlet (a cluster of several families up to a total of 50 people) and the farmstead (a single family residence of up to 15 people). One of the variant terms that has been introduced into the Neolithic settlement of Western Europe is the 'Extended Village' (Howell 1983) – a dispersed form with large gaps (up to 100m) between houses. This type of village may be contrasted with the nucleated village form, which was more common in Old Europe (e.g., on tells).

Another terminological debate has focused on what to call items of material culture – in particular the use of the terms 'objects' and 'things'. Bill Brown (2004) defines 'things' as ambiguous and undefined, open to different meanings and various relations with persons, whilst 'objects' are more concrete, named and with transparent meanings. Equally, for Gosden (2005), 'things' are

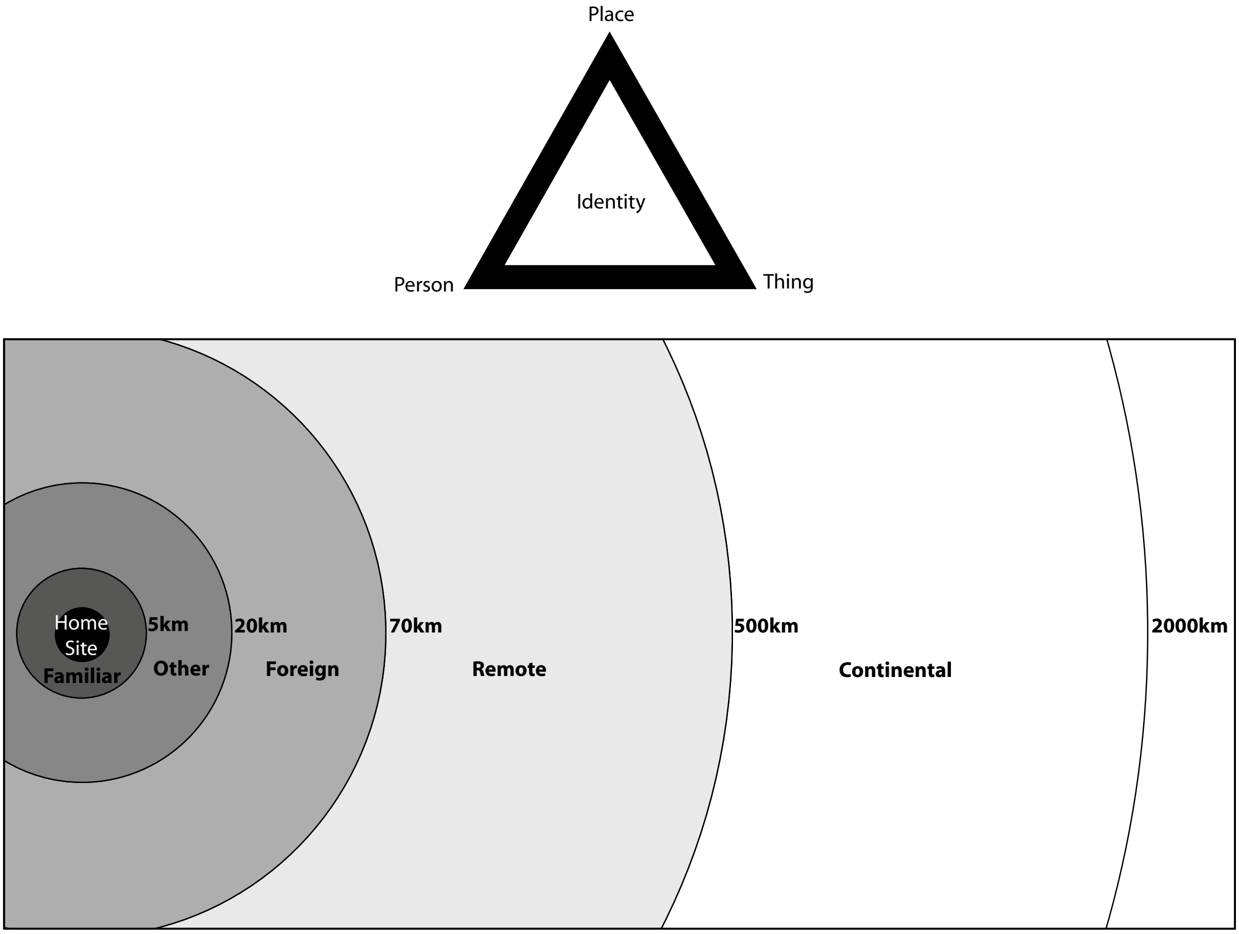


Figure 2.2. (top) The Identity triangle (author); (bottom) spatial zonation (L. Woodard, redrawn from Neustupný 1998).

inalienable and unquantifiable because embedded in social relations with persons, while 'objects' are alienable and quantifiable because separate from social relations. Hodder (2012, 10) suggests that the shift from 'objects' to 'things' is comparable to the shifts from discourses on environment to landscape, from space to place and from time to temporality (Lucas 2001: 129; Tilley 1994). However, gifts and commodities (things and objects) were in concurrent use in most societies, with the 'same' artifact being used for both roles in different contexts (e.g., set accumulation: see below, p. 50). Thus, a global opposition between 'alienable objects' and 'inalienable things' may be hard to sustain in prehistoric practice and I shall continue to use the terms 'thing' and 'object' interchangeably for later Balkan prehistory.

I now turn to my basic approach to the three principal research questions of the book. The approach is based upon local interactions between persons, animals, plants, places and objects, with some key general principles underpinning those interactions. In the following sections, I shall explore the various ways in which relations were formed.

Relations

The ways that relations were formed reciprocally between persons, places and objects formed the core of social identities in Old Europe (Fig. 2.2). It is by no means straightforward to determine the form of the five principal relationships, since they developed simultaneously and in complex, recursive and, above all, nested combinations. These five forms of relations are: individual and dividual relations, household relations, communal relations and global – local relations.

Individual and dividual relations and personhood

The starting-point for understanding individuals and dividuals is to consider how they came into being. The simplest definition of personhood is 'the creation of a person'. While the term is clearly closely related to the 'age', sex and 'gender' of the person in question, these three characteristics contribute to 'personhood' rather than consist of the part of its definition. While the question of forms of personhood is complex (Fowler 2016), and will later be unpicked (see Chapter 4, especially 131 ff.), there is a basic contrast to be drawn between rational (i.e., individual) and relational (viz., dividual) personhood. The former is the dominant form of the creation of persons in the West. It is based upon Cartesian principles of dualism, in which the mind is separated from the body and matter and the subject is differentiated from the object (Fowler 2004). This view of personhood appears to be commonsensical, since, in a physical sense, our bodies do indeed stop at our skins. But once a relationship is introduced between one individual and another, or an individual and material culture, the pure sense of unmixed categories begins to break down in the face of metaphor and metonymy. The former can posit that 'something' stands for 'someone', while the latter can show that a 'part' of something stands for the 'whole'. These forms of relationship lead quickly to the notion of 'hybrid culture', where mixed categories not only exist but flourish, with the over-arching metaphor for hybrid culture being Lévi-Strauss' term 'bricolage' (Levi-Strauss, C. (1962). This is a cultural strategy for forming a response to a situation from whatever elements of culture are at hand. As we shall see, it is fundamental to a relational viewpoint.

The alternative to rational personhood as the dominant trope in the Western world is relational personhood, in which persons are constituted by their social relations (Brück 2001; Whittle 2003; Fowler 2004: 2013; Thomas, J. 2008; Hendon 2010; Marshall 2013). Kinship consists of practices reproducing and manipulating relationality and identity (Ensor 2018, 172). Because kinship is an idiom for space, lineal time and ecological time are condensed – in the same time, same place (Burton 1983, 117). Hendon (2010, 4) proposes that "the communities of memory[14] that develop through actions and interactions bind individuals, places and material culture over time and in the process create a sense of relational personhood." Such relationships are mediated through the practices of enchainment and accumulation. Memory-building takes on even greater importance than previously thought with the realization of a shorter human generation (see above, p. 44).

The tendency to contrast two forms of personhood, even with an emphasis on the tensions between them (LiPuma 1998), has recently been criticised as limiting the notion of personhood to a binary opposition. Chris Fowler (2016) has proposed a much more complex view of personhood, quoting as many as 17 axes of relationality cross-cutting (in)dividuality. The dividual was formed through all of the relationships to which they were party, with these relationships spreading out through the household, the neighbourhood and the community and beyond. To the extent that the 'communal' comprised the sum total of relationships between dividuals living in that place, there was necessarily an overlap between communal relations and the relations of each dividual, with dividual relationships grounded within one specific, if permeable body. The individual aspect of personhood emphasised the difference between one person and another.

Turning to egalitarian, heterarchical and hierarchical relations, each person had different forms of power relations with others but there was no contradiction between dividuality and unequal relations. The example of Mayan monarchs who could simultaneously be in two places at once because of a ritual device (Gillespie 2008) shows how strong power relations were still compatible with partible identities, although access to this particular device was a function of absolute monarchical power. It is doubtful that such strong power differentials had developed in Old Europe in the Neolithic and Chalcolithic; even the most distinguished long-distance specialists were still faced with the problem of how to ground their exotica in the local cultural milieu. What this example raises is the issue of how dividuals could emphasise particular power relations at the expense of more egalitarian relations with others (e.g., the Varna cemetery: see below, pp. 262-7).

Several commentators have emphasised the variability in forms of relational personhood, citing South Indian (Marriott 1976; Busby 1997), South American (Whittle 2003; A. Jones 2005) and Hawaiian personhood (Rumsey 2003), alongside the Melanesian form (Chapman 2000a; Fowler 2004; Chapman & Gaydarska 2007). Common to all of these forms are three traits:- (a) the permeability of bodily boundaries, allowing exchange of aspects of one body and another; (b) the fluidity of personal identity through the life-course, depending upon changing relations and experiences; and (c) the importance of hybrid categories in the creation of personhood. While the Melanesian form of personhood depends upon the enchainment of persons through exchange of complete objects (Strathern 1988), one of the implications of the fragmentation premise for Balkan prehistory concerns enchainment through parts of objects, leading to the formation of different forms of personhood from those quoted in the anthropological literature (Fowler 2004). We now turn to a discussion of the key relational process of enchainment.

Enchainment

The term 'enchainment' has become central to the study of (in)dividual relations, with our understandings changing from a term applied to (mostly Melanesian) exchange relations (Strathern, M. 1988), to the central concept in the establishment of relations through the use of fragmented object and body parts (Chapman 2000a) to a more general way of creating social relations (Jones, A. 2012). 'Enchainment' is but one of four characterisations of human – object relations

14 Burke (1989) defines the term 'community of memory' to mean "groups who coalesce around bodies of memory", communities of practice in which learning takes place and knowledge is constructed.

that have been proposed in the last two decades[15]. I shall focus here on the notion of enchainment, which I believe is fundamental to social relations, since it produced not only individuals but also the 'dividuals' who were of such interest in Old Europe (Chapman 2000a).

Following the principles of the Identity Triangle (Fig. 2.2), three forms of enchainment may be differentiated: person with person, person with object, person with place and objects with place. The enchainment of persons with other persons forms an essential part of human social relations. Just as genealogy is an enchainment of people (Wagner 1991, 162), so kinship consists of practices reproducing and manipulating relationality and identity (Ensor 2018, 172). As with all enchained relations, kinship relations embody power networks at several different scales – social practices, community relations and global – local exchange relations.

With prehistoric foragers, only a tiny fraction of social relations was based upon co-presence, since, from the Early Palaeolithic onwards, the total social network was much larger than the co-present residential group (Dunbar 1992; Gamble 1998: 2010). The maintenance of multiple enchained relations was made possible only through strategies of presencing absent members. This was the beginning of a long prehistory of dividual person – object relations (for Gosden (1999), 'hybrid cultures'), in which an object (or fragment of an object) made by a distant person could presence that person for an audience at some remote distance (Chapman & Gaydarska 2010). Sustaining a social network through time meant repeated, two-way acts of presencing.

In more permanent settlements, artifacts acted as material metaphors of inter-personal relations at various socio-spatial scales on a daily basis (Fig. 2.2), as well as the basis for shared memories. The use of things made from low-quality, locally available sources materialized a narrow range of perhaps intra-household relations, whereas things made from materials that were not available on site rendered present the sources of those materials and the persons involved in their production, denoting wider social networks with greater power dynamics (Skourtopoulou 2006: n.d.). In the form of inalienable exchange that Weiner (1992) termed 'keeping-while-giving', an exchange partner confronts the challenge of capturing someone else's inalienable possessions, thus embracing their ancestors, magic and power and transferring part of them to their own next generation. The other exchange partner is required to give something but would seek to keep out of the exchange the most powerful objects with the most elaborated personal biographies. Here, cultural reproduction is achieved through the ability to reproduce more of one's self and one's group through time by asserting difference while defining an unchanging past. Thus, the exchange of inalienable objects projects power relations onto every exchange act – a very different value system from reciprocity (Mauss 1936; cf. N. Thomas 1991) and one in which the history of the entire exchange relationship is inherent in the exchange act (Bourdieu & Wacquant 1992, 124).

The enchained relationship between persons and places raises the question of how persons relate to places – an all-encompassing query since everything that we do takes place somewhere. As the Greek philosopher Archytas of Tarentum (428-347 BCE) stated, 'to be is to be in place'. Until the late AD 19th century, to be in contact with someone meant the state of co-presence. This is why the Mayan elites' construction of statue-stelae enabling them to appear to be in two places at once was such a powerful, magical staged event (Houston & Stuart 1994). In small-scale societies, localism was so pervasive that a generic name for 'place' was as unnecessary as it was unthinkable (Robinson 1989; Gregory, D. 1994). The reason why these groups found it so hard to separate people from places was that the identity of the person was so closely tied to his or her place (Robinson 1989, 161, 167). There is thus a moral character in the enchained relation between person and place, especially in times of settled life (Wilson, P. 1988), when the grounding of a person in a particular place results in the identification of that person with that place and *vice versa*[16]. It is but a small step forward to associate the importance of a place in its relationships with persons to the values placed upon the persons who come from that place (and *vice versa*) (Chapman 1998: 2012).

The question of value is also important when it comes to objects. Discussion of the exchange of complete things has been partially based upon Melanesian ethnography (Strathern 1988; for further explorations of Strathern's argument, see Gell 1998: 1999). However, one of the advances of the last two decades has been the recognition of the exchange of parts of objects, following

15 These four characterisations are 'enchainment' (Chapman 2000a); 'engagement' (Renfrew 2001: 2004), 'entanglement' (Hodder 2012; and 'event-full prehistory' (A. Jones 2012). In engagement theory, objects mediated between humans and between humans and their environment; however, there is little sense in which objects were co-producers but, rather, interacting props in the development of superior mental strategies (Renfrew 2004; Hodder 2012, 38). The three other theories emphasise the inter-dependence between humans and things, based upon the primary agency of things – the effects of their specific qualities, their materialities. Enchainment theory encapsulates practices which create personhood and develop dividual as much as individual relationships, while entanglement is a sticky, dialectic relationship between a productive, enabling dependence of things and a constraining dependency of things (Hodder 2012, 88-89). For A. Jones, materials are active participants in the performance of meaning, while materiality is produced in specific events through performance.

16 Similar relationships between people and place can be found in English place-names, many of which have their roots in Anglo-Saxon place-naming strategies (see Jones, R. & Semple 2012, 1-5).

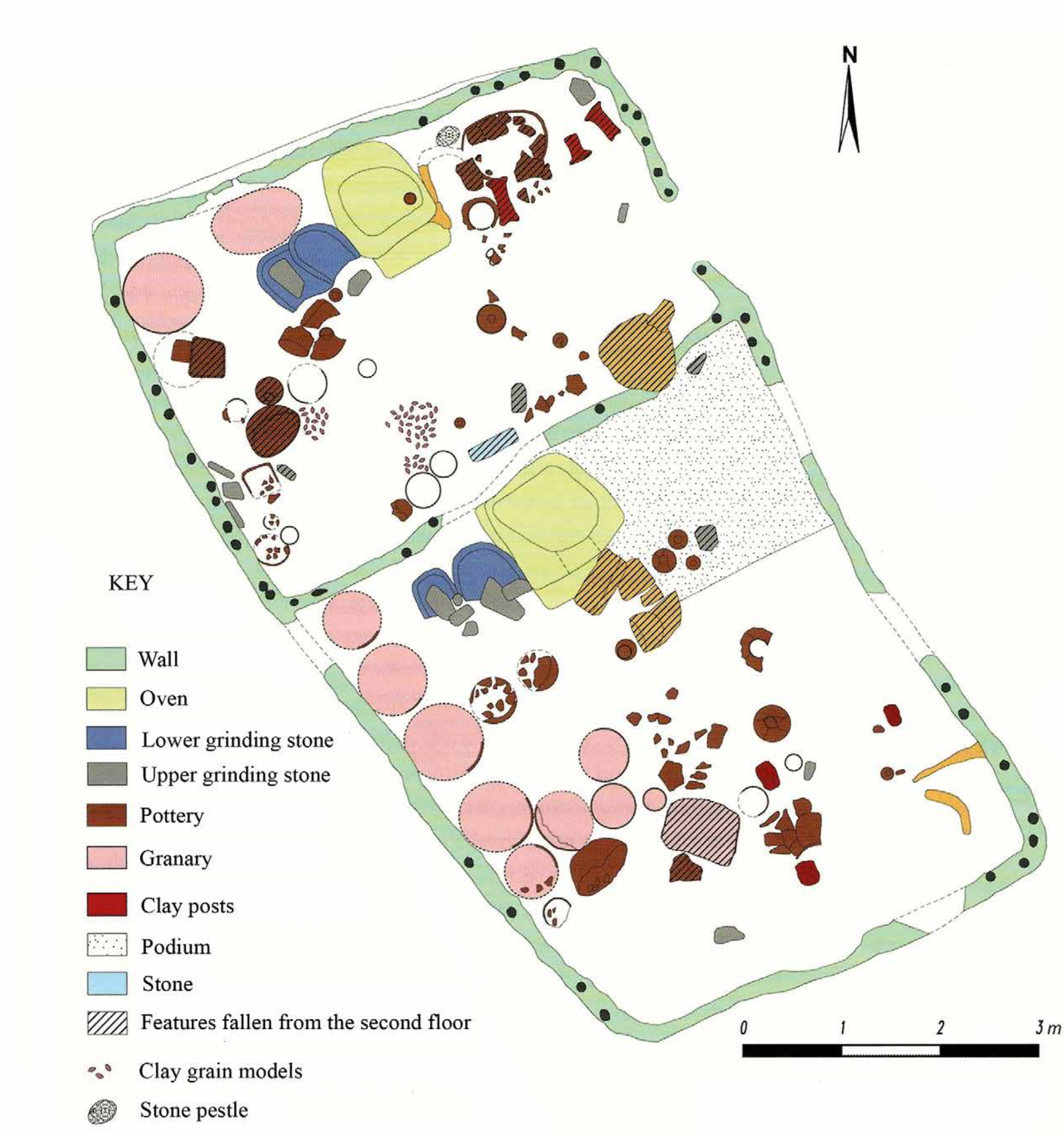


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Figure 2.3. (a) Plan of Early Neolithic house, Stara Zagora – Okruzhnitsa Bolnitsa (source: Kalchev 2013, Fig. 1); (b) Exterior of reconstructed Late Neolithic house based upon Pál Raczky's excavations at the Csőszhalom horizontal settlement (photo: author).

the demonstration of the 'fragmentation premise', which postulates deliberate object fragmentation followed by the curation and continued use of fragments 'after the break' (Chapman 2000a; Chapman & Gaydarska 2007). This idea of what the Greeks called '*synecdoche*' – the part standing for the whole – meant a plurality of opportunities for enchained relationships through fragments. Although fragmentation was not necessary for partible exchange relations, and vice versa (*contra* Brittain & Harris 2010), the Balkan prehistoric world provides good reasons for accepting that enchainment was one of the few fundamental social practices. The combination of enchainment with deliberate fragmentation, whether of object, place or body, can be demonstrated at many spatial scales (see Chapters 4 and 7).

We have seen how persons and objects were characteristically related through enchainment, whether in one settlement or across the landscape. But another key contribution to personal identity was the way that (in)dividual skills were mobilised to produce buildings or objects. This was a further elaboration of relations enchaining persons and objects.

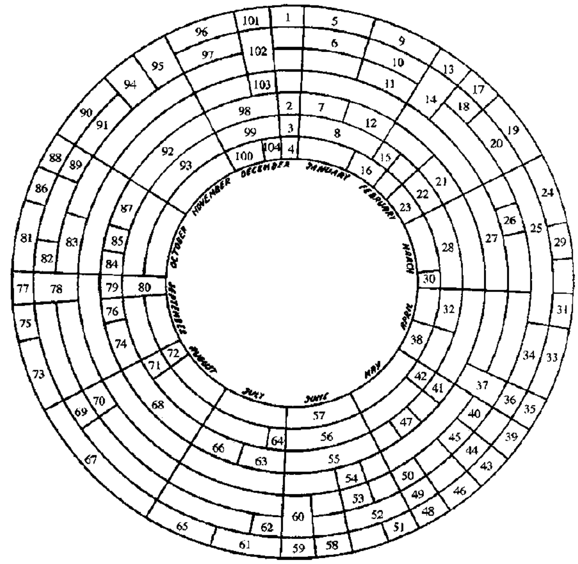


Figure 2.4. Seasonality of food production practices in an AD 17th century farming community in Jämtland, Sweden (see Table 2.1) (source: Sørensen 2000, Fig. 6.1).

Personal skills

An important aspect of (in)dividual relations was the skill set that each person developed in their everyday lives. The formation of the body through the experience of the material world (Bulger & Joyce 2012) – their individualization – also allowed things to participate in the process of the making of personhood in many ways. It was the range and combination of personal skills embodied in each (in) dividual, in combination with the materials available to them, that allowed the performance of certain technical acts and not others. Thus, a key aspect of personhood concerned the kind of skills which persons developed over a lifetime. For Dobres (2000), "personhood, in all its multiple layers, is internalized through the experience of technical practice." Such practice constituted the basis of the social relationships through which persons emerged and grew.

The key proposition here is that these processes of individualization would have had a strong impact on the creation of gendered personhood (Chapman & Gaydarska 2011). The individualization of persons would have developed through their distinctive combinations of old and new embodied skills and competences (Hernando et al. 2011; 2012). Individual and dividual personhood was therefore something that was always coming into being, whether through the skill sets that they developed or through the tensions between dividual and individual personhood found in most communities. Whether a particular female potter was the best pot-painter in the whole village or whether a middle-aged man was good enough at plastering houses and knapping flints but was not the best at either of these skills would have made a difference to what kinds of persons they became. Whether or not a shepherd's skills betokened a specialization, the skills were important to the shepherd, their sheep, the exploration of upland areas, the development of hunting skills and the provisioning of their community. In this way, the beginnings of craft specialisation could be traced through the contingent process of en-valuing a specific embodied skill. It also led to what archaeologists identify as 'prestige goods' – the other side of the coin of 'specialisation', or what J. Clark & Parry (1990) have insightfully termed 'conspicuous production'.

Household relations

One of the principal domains in which persons grew and developed their (in)dividual skills was the household (Gamble 2005: 2007). Souvatzi (2014, 241) has defined the household not so much through co-residence, kinship, or family, or a mere physical dwelling (e.g., house), but by the shared performance of a sphere of practices consisting minimally of production, distribution, consumption, transmission, and social reproduction. The proposed shortening of the prehistoric generation (see above, p. 44) meant that many houses stood for longer than a single generation. Living together and interacting much of this time, the persons in their variety of combinations would have created the personality of their own house, at the same time developing their own forms of personhood according to household and wider, corporate principles, increasingly involving limited interest groups. But the ways in which these principles of personhood were worked out in daily practice were strongly grounded in household practices and relationships (Souvatzi 2008). It was largely out of the household setting that gendered (in)dividuals emerged

1 transporting hay	36 cutting fence poles	71 leaves harvest
2 shearing sheep	37 sand and ash spread on remaining snow	72 possibly harvesting the starrbog
3 teasing wool	38 cloth weaving	73 collecting the harvest
4 sewing	39 preparing tools for farming	74 collecting the harvest
5 transporting firewood, fodder and spruce twigs	40 grinding grain	75 leaves harvest
6 cutting spruce twigs	41 drying seed grain	76 leaves harvest
7 spinning wool	42 baking	77 bringing home the harvest
8 preparing hemp and spinning	43 spreading manure	78 turnips and Swedish turnips harvesting, roots collecting
9 threshing	44 ploughing	79 bringing home the harvest
10 driving for the ironworks	45 enclosing pastures	80 turnips and Swedish turnips harvesting, roots collected
11 working on wagons, wooden containers and nets	46 sowing	81 ploughing of the fallow and fields with straw on
12 threshing	47 enclosing pastures	82 threshing and drying
13 transport to the annual Candlemas market	48 weeding the fields	83 grinding grain
14 transport and cutting spruce sprigs and bark	49 enclosing pastures	84 shearing sheep
15 spinning	50 sowing flax and hemp	85 baking
16 weaving cloth	51 drying and grinding	86 slaughtering
17 bringing home fodder	52 carpentry of hay barns etc.	87 knitting socks and gloves
18 cutting timber	53 weeding the fields	88 clearing of meadows
19 threshing (1-2 days per week)	54 closing the field fence	89 cutting spruce twigs
20 transporting iron ore and coal	55 linen weaving and bleaching	90 wood, timber and pole cutting
21 threshing (1-2 days per week)	56 baking summer bread	91 cutting wood for handicrafts
22 spinning, reeling and winding	57 weaving and sewing of different cloths	92 teasing and spinning wood
23 weaving cloth or frieze	58 boat repairing, fishing	93 winter clothes preparing
24 travel to Norway	59 harrowing the fallow	94 transporting firewood and spruce twigs
25 driving for the ironworks	60 preparing scythes, rakes etc.	95 transporting timber and building timber
26 hay and wood transporting	61 harvesting the starrbog in the mountains	96 bringing home starr fodder
27 binding nets and seine	62 birch bark collecting	97 handicrafts
28 hemp spinning	63 harvesting the starrbog in the mountains	98 spinning wool
29 travel to the Gregory market	64 birch bark collecting	99 baking and making food for Christmas
30 flax spinning starts	65 harvesting horse hay	100 cutting spruce twigs
31 transporting hay and fodder	66 harvesting horse hay	101 travel to Norway
32 spinning flax	67 harvesting on hardvalls meadow	102 transporting and cutting firewood
33 end of threshing	68 harvesting on hardvalls meadow	103 threshing
34 cutting and transporting firewood	69 leaves harvest	104 travel to market
35 transporting manure	70 possibly harvesting the starrbog	

Table 2.1. Seasonal food production practices in an AD 17th century farming community in Jämtland, Sweden (see Fig. 2.4) (source: Sørensen 2000, Table 1).

through reiterated practices of cultural transmission. At the same time, all houses were embodied and contributed to the distribution of personhood among many beings – humans and non-humans (Hendon 2010, 179) (Fig. 2.3).

The failure of the task differentiation model for a gendered archaeology (Spector 1983) depended upon its reliance on relational analogies (often ethnographic) and the imposition of gender stereotypes allocated to tasks (Finlay 2012: 144). In Iberian archaeology, research on task differentiation has been replaced by the 'maintenance activities' approach, which deals mainly with "the practical chores involved in the management of daily life from a gender-oriented perspective." These indispensable practices require specific skills, specialised knowledge and work partnerships within a temporal framework characterised by repetition and recurrence (Díaz-Andreu & Montón-Subías 2012, 443-4). The long time that all household members spent on maintenance activities meant that these activities made a huge contribution to the development of certain types of personhood.

The maintenance activities approach is an excellent way of relating persons and things to a valued place. González-Marcén and her colleagues (2008, 1) have identified the principal maintenance activities as follows: 'food processing, making clothes, carrying water, caring for others, raising and socializing children, preparing and administering remedies and medicines, and cleaning.' All these activities were important for the social cohesion, reproduction and welfare of human groups; they imply specialized knowledge, social networks, specific technological practices and existing social norms and values (González-Marcén et al. 2008, 3). An example of the proliferation of maintenance practices, each of which required social relationships and individual competences, is Sørensen's ethno-historical account of the annual cycle of activities connected with food production in an AD 17th century farming community in Jämtland, Sweden (Sørensen 2000, 110-111 & Fig. 6.1) (Fig. 2.4; Table 2.1).

Several authors emphasise the long hours that household members – not just women – needed to complete such tasks as spinning and weaving, fuel and water collection and grinding flour (Meyer 2008; Sánchez Romero & Aranda 2008; Brumfiel & Robin 2008). Costin (2012, 181, 197) has noted that pre-industrial textile production was one of the most labour-intensive maintenance activities of the past; she suggests that it was more time-consuming than food preparation and all other crafts put together! The specific temporality for maintenance activities was the everyday; as Alarcón García & Sánchez Romero (2010, 275) put it, 'everydayness is the context where inter-personal networks develop' and relational identities were strengthened. Hendon (2006) explores the role of the economic inter-dependence of the members for the development of such networks, stressing the joint decisions on the allocation of resources, co-residence and shared social obligations. It was the repetition of tasks, as a key mnemonic aid, that created time and memory and gave tempo to social life, also helping people to learn and acquire a 'logic of practice' about how to go on (Mlekuž 2015, 448).

A typical way of demeaning maintenance activities is the relegation of important faunal and floral data to redundant sub-systems such as 'subsistence' or 'environment' (for critiques, Gifford- González 2008; Sherratt 1999). Equally, Neolithic cooking and cuisine have been under-studied by most archaeologists (a welcome exception is John Robb (2007)) because cooking is uninteresting women's work (Pyburn 2008), until cooking takes on a political dimension in the context of elite feasting (Hendon 2006). Changes to agro-pastoral practices (intensification of arable cultivation or dairy products) and the ways in which food and drink were prepared and served would have had an important effect on the overall profile of maintenance activities and the time budgets of those involved. Other things being equal, larger households would have had greater capacity not only to complete maintenance activities less arduously but also to cope better with changing work patterns (Coleman Goldstein 2008).

The undoubted overall centrality of maintenance activities to household labour should not, however, lead us to forget the other practices that took place in or near the household, linking the domestic to the public domain. In her study of Mayan farming at the site of Chan Nòohol, Belize, Robin (2002) showed how a spatial overlap between domestic and agricultural work near the house resulted in a commingling of men and women, young and old, in shared labour, especially at harvest-time. In a good example of entanglement, the domestication of plants and animals led to a further domestication of the landscape (Clement 1999), as niche conditions were required for plants and animals in a wider management of the landscape (Barrett 2011: 2015) and new relations of care were developed (Hodder 2012). As Rival (1999) has suggested, this meant that dividual people grew and developed through their knowledge of animals (to which we could add 'plants') and vice versa! This nexus of the domestic niche had longer-term implications, such as the growing importance of land tenure to households who had invested labour and resources in their niches.

Another place where new relations of care were developed was in gardens (Mlekuž 2015, 450-454). The seasonal round of garden activities mutually constituted people and their gardens, together with the agency of the ancestors who created and maintained the garden in the past. The agency of gardens consisted in providing the context for the growth of plants but also in reminding people of past gardening and serving to shape future conduct. By manuring gardens, houses fed gardens, which in turn fed houses!

The separation of ritual from the everyday has long been problematic for prehistorians (Bradley 2005). Bradley (2005, 119) exemplifies the ways in which ritual was constructed out of the materials of domestic life, suggesting that the role of food production and the centrality of the agricultural metaphor of fertility were the principal reasons for the use of everyday practices in ritual. Thus the storehouse was not only a place for accumulation but a medium of social display integrated into the spiritual life of the community (2005, 90-91). Bradley sums up this train of thought (2005, 120): "In prehistory, ritual gave domestic life its force and domestic life in turn provided a frame of reference for public events." A good example is the forager site of Lepenski Vir, where the distinctive trapezoidal houses referenced a nearby trapezoidal mountain as well as a rare form of burial (à la Turque) (Fig. 2.5). The significance of women in domestic ritual would surely have had an impact on the more public face of ritual.

In short, the extraordinarily diverse suites of social practices positioned under the broad umbrella of household maintenance activities would have consumed a large part of every person's daily life in Old Europe. Maintenance activities not only provided a framework for enchained social

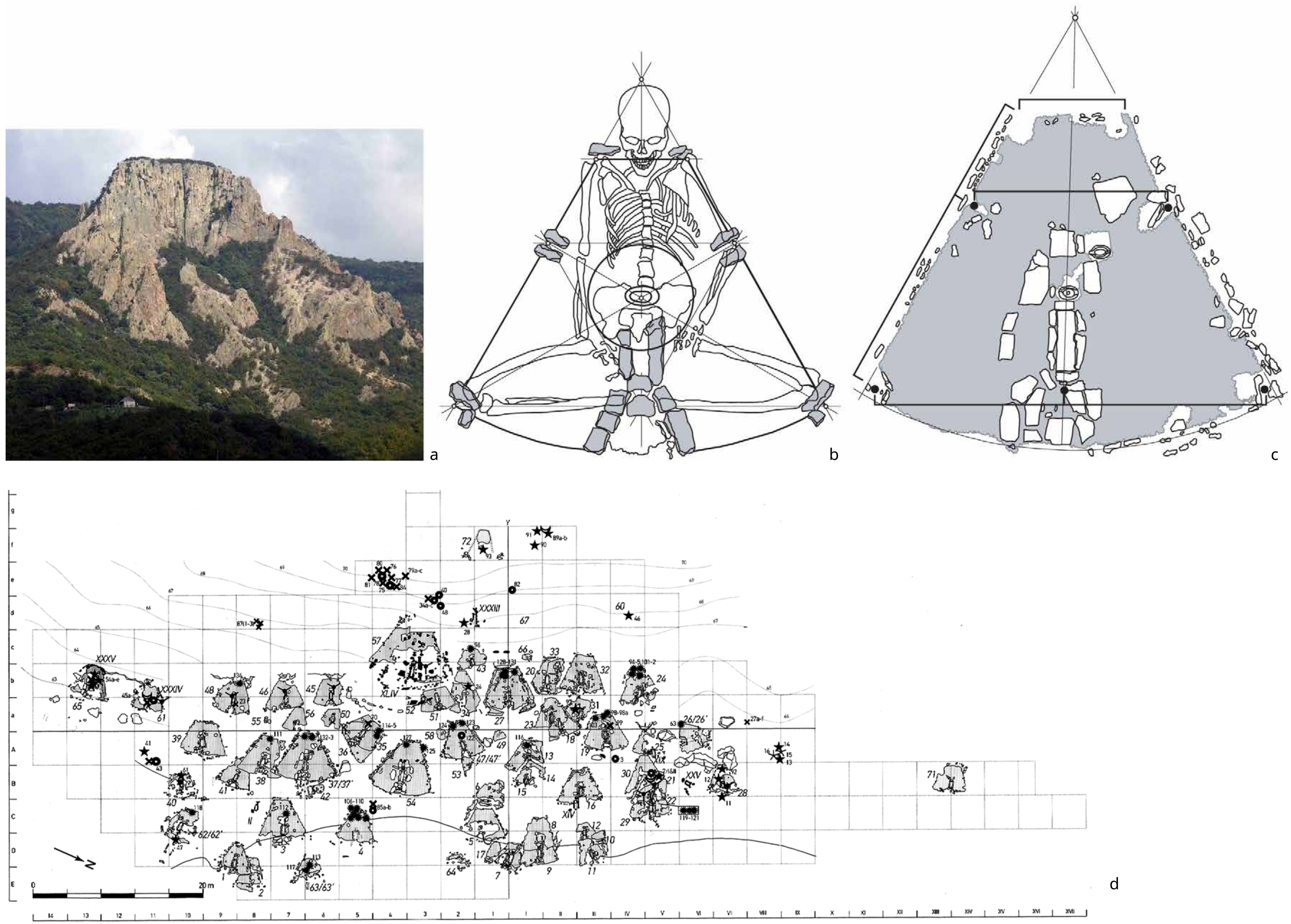


Figure 2.5. (a) Treskavec mountain, opposite Lepenski Vir (source: author); (b) Burial 69 overlain on house plan (c) Lepenski Vir trapezoidal House No. 37 (L. Woodard redrawn from Srejović & Babović 1983, Crteža 17-18); (d) Lepenski Vir village plan (source: Borić 2016, Fig. 4.1).

relationships, temporalities and personhood but actually created them through the repetition of meaningful events. Many maintenance activities were achieved using gendered material culture with symbolic resonance in the wider public domain, as in mortuary rituals. It was in the performance of such public communal practices that women and men's identities grew beyond that of the (in)dividual.

Communal relations

In his helpful review of the term 'community', Oliver Harris (2014) demonstrates the evolution of its meaning, from the importance of co-residence and shared activities, through the social construction of communities, imagined communities, communities of practice and the development of moral communities, living well together on the basis of shared values, before reaching his own preferred relational definition of communities as developing at differing spatial scales out of the relationships formed between humans, animals, plants, places and material things (2014, 89). I prefer to combine this relational perspective with the restriction of the 'community' to what Kuna (1991) has termed the 'Community Area' – the territory within which most of the community's activities were concentrated in a structured way, including habitation areas, specific production areas and funerary areas. In effect, this means that the 'community' was created and developed in all of the individual places within the community area, in interaction with all of the species living habitually in that area.

There were many ways in which a community contributed to the relations of its members. A fundamental aspect of a community comprised its physical surroundings – the extent of tree cover, which trees and other wild plants were available in a community area, the wild species living there and the potential for humans to 'domesticate' the landscape in response to the breeding and feeding habits of their domestic stock (Clement 1999) (see Chapter 3).

Equally, the size and complexity of a community offered fundamental opportunities and imposed constraints on personal relations. In terms of settlement planning, the term 'communal relations' can be contrasted with personal (individual and dividual) relations but, on some sites, there were two levels of 'communal' organisation – the site level and the neighbourhood level. Since neighbourhoods are manifestly supra-household groupings, they can be considered as contributing towards 'communal' personhood. Indeed, the larger the settlement, the more likely the members of a neighbourhood would be to spend most of their time in that neighbourhood. The same is even more true for the only case in Old Europe – the Trypillia megasites – with a settlement grouping intermediate between the neighbourhood and the entire site – the 'Quarter'. The temporality of both forms of communal organisation normally exceeded the length of a single human generation and possibly also the households in a settlement themselves.

Andy Jones (2005) has remarked that personhood in the Balkan Neolithic would have assumed very different forms depending upon the kind of settlement into which the people were born, with 'village persons' growing up in nucleated settlements and 'homestead persons' living in dispersed communities. The villager would have grown up to focus on local kinship-based ways of creating a corporate identity in the dense local networks of enchained social relations, while homestead personhood would have been more fluid, with the exchange of objects cementing kin ties and relations with foragers, framed within spatially extensive networks of exchange with less local interaction. Living on an isolated homestead would have offered individuals far more possibilities for incorporation of personal characteristics into personhood than would living on a tell, with its strong communal life, identities and tensions over decision-making. However, in terms of social status, the daughter of a community leader living at Durankulak in a large stone house would have enjoyed different life possibilities from the son of a fishing family in a small wattle-and-daub house on the Black Sea coast. Thus, the life experiences of prehistoric persons would have led to the emergence of people with different skills and perceptions, with varying gender relations in homesteads and villages, not to mention urban sites. But, for each person, their community guaranteed a shared identity that anchored them in a temporal, moral and juridical framework.

It is also important to recall the impact of the community on households and their maintenance activities, which had further ramifications for the relations between persons and objects. An archaeological example of the changes in settlement dynamics that would have influenced people's propensities for the development of skills takes the changes observed between the early and the late dwelling phases at the 'same' settlement of Divostin, Central Serbia (McPherron & Srejović 1988; Borić 2009)[17] (Table 2.2). The late (Vinča) phase indicates the increased scale and specialisation of production, which resulted from a wider range of people developing skills to deal with a wider range of raw materials, including copper, and to a potentially higher level than in the Early Neolithic. However, there was no obvious change in the domestic mode of consumption in Divostin II. These conclusions would therefore partly support Tringham's notion of longer-lasting, more productive and more autonomous

17 In this example the 'early' dwelling phase at Divostin (or Divostin I) contained pottery of the Starčevo group, which can be dated to my Phase 2, while the 'late' dwelling phase (or Divostin II) contained pottery of the Vinča group, dated to my Phase 3.

Variable	Phase I (Starčevo)	Phase II (Late Vinča)
Number & size of houses	Six 1-roomed houses; 4-8m Long x 4-5m Wide	> 20 houses, up to 4 rooms per house; 9-18m Long x 5.5-6m Wide
Site population estimate	25	140
Finds density / level of standardisation	Lower	Higher (more standardised lithic, bone and antler tools)
Ritual practices	Small-scale	Ritual sets in households
Exotic materials	Calcite, limestone, marble, quartz, serpentinite	Azurite, malachite, obsidian, porcellanite
Manufacturing skills	Small-scale fired clay, chipped stone, polished stone, bone and antler objects	Small-scale fired clay, chipped stone, polished stone, bone and antler objects
Specialised skills	Perforated polished stone macehead production	Copper bead-making
Evidence for on-site production	Flint-knapping	Household production of pottery; finishing of porcellanite axes; smelting of azurite and malachite; boring of copper beads; bone and antler tool-making; flint-knapping

Table 2.2. Principal characteristics of Divostin Phases I and II (source: author, based upon data in McPherron & Srejović 1988).

households in the later Neolithic (Tringham & Krstić 1990a). The example also shows how a more strongly integrated community emerged in the later dwelling phase, with important implications for personhood.

Global and local relations

Evzen Neustupný has proposed a spatial division of the world into three zones: the *Familiar* zone of the home settlement and community area[18]; the '*Other*' zone, inhabited by people not belonging to the home community but who shared artefacts and symbols with them, reaching to c. 20km from the home settlement; and the strange zone of the 'Foreign', further than 20km from the home settlement (Neustupný 1998). However, the definition of a 'Foreign' zone more than 20km from a settlement is problematic, since the size of such a zone could reach from 20km to 2,000km. It is therefore useful to differentiate between the '*Foreign*' zone of 20-70km from a settlement, the '*Remote*' zone of 70-500 km from a settlement and the '*Continental*' zone of 500-2,000 km from a settlement (Fig. 2.2).

While the site evidence for local differentiation is indisputable, there is a sense of communities linked into much wider social networks of common materiality, consisting of marriage and kinship networks, through which communities created alliances (Gamble 1998) and in which persons could derive political capital from the citation of these links to exotic people, places and things (Helms 1993). The extent to which an (in)dividual could draw upon such wider citations affected the kind of person whom the community recognised. Just as these nested webs of connectivity formed the pathways relating local dwelling practices to a wider world, so the production of local material objects created meaning and context at home. Access to and use of both kinds of material culture had profound implications for the creation of personhood and (in)dividual relations. It is not accidental that Neolithic people became much more interested in procuring and using exotic social valuables at times of increasingly local territories (Robb 2013, 664).

Two pathways may be proposed for the movement of exotic objects of cultural value across the Balkans: the creation of lengthy, complex personal biographies over decades, if not centuries, with the object passed through many hands in a series of gift exchanges; and acquisition by a long-distance specialist who brought home the object in a single year. While remoteness, danger and strangeness defined the biographies of things from the foreign zone, closer attention to biographical detail would have been paid to objects from the Remote zone, since some of the persons in that zone would have been known. What was important was the capacity of objects to stand for specific people or categories and for sets of relations that their passage sustained (Edmonds 1998). In a very real sense, then, the creation of local relations depended upon the domestication of exotic, sacred objects. How was the neutralisation of the dangers of alien cultural values and negative biographical associations that typified the Remote and Other zones achieved while retaining the benefits from the visual attractiveness and symbolic potential of the things (Chapman 2003b, 77-79)?

Three potential solutions to this problem may be considered: (a) the transformation of the object through its own rite of passage; (b) the translation of the object's core values so as to mesh better with the local cultural order; and (c) the bartering of exotica. A potential fourth practice – the establishment of cargo cults (Whitehouse, H. 1995; Mantovani 2010) – has been so embedded in colonial histories as to be of marginal relevance to Old Europe. The first solution would require a liminal place for the rite of passage, perhaps the storage of the exotic objects in a group on the margins of the settlement. The

18 While justified, Whittle's (2003) criticisms of Neustupny's formulation of 'community', reiterated in Harris (2014), do not mean that the spatial distinctions made are unrealistic – only that we need to develop a different view of 'communities'.

second solution for an exotic item required the mapping of the values of the Other onto the cultural values of the local community so that an inalienable relationship could be created. Nicholas Thomas (1991) has also usefully discussed the way that barter can help reduce the conceptual problems of the 'meaning' of exotica by the incorporation of novel artifacts into persistently autonomous local strategies and practices. Once the exotic is locally 'domesticated', it can begin a new phase of its biography, which retains its place of origin but has its 'own' local knowledge alienated, to be replaced by newly local inalienable knowledge (Humphrey 1992).

One of the most interesting questions for global – local relations was what happened to the newly-domesticated 'exotic' objects? Did the incorporation of a bright, colourful ornament from the Remote zone into local material culture reduce the attractions of the wild? Or was the presence of a 'domesticated' exotic ornament a continuing stimulus to people forming relations with distant communities? And did the importance of global-local relations increase only at times of major cultural change? These are important issues to which we shall return later (Chapter 10).

Summary for relationships and personhood

Although the experience of technical practice seems as relevant to the production of rational persons as it was to relational persons, in fact the manner in which personal skill introduced the essence of the dividual into the artefact made the creation of relational personhood a different process. The individualization of persons through the embodiment of different skills became an increasingly significant process in later Balkan prehistory. Three nested frames of spatial reference grounded the creation of personhood. The principles and practice of personhood were predominantly experienced in the household, especially through maintenance activities that consumed so much social time yet produced so many personal skills. The range of settlement contexts in which different forms of households appeared meant that the settlement form – whether nucleated or dispersed, mobile or sedentary – had a strong influence on the kind of persons who could develop there. Nonetheless, each settlement provided their residents with a place-based moral and juridical framework, which contributed to personhood in the wider landscape sense. It was in this wider setting that the creation of differentiated persons was reliant upon regular access to exotic artifacts made possible in long-distance networks.

Settlements and the mortuary domain

The second major research question discussed in this book concerns the vast preponderance of settlement sites over burial sites in Old Europe – a characteristic not shared with much of the Neolithic of Western Europe. I begin with a consideration of dwelling.

In Chapter 1, I discussed the idea that landscape framed the dwelling process, providing a range of antecedent natural features which could be drawn upon, emphasized or neglected by people settling an area for the first time. Waterfalls or distinctive rock outcrops or fertile easily tilled soils would have attracted settlers, who may have been more wary of impenetrable, marshy and forested flood-plains or mountain valleys full of bears and wolves. In these cases, there is a case for the agency of natural features in choice of settlement location. For example, the agency of trees has been well characterized in terms of their attraction for building and firewood; the forest management in which they partner humans and the temporal phasing of their re-afforestation (Noble 2006), as well as their 'permanent' incorporation into houses (Johnston et al. 2019).

Once an area had been settled, a new set of resources became available – antecedent cultural features such as monumental tells, nucleated cemeteries or flat sites in forest clearings (Zvelebil & Beneš 1997). The longer the settlement history of an area, the richer and more diverse the range of antecedent cultural features available to later arrivals – those timemarks forming the basis of local cultural memory (Chapman 1998: 2012). Küchler (1994) has described the impact of different forms of earlier forest clearance – including both ancestral clearance and recent clearance – upon the mental maps of current settlers in New Ireland. Such an approach locates the basic unit of settlement analysis at the regional level (see Chapter 9) rather than at the site level, since the choice of dwelling in one specific place rather than another requires a compromise between the agency of all antecedent features in a wider area – both natural and cultural, as well as that of preferred domesticates. The impact of particular domestic species was a constraint on settlement location, since emmer wheat and goats flourished in certain niches. What has been termed 'resource exploitation' (Lupo 2011) was, in fact, a conversation between humans, plants, animals, pre-existing monuments in the landscape, the landscape itself and the vegetation cover – all of which possessed direct or indirect agency. One of the results of this dialogue was a decision to dwell in a particular place. Hodder (2018) shows how particular spaces and places were emphasised by the building of homes.

I propose that an expanded dwelling approach which incorporates place-value alongside Ingold's (1993) emphasis on taskscapes and the unity of cultural and symbolic practices will be valuable in trying to answer the second principal research question – the predominance of domestic settlements over mortuary places in Old Europe. Initially, the focus on settlements would have been linked to important changes in relational structures. For example, Borić et al. (2012, 59) have noticed that Neolithic people understood their bodies in less fluid ways than hunter-gatherers, relying more on a relationship with place than before. They concluded that sedentism often provoked a decisive change in how deceased bodies related the living to places. At a later stage, with larger potential communities widely dispersed across the landscape of Old Europe, gathering-places became increasingly important because of the relationships forged at these 'central places'. Robb (2013, 664) posits that 'aggregation based upon farming resources is visible throughout Neolithic Europe in the creation of increasingly formalized places for routinized encounters and aggregations.' While such places often took the form of public monuments in Western Europe, in Old Europe aggregation often occurred on settlement sites, which were hence characterised by high frequencies of object deposits. This development created a new kind of place-value for settlements in Old Europe.

However, there was a mortuary zone in Old Europe, even if it was rarely monumentalized. The mortuary zone afforded alternative places for two possible practices: first, the creation of forgetting, through the decision not to bury a person; and, secondly, the development of cultural memory, through the deposition of human remains and/or objects in settlements or in the extra-mural cemeteries which increased in significance in the Chalcolithic of Old Europe. Each of the four principal forms of mortuary practice – the absence of a burial, disarticulated bones, whole bodies and sets of bodies – was related to the spectrum of relations constituting personhood but in a graded way. Each mortuary practice revealed the underlying tension between embedded aspects of personhood (as in the inescapably dividual relations posited for disarticulated bones) and the overall aspects of the social status of the deceased (more readily compared in the calculus of mortuary similarities and differences in a cemetery).

One way of making the tensions between personhood and social status more tangible is through the use of categorical analysis, which enables the unpicking of relations between humans and objects in the mortuary domain through the structured analysis of co-variation of human age-sex-based categories (e.g., adult male, adult female, children) and object categories (viz., carinated bowls, end-scrapers, copper beads). The three key terms in categorical analysis are: Exclusives: grave-good categories found in only one of the Age-sex categories; Inclusives: grave-good categories found in all of the Age-sex categories; and Combinations: grave-good categories found in some of the Age-sex categories (for a full explanation of the method with examples, see Chapman 1996: 2000: 2013a: 2017). This method shows the tension between dividual relations (combinations), individual relations (exclusives) and community relations (inclusives), while at the same time providing the potential for the identification of grave good – person configurations which performed social status. The narrative becomes more complex when a specific social group uses more than one mortuary practice, introducing another, scalar level of tension. A general comparison of the settlement domain and the mortuary zones shows the great preponderance of objects in the former.

The proliferation of objects

The propensity to discard or deposit[19] large numbers of objects within settlements and cemeteries was typical of Old Europe. Bánffy (2019) has detected the difference between houses and thousands of objects made of clay in South-East Europe and timber and stone constructions with far fewer clay objects in Central Europe, but without explaining this change. I have termed this process the 'Concentration Principle', whereby the majority of objects were made in the settlement, used routinely there and discarded or deposited in that place (Chapman 2000c). Those dwelling in a particular place were creating place-value by these acts of discard and deposition; the build-up of object discard in a place indicates some degree of success in the mobilisation of communal forces so as to 'live well together' (Whittle 2007). Hendon (2010, 192) explains her puzzlement at the practice of discarding so many beautiful objects in refuse deposits by suggesting that enchanting objects (*sensu* Gell 1992; see below, p. 61) contributed to the personhood of nearby buildings by acting as agents of individual growth and of the renewal of social ties across time and space. There is also the sense that object deposition created memories of the persons who made, exchanged and used the objects.

For prehistorians of Old Europe, it is the clusters of surface material in a ploughzone assemblage that constitute 'sites' as opposed to 'non-sites' (parts of the landscape lacking in discard) or 'off-sites' (parts of the landscape with low-density discard produced by practices such as short-term activity areas, manuring scatters or regular loss during hunting) (Barker 1995; Chapman et al. 1996; Bintliff 1999: 2000). The formation of a place which archaeologists have recognised as a 'site' constitutes in itself an indication of communal success over time. The effects of the Concentration Principle will be significant in seeking to discover why so many settlements were created in Old Europe. The material culture discarded and deposited according to the Concentration Principle was also deeply implicated in the third of our major research questions, concerning the quantity of objects in Old Europe. One of the most significant differences between the object-rich Old European sites and LBK sites to the North-West is that house surfaces, together with their object assemblages, were often preserved in the former but very rarely in the latter, with the absence of 'household

19 I shall return (pp. 92-3) to the important distinction between generalised, informal 'discard' and more formal 'deposition'.

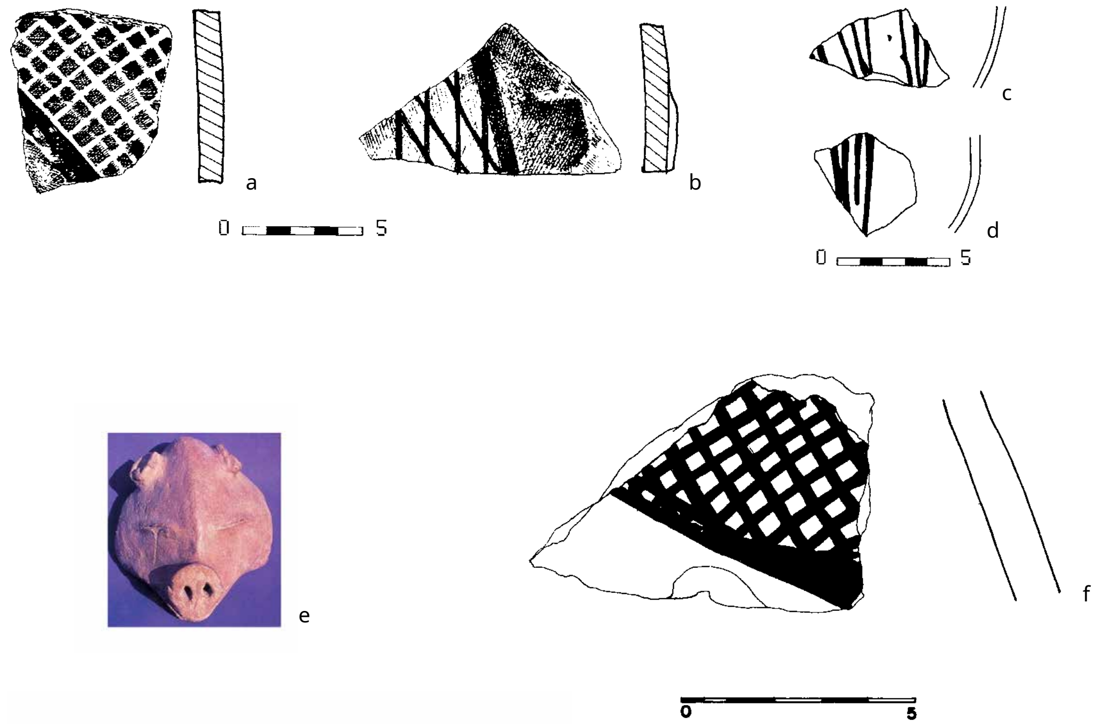


Figure 2.6. (a – d & f) White-on-red painted pottery with very fine lines: (a) – (b): Nagoričane (source: Zdravkovski 1993, Sl. 99-100); (c) – (d) & (f): Nikuštak (source: Zdravkovski 1988, T. VIII/4, 7-8); (e) Lakavica pig figurine (source: author's photo); (g) the Galabnik scepter (source: Kostov 2007, Colour Fig.1).

assemblages' a key limiting factor in the interpretation of LBK household practices (Bánffy 2019).

In his model for the origins of long-term Neolithic behavioural change, John Robb (2013, 665) has argued that the Neolithic involved new material relationships. "These did not involve simply picking up a new pot, axe, or bag of grain and using it; these had the potential to transform social worlds in broader ways, channelling future potential courses of action". Julian Thomas (2013, 678) accepts this notion of a "thing-heavy" world, with greater material entanglements and commitments. But what types of objects were involved in the creation of these new material worlds (cf. Whittle 1996)? An initial comparison examines pottery and polished stone axes.

Those of us involved with – overwhelmed by – the study of Early Neolithic pottery in Old Europe tend to believe that the sheer quantity of sherds[20] makes pottery the sole most important aspect of material culture among early farmers. However, we should not forget that the New Stone Age was first distinguished from the Old Stone Age not by the use of pottery but by the presence of polished stone tools (Lubbock 1865). It was only in the age of cultural archaeology (Kossinna 1911; Childe 1929) that the specificity of pottery styles in place and time made ceramics the obvious medium for the creation of homogenous cultural groups ('cultures' *pace* Childe 1929).

Although far less common, polished stone objects were, together with decorated fine wares, both visually distinctive as well as technologically effective. It was in their exotic origins that polished stone objects[21] differentiated themselves from the predominantly local products of pottery[22]. I have previously argued that the creation of bright objects of distinctive colour(s) in geometric forms not only helped to form the worldviews of early farmers in the Balkans and Hungary but also went far to define their material world itself (Chapman 2006: 2007: 2011). Furthermore, I maintained that, while an aesthetic of colour and brilliance was already widespread in foraging communities (e.g., Soffer 2003; Skeates 2005; Cristiani & Borić 2012), it was in the Early Neolithic that such a worldview was extended until it came to define key cultural and aesthetic values. However, the millions of fired clay vessels produced in the Early Neolithic included a moderate proportion of fine wares, varying regionally between 5% and 20% (Fig. 2.6a – d & f), whose design was based on exactly the same principles of colour, brilliance and geometric order as the polished stone tools (Fig. 2.6g). This design convergence makes it even harder to separate things of quality from quantifiable objects (Gosden 2005).

The creation of value has a long history of debate in anthropology and archaeology (Papadopoulos & Urton 2012). A good example concerns the co-emergence of new materials and technical practices in the Upper Palaeolithic (Conneller 2011), in which the relationship between form and material created object value that entailed major cultural change in things made of traditional materials. We can see the same process of co-emergence in the Neolithic. As the number and diversity of things increased in the Neolithic of the Levant, Anatolia and Greece (Halstead 2011; Hodder 2012; Keane 2010), so the importance of the agency of things expanded, mostly in the household and with a stronger influence on the creation of object value (Robb 2013). In his account of the 'Early Mediterranean Village', John Robb (2007, 242) suggests that, in non-hierarchical societies, contradiction took the form of differing definitions of social value (e.g., value relating to a single domain, as in Early Neolithic costume; cf. value spanning many fields of practice, as in the body in the Copper Age materialisation in rock art, stelae and pot decoration). Secondly, Robb contrasts the valuation of local and supra-local traits and things, with a strong preference for the former in the Neolithic and an emphasis on the latter in the Copper Age. This perspective can be integrated with our discussion of the aesthetic principles of geometric order, colour and brightness through Porter's (2012) insight that aesthetic perceptions help condition the creation of value.

One way to emphasise object-value is the accumulation of many examples in the same context. Comprising a major group of social practices, accumulation may be defined in terms of the creation of sets of objects or houses, in opposition to enchainment and with a culturally specific meaning for Balkan metal hoards (Chapman 2000a, 45-47)[23]. For Gamble (2007, 139 & Table 6.2), there is a direct link between accumulation as social practice, sets as material projects, containers as material proxies and consumption as social action. These four forms of evidence are contrasted relationally with four other terms – enchainment, networks, instruments and fragmentation. One of Gamble's key innovations is his recognition of the 'container revolution' in prehistory, which began in the Palaeolithic and became more important than instruments in the last 10 millennia, playing a vital role in the domestication of the human species (2007, 87

20 After all, János Makkay gave up excavating Körös sites after he had excavated one million sherds!: p.c., J. Makkay.

21 In this category, we should add shell and metal objects.

22 To which we may add other local products such as bone, antler and horn.

23 Gamble (2007) has quite correctly critiqued this limited use of the concept, which was not only found in the Upper Palaeolithic, if not earlier, but which also referred to a far broader range of constructs and materials.

-110). Thus, the three most important forms of container were settlements as accumulations of houses, houses as accumulations of persons and objects, and pottery as accumulations of contents. Gamble goes further than this in identifying streets of houses, fields of barley and flocks of sheep as examples of accumulation (2007, 205). Gamble sees Neolithic social practice in terms of a transfer of authority from instruments to containers and from enchainment to accumulation (2007, 272). For the proliferation of objects in Old Europe and beyond, the implications of the accumulation of containers and their contents were profound.

The question of why such large numbers of objects were produced in Old Europe can thus be recast, at least partly, in terms of the cultural values ascribed to bright and colourful objects embodying geometric order and creating memory. Projecting these values into everyday life became an important part not only of making new material worlds but of developing new cognitive architecture. In his material engagement theory, Lambros Malafouris (2013, 18-19) maintains that the relationship between cognition and material culture is not one of abstract representation or some other form of action at a distance, but one of ontological inseparability. By this, he means (p. 247) that things affected the brain by causing extensive structural re-wiring or fine-tuning of existing pathways. To the extent that things extended the functional architecture of the human brain, extra-neural connections were objectified in material culture. Thus, innovations were opportunities for the human brain to develop new skills and ways of thinking (Malafouris 2013, 243). How were such design changes related to cognitive developments in Old Europe?

Neolithic science and art

The proposition advanced here is that the analysis of the design of structures and things can provide insights into the cognitive decision-making of their makers and users (Chapman 2014). The design of many structures and objects in Old Europe embodied two sets of inter-related practices – 'scientific', based upon geometric thinking and precision design, and 'aesthetic', based upon brightness and colour and underpinned by the exoticity of many of the objects. It is further maintained that a sensuous, body-based appreciation of such harmonious forms spread out within communities, from the craftsperson to the users and their visitors, and hence to other communities, constituting a *habitus*-based science and aesthetics. It is therefore necessary to consider what is meant by this curious term – 'Neolithic science'.

It was V. Gordon Childe (1936) who first identified the collective traditions of science, based upon technology and learning. Childe proposed (1949, 305) that "The structure of knowledge is social. The general principles – the categories of space, time, class, order, cause – on which the data of sensory experience are systematised and built up into sciences … have been elaborated by society and transmitted, ready-made, to all its members" (Childe 1949, 305). In this way, Childe believed (1949, 308: cf. 1949a) that science developed …"by a dual process of addition and subtraction", meaning that those actions that worked were retained while those ideas that failed to produce a result were abandoned. Although he did recognise the outstanding common features of a Neolithic economy – woodworking, pottery manufacture and a textile industry (1936, 88), Childe did not discuss the importance of specific scientific or mathematical practices, including measurement, for Neolithic societies (for an alternative approach, see Lemonnier 1993).

Many aspects of measurement are discussed in the edited volume on "The archaeology of measurement" (Morley & Renfrew 2010). For the editors, measurement is a new kind of material and cognitive engagement with the world, encapsulating the seeds of mathematics and science (Morley 2010). Malafouris (2010) poses the question of what led to advances in the accuracy of measurement: "if not language, then what?" It seems clear that the answer is material culture! There can be little doubt that the basic mathematical operations of counting, ordering and measuring (Crump 1990) as well as a fourth – the use of proportions – were well represented in Old Europe. Keightley's (1987) inference of a more mathematical view of the world consequent upon increased compartmentalisation of object design means that sequential planning and precision in measurement were both built into the production of material culture, including houses and weaving. The visual signs of a mathematical worldview were visible on a daily basis, whether in the home or in the settlement, combining aesthetic labour and the mathematical principles of design. There is thus a strong case to be made in Balkan prehistory for a widespread appreciation of mathematical and geometric forms of knowledge both in the visual experiences of everyday life and as the basis for techniques of production of everyday and special objects and structures. Von Franz (1974, 217) reminds us of the importance of Neolithic geometry in that numbers gave access to patterns and facilitated their cultural reproduction. We now turn to the artistic aspects of aesthetic labour, in terms of colour and brilliance.

The traditional Kantian view of art – that art consists primarily of objects which have an exalted status and which should be regarded in a unique way – has long been under threat (Mandelbaum 1965; Berleant 1991; Gell 1998; Chua & Elliott 2013). These remonstrations led to the emergence of a more participatory aesthetics, connecting art to contemporary cultural practices and environmental conditions (Mandelbaum 1965; Berleant 1991). The generalising approach used here is neatly summarised in David Wengrow's (2001, 170) term 'aesthetic production', by which he means 'the whole complex of techniques, forms of knowledge and material objects through which a society imbues the concepts it lives by with sensuous and psychological force'. Moreover, new modes of thought, experience and memory are made possible through the visual; the creation of artefacts opens up the realm beyond the present and allows for free movement through time (Adam & Kemp 2019, 211). Such an approach to aesthetics provides a space for the integration of Neolithic art and science which few other definitions have done. We now turn to a discussion of two of the key features of a Neolithic aesthetic – colour and brilliance.

Colour

The study of colour in archaeology is only 20 years' old (Jones, A. & Bradley 1999; Jones, A. & MacGregor 2002) but it has already made progress towards resolving the central tension: seeing colour is a very immediate experience which, at the same time, is related to a deep sense of cultural meaning. The development of an aesthetic of colourful surfaces depended upon a prior differentiation of colours, in particular certain focal colours that enjoyed the most widespread distributions (Berlin & Kay 1969; for summary of critiques of this model, see Chapman 2002, 2003a). Colour research has emphasised the salience of environmental colours, derived from the natural landscapes (Wierzbicka 1990; Bolton 1978), as much as object colours, derived from objects themselves (Casson 1997). These two sources of colours were combined through the co-emergence of various colours and their names. The study of the Durankulak and Varna grave goods (see Chapter 7; here, Table 2.3 & Fig. 2.7) shows the immense range of colours used in their mortuary practices – opening up a wide range of colour symbolism and enchaining many objects not only to their source areas but also to the environmental colours from which they were derived. Such a wide use of colour in the mortuary zone is good evidence for the importance of object colour in the land of the living. Moreover, many of the distinctively coloured objects from these sites either had a natural sheen or had also been highly polished.

Brilliance

Many ethnographers of 'art' have made the connection between distinctive colours, brilliant surfaces and ritual power and potency (Morphy 1992; Gell 1992). Two aspects of Gell and Morphy's work resonate with Old European objects – transformation and efficacy. The effect of brilliant artifacts, displayed in the appropriate contexts,

Colour	Durankulak – Hamangia I – IV	Durankulak – Varna I – III	Varna
White	6	4	8
Black	1	2	4
Red	1	3	4
White + red	1	1	1
Buff	1	1	1
Gold	-	1	1
Brown	1	1	1
Grey	1	2	1
Green	1	2	1
Blue	-	1	1
various	1	2	2
TOTAL	14	20	25

Table 2.3. Summary of the number of different ways in which colours of materials were used in the Durankulak and Varna cemeteries.

was to open up a pathway into the spiritual world, where transformations from the natural world into cultural order and beauty were based upon the inner, immanent power of shining objects. Similar effects can be seen with objects of distinctive colour, with more dramatic effects produced by a combination of artefact colour and brilliance. The example of this aesthetic at the Phase 4 Varna I cemetery is seen in *Spondylus* shell ornaments; however, the opposite aesthetic of ancient, worn and damaged ornaments suggests a dynamic picture of conflicting aesthetic judgments and bases for alternative social power (Fig. 2.7b).

On the most general level, this account of prehistoric object-colours and brilliance indicates an overall continuity of aesthetic labour and therefore sensuous significance at the millennial timescale, over 100 generations. It is equally clear that communities each worked out their own particular expressions of these aesthetics of colour and brilliance. Two innovations offered great potential for the emergence of new colour schemes – the introduction of pottery (Fig. 2.6a – f) and the development of cast copper (and, later, gold) metallurgy (Fig. 2.7a & c). It is also important to recall that this aesthetic was not an Old European development. While the range of object-colours was noticeably narrower in the Linearbandkeramik or North Pontic foraging societies, farming communities in Greece and North-West Anatolia shared some fundamental object-colours – especially pottery colours – with those in Old Europe (Düring 2011; Brami & Heyd 2011) (e.g., Fig. 2.6a – d & f). The proposition from these ideas is that the popularity of bright, colourful objects was related to the overall high levels of production of all objects in Old Europe.

Figure 2.7. (a, c) Varna gold objects ; (b) two contrasting aesthetics at the Varna cemetery: *Spondylus* ornaments showing colourful, brilliant beads and worn, damaged beads; (d) gold, copper, bone, shell and polished stone grave goods (source: (a, c, d): B. Armbruster, in Leusch et al. 2014, Fig. 1; (b) K. Dimitrov).

Chapter Summary

In the story at the beginning of Chapter 2, I tried to show how the lifeways of an adolescent living on a Thracian Neolithic tell were constrained in ways that modern adolescents could well understand: that all social practices were bound up in principles, rules and traditions which appeared to allow little room for personal agency. Nonetheless, the adolescent's personhood did indeed involve personal decisions about whether or not to do things in accepted ways or make small changes to improve the design of an object or the taste of a meal. However, that adolescent would never have understood that the long-term structuring principles discussed in this Chapter would have encompassed the vast time-span and great geographical area of Old Europe. At the end of the chapter, we are now in a position to suggest that not only were these practices in place over millennia but that they co-created the people whose lives were informed and memorialised by gendered social practices as much as geometry, colour and brilliance. As our tell-living adolescent would have found out by often infuriating daily experience, dwelling in later Balkan prehistory was an engagement with all other related entities in a multi-dimensional set of rules and practices inherited from the ancestral past and creating individual, generational and social memories. As Julian Thomas put it (2013, 678): 'Neolithic societies were different from Mesolithic ones in that they became heterogeneous assemblages of persons, animals, structures, and artifacts, and this had the effect of rendering them more durable'.

The five forms of relations that have concerned us – dividual, individual, household, communal and global-local – created the identities of all of the persons in the Old European pageant. Each of the five forms of relational identity made their own distinctive contributions to how people grew on homesteads, tells and urban settlements;

there was no transcendence of the tension between, e.g., individual relations and dividual links, because of the way that the other three relational bonds developed constraints and affordances. I have sought to convey a sense of the complexity of these relationships by emphasizing the effects of each on the others: for example, the way that communal relations of production affected household relations. In other words, this relational approach seeks to provide the opportunity to confront the true complexity of social relations in Old Europe.

In an expanded dwelling perspective, I have sought to integrate Ingold's (1993) dwelling perspective with the political negotiations inherent in making dwelling choices – where to settle and in what relation to antecedent natural places and former sites; how to relate to other coeval settlements; 'should we stay or should we go?' (with apologies to *The Clash*, 1982). A common feature of sites in Old Europe was the Concentration Principle, whereby those dwelling in a place made, used and discarded or deposited most of their objects in that same place. This was everyday, local enchainment of objects with places at its most significant (cf. Skourtopoulou 2006). However, we should not forget that the Concentration Principle also applied to the mortuary domain, especially in the clusters of rich graves found in many Chalcolithic cemeteries. These practices made a major contribution to the value of a place – a reputation which in turn encouraged settlers to prolong their use of that place rather than abandon it. But other objects – exotic, shiny and colourful – presenced other places and persons, some far from the dwelling place, in the Remote Zone. Though not as frequent as the objects produced and consumed locally, exotica made a political difference to Global – Local relations and stimulated the spread of widespread principles enshrining Neolithic art and science.

In these ways, the proliferation of objects became an important characteristic of Old Europe. A surprising number of objects embodied geometric principles. Well before the invention of the potter's wheel, communities agreed on the fundamental circularity of vessel form, with remarkably few exceptions. By contrast, houses were most often built in rectangular form, with round or oval huts rare and trapezoidal houses confined to the Iron Gates Mesolithic/Early Neolithic and a few other examples. In textile production, spinners relied on circular motion, while weavers used 3-dimensional but essentially rectangular design practices. Even if they did not understand the mathematics of these geometric principles, those dwelling in most settlements in Old Europe would have encountered the results of such practices on a day-to-day basis. The same was true of colourful and shining objects. All of these objects embodied enchained relations to their makers and users, collectively creating a vibrant aesthetic which transcended the modern idea of distinct 'art' and 'science'. Objects were as much a manifestation of the 'Neolithic' as domestic plants and animals, with their own powerful agency to change the past, the present and, through memory, the future.

In the next chapter, I turn to another long-term theme of the book – the foodways which different communities developed to produce their food and drink. This study takes a diachronic view of changing foodways and seeks to offer typical diets for foragers and farmers.

Chapter 3

Foodways – foraging and agro-pastoral practices

> "The act of consuming food may act as the ultimate locus of identity, conformity and resistance" (Smith M. L. 2006: 480).
>
> "You uncover a place in the scent of a dish, more absolutely than in a thousand words" (Jason Goodwin, '*The Janissary Tree*')
>
> "The Tisza is composed of two-thirds water and one-third fish, pike and carp" (according to *The Antiquarius*, in Magris 1989 The Danube: 283)

Introduction

My friend János Makkay once told me an enchanting story about that part of the Great Hungarian Plain where he was born and raised. The wooden church stood at the heart of a village (it may have been Vésztő) in the catchment of the Rapid Körös river. When the spring flood waters began to rise, the priest opened the main double door of the church and the floodwaters continued to rise within the church. When the floodwaters reached their highest level, the priest closed the double door and the villagers waited as the floodwaters slowly flowed out of the church under the wooden door. When the waters had flowed out of the church, the villagers, led by the priest, entered the church, only to find a carp or catfish lying in each pew. It will not be surprising that the villagers celebrated the end of spring with a spectacular feast of roast carp and catfish.

It is now widely recognized that food and drink are intrinsic to the development of people's bodies, their households and their societies. Gremillion (2011, 152) reminds us that "past and present, custom and invention, biology and culture: all of these, and more, silently inform every act of eating", while Hastorf (1991, 148) sees food as expressing social, economic and political relations, including gender." It is for these cogent reasons that I have privileged the term 'foodways' over 'subsistence' for the approach taken in this chapter. The aim is to take a large data set and develop a relational approach, developing a position on the relations of plants and animals to people and embracing the agency of plants and animals in everyday life. One of the key changes in the production of food and drink in Old Europe is the reliance on domesticated plants and animals, with their recursive influence on human social practices. But we must not forget the continuing significance of wild animals and plants in this period. Furthermore, these changes in eating and drinking do not take place in an ecological vacuum but in the multi-regional context of overall palaeo-environmental stability (see Chapter 1, pp. 17-20; Chapman 2018).

The approach to food and drink, derived from both wild and domestic species, and their associated social practices is based upon Jack Goody's (1982, 37) differentiation of five stages in food practices: (1) procurement (growing and tending, catching and collecting); (2) allocation and storing; (3) – (4) cooking and eating; and (5) cleaning up. In Stage (1), I shall focus on the general and regional patterns showing the importance of plants and animals to local communities. I shall discuss foraging (fishing, gathering and hunting) as well as the emergence of mixed farming and the later strategies of productive intensification, including the secondary products scenario (Sherratt 1981: 1997) and transhumance. An important part of the discussion concerns those few sites with nearby proxy records of human impacts. In Stage (2), I discuss the ways in which food and drink is allocated, including food sharing, the techniques available for food storage and the places where food was stored. I shall discuss site-based evidence for Stages (3) (cooking) and (4) (eating) together, since the evidence is often closely related. Feasting is an important part of this discussion, as is recent evidence from isotopic dietary studies. Cleaning up and discard (Stage 5) are discussed in comparison to strategies of deliberate (formal) deposition. It is an important challenge to discern contrasts in each of the five stages if we are to fulfill the potential of this approach to food and drink in our study region and show, in John Robb's (2007, 157) words, that "cooking the Neolithic way meant reproducing Neolithic society." In this sense, I shall focus on the notion of 'foodways', which can be considered as the total process of the production, preparation and consumption of food.

The remains of Balkan prehistoric food and, to a lesser extent, drink constitute one of the largest bodies of data available for social interpretation (Ivanova, M. et al. 2018). The traditional criticism of 'economic prehistory' was that subsistence information consisted of indigestible shopping lists of plant and animal species buried deep in site reports without any useful general interpretations of everyday social practices (Sherratt 1991). Although this complaint is far less pertinent in specialist reports of the last two decades (but NB Malez, V. 2001; Bakić 2001), "archaeologists have consistently overlooked that fact that people eat meals, not animals" (Marciniak 2005, 62). Moreover, eating food is not an individual domain but "a social, relational and active endeavour" (Appadurai 1986, 31). How can we move from spikelets of the 'new' glume wheat (cf. *Tr. timopheevi*) or a *Bos primigenius* femur to the main meal of the day in a Chalcolithic house?

One starting point for this approach is the notion of 'cuisine'. '*Haute cuisine*' exemplifies social hierarchies as far back as 4th millennium BC Egypt[24] through its quality, complexity and use of special, often exotic ingredients. But 'low cuisine' (*cuisine basse*) is just as pertinent in earlier periods with less food differentiation, since it is based upon a 'coherent, institutionalized and meaning-laden set of food preferences (Robb 2007, 120).

The spatial scales at which we can consider cuisine are the same that Neustupný (1998) proposed for community relations – the local, the regional and the exotic (see above, p. 55). We can relate prehistoric food remains to all three spatial scales in our search for individual ingredients, the combinations of ingredients into dishes and the suite of dishes that characterize a site or a regional cuisine. The expectation would be a greater diversity of dishes in particular sites in comparison to a more consolidated range of dishes in regional preference, as ingredients "became culturally encoded into regional cuisines – bodies of knowledge on the proper ways to prepare, combine and consume foods" (Gremillion 2011, 50).

At the local scale, eating is often manifested in a cuisine that "constructs the social context of consumption by defining the way that food is presented, distributed and consumed at meals" (Hesse & Grantham, n.d., 3). Looking at this process from the plants' viewpoint, Hastorf (1999, 54) suggests that "plant use in special activities and in daily consumption would culturally construct meanings for each plant." Thus, the use of certain dishes and cuisines united a community through shared participation in meals and ceremonies. The local community would have characterized the quality of available food and drink as 'good' or 'bad' for them, their health and strength. Given environmental convergence, we may expect the emergence of a similar regional cuisine but, as we shall see, there were many cases where sites in the same valley selected different food preferences. 'Exotic' food would have been related to the 'Other' or the 'Remote' zones, with strange food defining exotic people as much as the converse.

Seremetakis (1994, 132) has argued that the everyday world is perceptually constituted and becomes emblematic of social structure. Since alcohol and food form such an important part of the everyday world, they have become a vital part of how a community narrates itself. Here, the memory of such foods can be as important as the daily experiences of making and consuming food. For Sutton (2010, 220), "in everyday life, there are multiple contexts in which the sensory experiences of food are invested with meaning, emotion, memory and value." In his summary of recent research on food and memory, Holtzman (2006, 364) emphasizes that it is the associated smells and tastes of food which make food a medium for cultural memory. Such sensual memories can associate food with particular timemarks in the past – events that stood out from the everyday lives lived in the past (Chapman 1997) – as well as particular cooks and specific places. Thus, traditional food can be a cultural marker in times of change (Holtzman 2006, 371). Perhaps the most basic form of food memory relates to culinary practice (de Certeau

24 In 4th millennium BC Saqqara, there was a great gulf between the frugal diet of the peasantry (dates, vegetables and rarely fish) and the elaborate tables of the ruling classes (Goody 1982, 99).

& Giard 2008; Holtzman 2006). The former maintain (2008, 72) that cooking requires a multiple memory of apprenticeship, witnessed gestures and consistencies of ingredients while cooking, as well as a programming mind involving the timing of preparation and cooking and temperature estimation and also sensory perception of smells at different stages of cooking. Holtzman asserts that food memory is largely women's memory, with the kitchen as the repository of memory (Holtzman 2006, 370). At this juncture, it is helpful to note Sherratt's (1999) distinction between 'staples' and 'variety' crops, since rather different experiences of cooking and eating will have derived from these two groups of foodstuffs.

Prehistorians have recently become adept at recognizing the remains of sometimes large-scale feasting. There is a variable relationship, probably highly gendered, between everyday foods and feasts, summarized in Appadurai's (1981) two kinds of relationships: "relations of intimacy, solidarity and equality ('unifying' foods – everyday, dominated by women) and relations of rank, distance and segmentation (often feasting, with a stronger male input)." Defining feasting as "any sharing of special food between two or more people for a special event", Hayden & Villeneuve (2011, 440-442) create a typology of feasts, with funeral feasts, work feasts and communal feasts among the long list. A characteristically significant element of feasting is the consumption of red meat and alcohol. Alcohol, then, is classically an affective as well as a symbolic medium – a social tool which, as embodied material culture, created interesting bodily effects and links between the household and the wider political arena (Dietler 2006). While it is well to heed M. L. Smith's (2006, 482) warning that we should not overestimate the importance of usually rare feasting events when everyday eating was clearly ubiquitous and formed the basis for much quotidian cultural memory, it is also clear that cultural memories were often based upon the high-points of social life – the periodic feasts with high meat and alcohol content rather than the everyday pita bread and gruel, even if flavoured with lentils and sorrel! As Borić et al. (2012, 49) neatly summarise it: "Grains are the taste of household solidarity, meat the taste of inter-household sociality." This is a tension to which we shall return (see below, p. 91).

A similar contrast may be drawn between the far more common local ingredients and the rare exotic foods occasionally found in prehistory. In their history of Italian cuisine, Capatti & Montanari (1999, xiii-xiv) nuance the role of food in the construction of local identity by suggesting that local identity begins only if something is exchanged from the local place, not only produced and consumed at the same place. This idea links with Sherratt's (1999) insistence that part of food production is production for export, especially low-bulk, high-value items such as oils, perfumes and cheese. A different sort of exotic food was that produced by hunting (Hamilakis 2003, 239). Overton & Hamilakis (2012) have shown how most current studies of prehistoric hunting are constructed on outdated binary oppositions (wild – domestic, economic – symbolic, staple-luxury). In this view, wild animals were perceived to belong to a sphere remote from domestic animals and a different temporality, with hunting a way for males to establish control over the wild and frightening environment outside the home settlement. While many of these points remain valid, Overton & Hamilakis are correct to remind us of the importance of animals and their own characteristics, with a critical re-assessment of concepts of human and animal selfhood (cf. Morris 2000; Orton n.d.). This is particularly important as the variability in the significance of hunted animals in the study region was enormous through time and space, leading to significant cultural contrasts.

Let us now turn to the different stages in the development of Mesolithic, Neolithic and Chalcolithic cuisine, beginning with Jack Goody's Stage 1. I begin with a consideration of one of the key changes in Old Europe – the addition of farming to foraging[25] – which will involve a review of the main species used by both foragers and farmers. I then consider the evidence for plant collection and cultivation before examining the information about fishing, the trapping of birds and the hunting of mammals. I then turn to animal husbandry and consider the case for productive intensification of animal resources.

Stage 1: catching and collecting, growing and tending

In every general account of prehistory, the significance of the development of mixed farming is acknowledged as one of the most critical innovations since the emergence of anatomically modern humans (e.g., Scarre 2013; Renfrew & Bahn 2016; Fagan 2004). In this book, I have divided the massive topic of the emergence of farming into three sections – the personal skills required for farming and herding (Chapter 4), the proposed explanations for this change (Chapter 10) and the evidence for practices related to food and drink (this chapter). Here, I focus on which plants and animals were selected by Phase 1-2 foragers before turning to the suite of new crops and animals introduced to define Phase 2.

The mosaic-like characteristics of the Holocene environment offered many variety crops with which to supplement and diversify Mesolithic diets, best attested in pollen diagrams such as Final Palaeolithic Ezero (Magyari et al. 2013) (here Table 3.1). The faunal data for Old Europe in the Mesolithic suggests parity with the broader European picture (Clarke 1975). Investigations in the Iron Gates Gorge

25 I do not consider this as much a transition from foraging to farming as an addition of the latter practices to the former.

Taxon	Nutritional value	Medicinal value
Urtica dioica (nettle)	Some P; high in C; high on V	Diuretic; homeopathic treatment for skin diseases
Cirsium palustre (marsh-thistle)	Low in C	
Pinus sylvestris (Scots pine)	Inner bark low in C	Itchiness, skin conditions
Typha latifolia (reedmace)	Flowers + some P; High in C; some S	Poultices for boils, burns or wounds
Typha angustifolia (small reedmace)	Flowers + some P; High in C; some S	
Schoenoplectus lacustris (bulrush)	Flowers high in C	
Potamogeton perfoliatus (clasped pondweed)	High in C	
Galium sp. (bedstraw)	Low in C	Anticoagulant (*G. triflorum*); toothache (*G. bungei*); venereal deseases (*G. umbrosum*)
Chenopodium sp. (goosefoot)	High in C; High in P; some V	
Polygonum dumetorum (copse bindweed)	Small seeds with some C: fiddly to utilize	Laxative; source of tannine in folk medicine
Polygonum aviculare (knotweed) (can act as substitute for buckwheat)	Small seeds with some C: fiddly to utilize	Mild astringent; source of tannine in folk medicine
Thlaspi arvense (pennycress)	Some minerals	
Solanum nigrum (black nightshade)	Leaves high in V but slightly toxic	Strong sudorific, analgesic and sedative with powerful narcotic properties
Rumex sp. (sorrel)	High in P; high in C; some V	Laxative; tonic and alterative; astringent; skin pain and itching; for jaundice (*R. verticillatus*)
Achillea sp. (yarrow)	Leaves for tea, some P	Eyewash; earache; itching
Betula pendula (silver birch) & *pubescens* (common or downy birch)	young leaves and catkins cooked + sap (sugary liquid) rich in P ; Inner bark + S	Antiseptic, diuretic, expectorant (*B. pendula*)
Ulmus sp. (elm)	raw, immature fruits just after they formed, high in C, low in P & V; bark high in P; young leaves as salad, rich in V	Urinary tract inflammations; poultice for abscesses, boils (*U. fulva*) and burns (*U. campestris*)
Hordeum (barley)*	High in C	
Secale (rye)	High in C	
Triticum (wheat)*	High in C	
Avena (oats)*	High in C	
Linum (flax)		To remove foreign material from the eye (*Linum* spp.); purgative (*L. cathartícum*); laxative (*L. usitatissimum*)
Celtis tournefortii (oriental hackberry)	Fruit high in C, with some P & V	
Juniperus excelsa (Grecian Juniper)	Fruit edible raw and cooked, high in C, with some P & V	
Juniperus-like (juniper)	Fruit edible raw and cooked, high in C, with some P & V	
Paliurus spina-christi (Jerusalem Thorn)	Small fruit edible either raw or dried, high in C, with some P & V	
Ephedra distachya (Sea grape)	Fruit raw, sweet but rather insipid flavor, high in C, with some P & V	
Sambucus ebulus (dwarf elder)	Berries slightly toxic, high in C, low in P & V	
Vitis (wild grape)	High in C, low in P & V	
Rosaceae (Maloideae ad Prunoidae) (pears & plums)	High in C, some P & V	
Quercus spp. (oak)	Acorns high in F, some P and C and low in V	Sore lips and mouth (*Q. alba*); source of tannine; astringent; dysentery (*Quercus spp.*); haemorrhoids (*Q. infectoria* and *Q. alba*)
Corylus-type (hazel)	Nuts high in F, low in C & P, some V	
Fagus sylvatica (beech)	Nuts high in F, moderate in C , low in P, some V	
Centaurea (cornflower)		Tonic and stimulant
Cupressaceae (cypress family)		Toothache (C. arizonica)
Plantago (plantain)		Toothache (P. media and P. major); purgative (P. psyllium and P. ovata)
Alnus (alder)		Indigestion; tonic and alternative; emetic (A. rubra and A. rugosa); vaginal discharges and skin itching (A. incana); pain from burns and scalds (Alnus spp.);

Taxon	Nutritional value	Medicinal value
Salix (willow)		General pain-killer; fever; toothpicks; sore eyes; removing bile from the stomach (S. lucida)
Crataegus (hawthorn)		Bladder ailments (C. tomentosa)
Fraxinus (ash)		Haemorrhoids; sores and itches (F. americana)
Anthemis		Bee string (A. cotula)
Senecio		Easing childbirth and hastening labour (S. aureus); stimulant and tonic (S. jacobaea)
Euphorbia		Toothache; emetic and purgative; for diaphoresis and as expectorant
Alisma plantago-aquatica		Diuretic (A. plantago)
Hyoscyamus niger		Toothache
Veronica		Chronic skin diseases (V. officinalis)
Stellaria media		Diuretic
Ephedra distachya (sea-grape)		Stimulant properties

Table 3.1. Ezero Lateglacial food and medicinal plants (source: Magyari et al. 2013) Key: nutritional value – P – proteins; F – fats; C – carbohydrates; S – starch; V – vitamins; distribution of plants: X – one case; XX – 2-3 cases; XXX – 4+ cases; P – pollen grain; S – seed / macro-fossil.

show a broad-spectrum hunting strategy, with 15 mammalian species found at Padina A, Icoana and Vlasac, 13 species of birds at Vlasac and a high proportion of fish bones at several sites. The only evidence for domestic animals concerns the dog, domesticated at Vlasac (Bökönyi 1978).

The earliest farming in Old Europe (Phase 2) was based on a selection from the suite of eight Western Asiatic founder crops, defined by Zohary & Hopf (2000) as einkorn wheat, emmer wheat, barley, lentils, peas, chickpeas, bitter vetch and flax. Variety crops used to diversify the Neolithic diet included the wide range of local collected fruits, berries and nuts, herbs, edible weeds, the cabbage family and multi-purpose stimulants. Colledge and Connolly's (2007) analysis of a huge database of cultivated plant remains from the Near East, Anatolia and Europe has shown regional variation in crop preferences, with a tendency for farmers to simplify and narrow the range of cultivated plants as Neolithic lifeways expanded North-West across Europe. Although Colledge & Connolly (2007) favour environmental causes over cultural choice to explain these changes, it is hard to imagine similar environmental stress on all settlements in such a range of locales, so this trend may well be related to questions of food tastes and preferences. Broadly similar crop suites were used in Phases 3-5, with a greater diversification of species in Phase 4, including plums and grapes.

One of the key distinguishing features of Neolithic lifeways was that farming enabled settlement across a far wider range of landscapes than foraging. A major factor in this widespread Phase 2 development was long-term, small-scale, autumn or winter garden-cultivation of einkorn and emmer wheat (G. Jones et al. 1999; Kreuz et al. 2005; Marinova 2007; Bogaard 2007; Bogaard et al. 2008; Bogaard & Halstead 2015; Valamoti 2004). These fertile household plots sustained long-term place-value and may well have been the subject of family or lineage inheritance claims (Bogaard 2004). Households probably enjoyed recurrent rights to cultivated plots, even if a communal group undertook clearance, enclosure and defence. Household plots reduced the risk of underproduction at the expense of communal cohesion (Bogaard & Halstead 2015, 401). This scale of cultivation may explain the paucity of human impact signals in Phase 2 pollen sequences, as claimed by Willis & Bennett (1994) and demonstrated in the Kiri-tó pollen core next to the Ecsegfalva 23 settlement (Willis 2007). This suggests local domestication of the landscape in Clement's (1999) sense of plants and animals domesticating particular niches in the landscape by their requirements for growing in cleared and enclosed areas[26]. Garden cultivation in Phase 2 may also explain the use of wooden hoes and digging sticks or antler hoes and picks rather than large polished stone axes with heavy use-wear.

Phase 2 small-scale intensive horticulture continued in many places into Phases 3 and 4, especially where the scale of dwelling was small (e.g., at Phase 3 Mlaka and Griblje, Slovenia: Andrić 2007). However, large-scale clearance of broad-leaved forests near Sarló-hát lake, North-East Hungary, predominantly for animal-keeping rather than arable farming, was related to settlement of both Late Neolithic tells and Early Copper Age homesteads (Phases 3-4) (Magyari et al. 2012, esp. 294-6) (Fig. 3.1). Similarly, the openness of their already steppe-like local environment

26 Wood charcoal evidence for possible hedges has been presented for Early Neolithic Kovachevo, South-West Bulgaria (Marinova & Thiebault 2008).

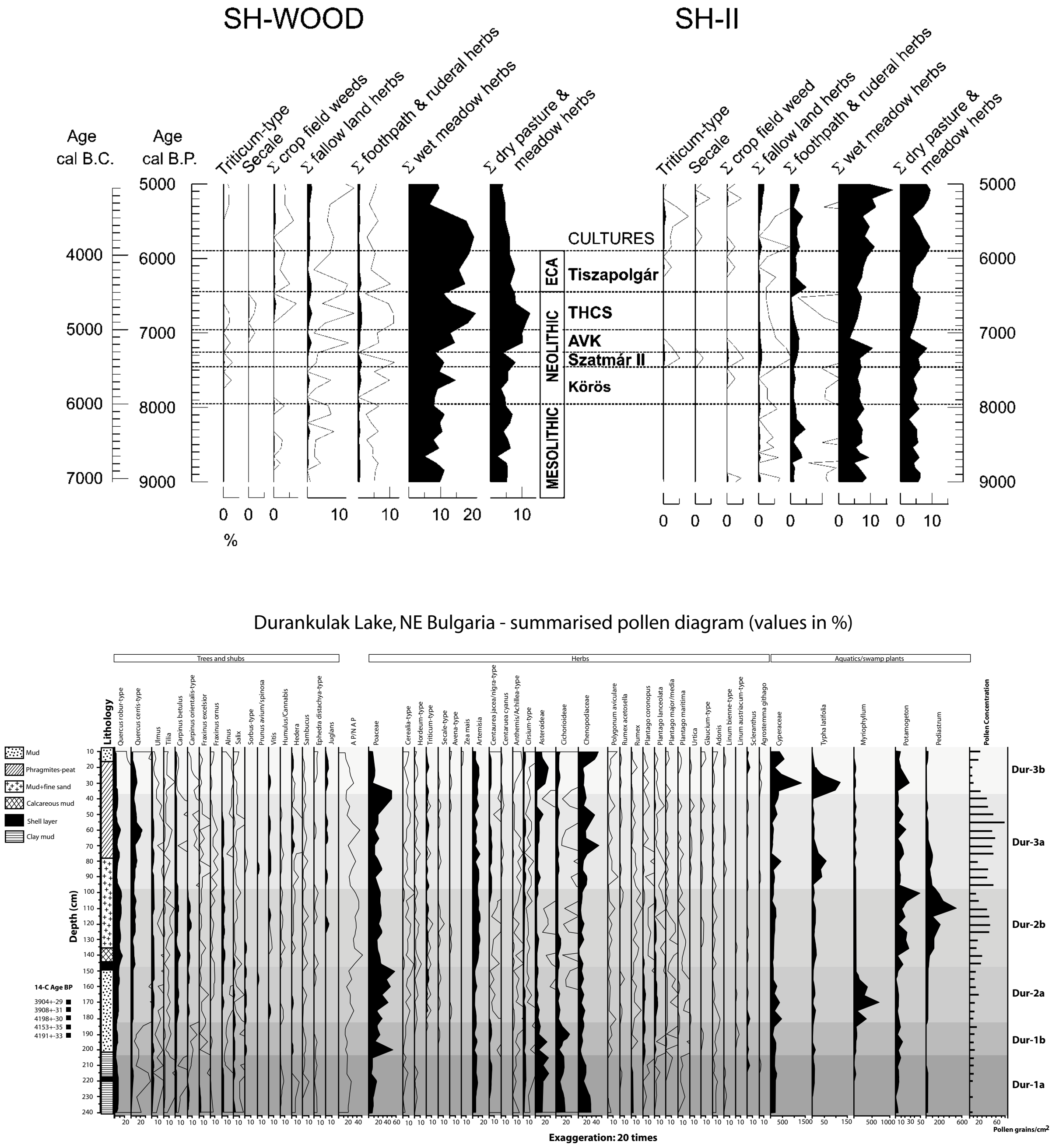


Figure 3.1. (top) the Sarló-hát pollen diagram (source: Magyari et al. 2012, Fig. 8); (bottom) the Durankulak 4 pollen diagram (L. Woodard redrawn from Marinova, E. & Atanassova, J. 2006, Fig. 4).

was increased for the intensification of arable cultivation and pastoralism in Phase 4 at Durankulak, North-East Bulgaria (Bozhilova & Tonkov 1985; Marinova 2003; Marinova & Atanassova 2006; Tonkov et al. 2014) (Fig. 3.1). It is clear that the Willis & Bennett (1994) hypothesis of increased human impact only in the Bronze Age does not hold good in areas of Old Europe with greater settlement nucleation. However, the evidence for far lower than expected human impacts caused by the Trypillia megasite of Nebelivka – at 238 ha, one of the largest sites in 4th millennium BC Europe (Albert et al., 2020) – shows the variability in botanical proxies dependent upon settlement function (Fig. 3.2).

The relative frequencies of fish, birds and mammals relies on excellent recovery techniques, including flotation (Fig. 3.3). The exploitation of fish in Phases 2

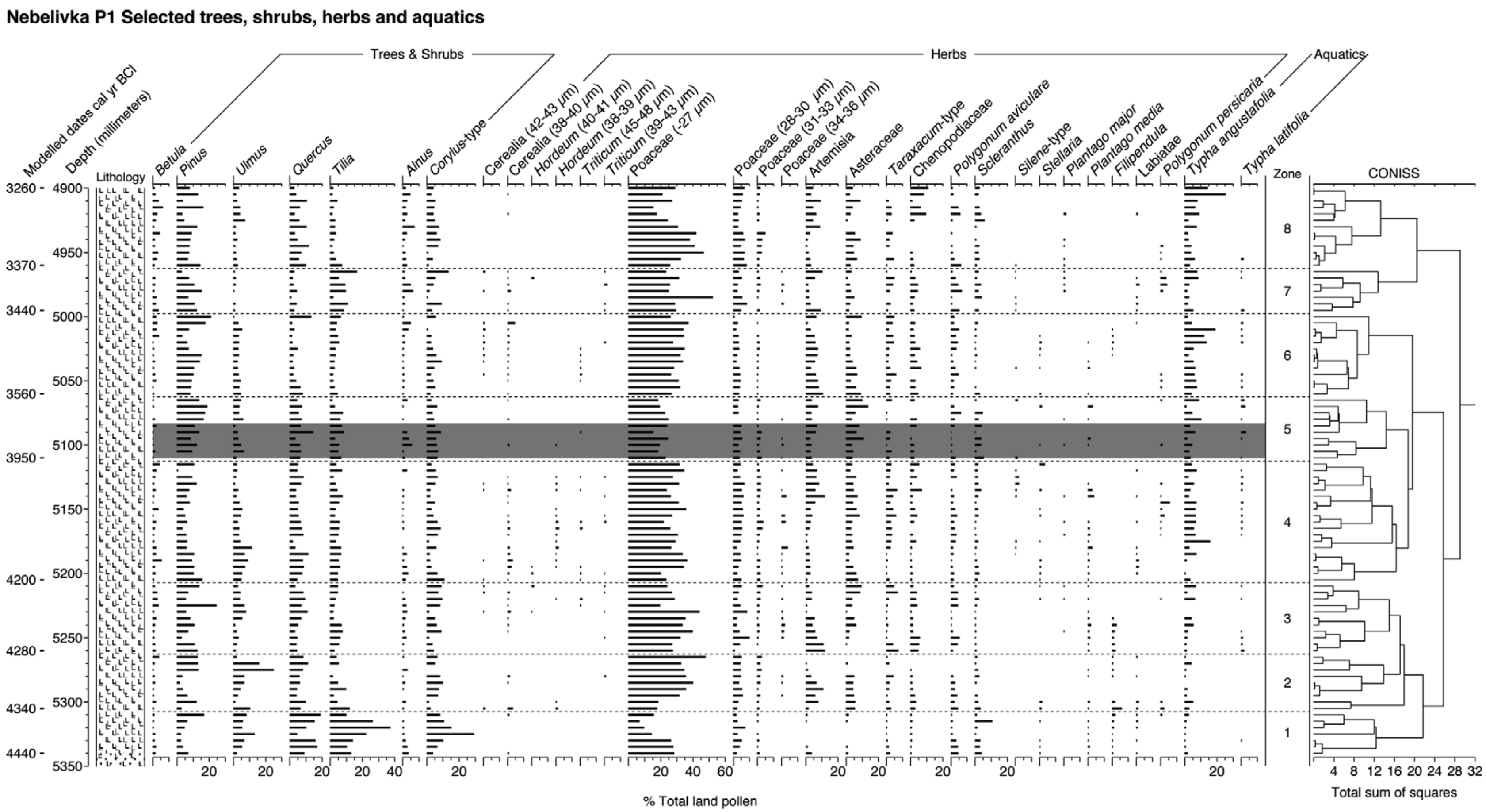


Figure 3.2. The Nebelivka pollen core: shaded - period of site occupation (source: Albert et al. 2020, Fig. 5).

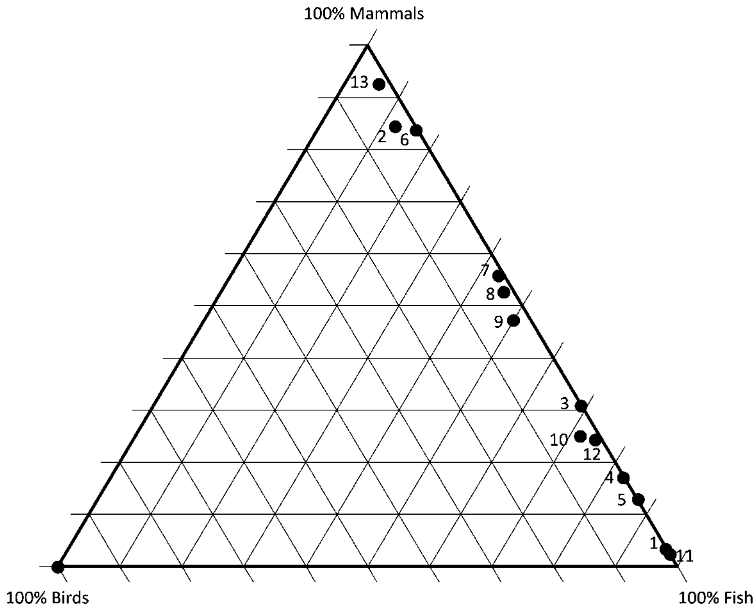
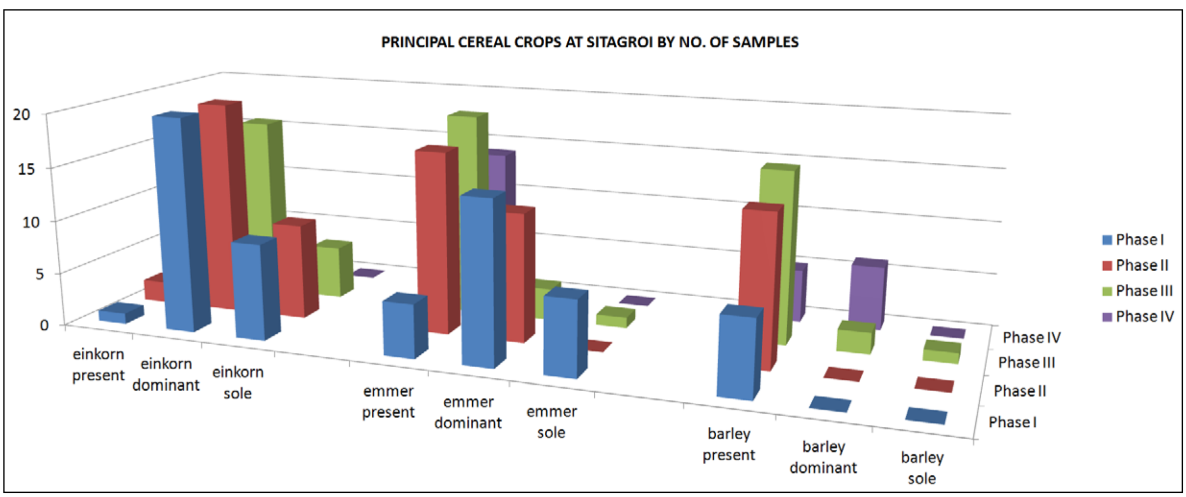
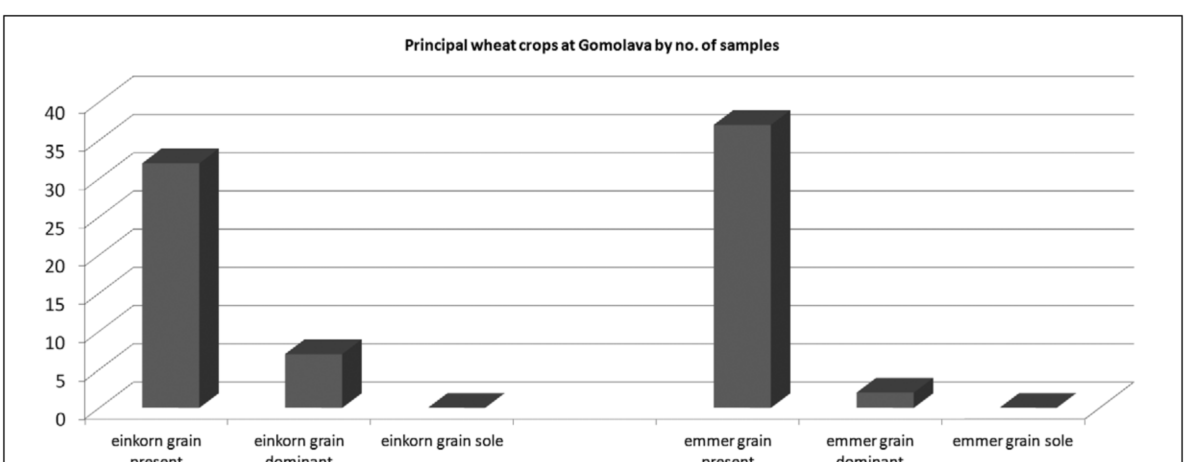


Figure 3.3. (top) Recovery of animal, bird and fish bones at selected sites. Key: 1 – Hârşova (overall); 2 – Dudeştii Vechi ; 3 – Hârşova (Boian IV); 4 – Isaacea; 5 – Coslogeni; 6 – Gornea – Cauniţa de sus; 7 – Borduşani (Gumelniţa A); 8 – Bucşani – La Pod; 9 – Luncaviţa; 10 – Navodari; 11 – Hârşova (Gumelniţa A2); 12 – Ecsegfalva 23; 13 – Foeni-Salaş. (source: author) (L. Woodard); Crop plants at (middle) Sitagroi III and (bottom) Gomolava (Late Vinča) (source: author based on data from Renfrew, Jane 2003 and Van Zeist 2003).





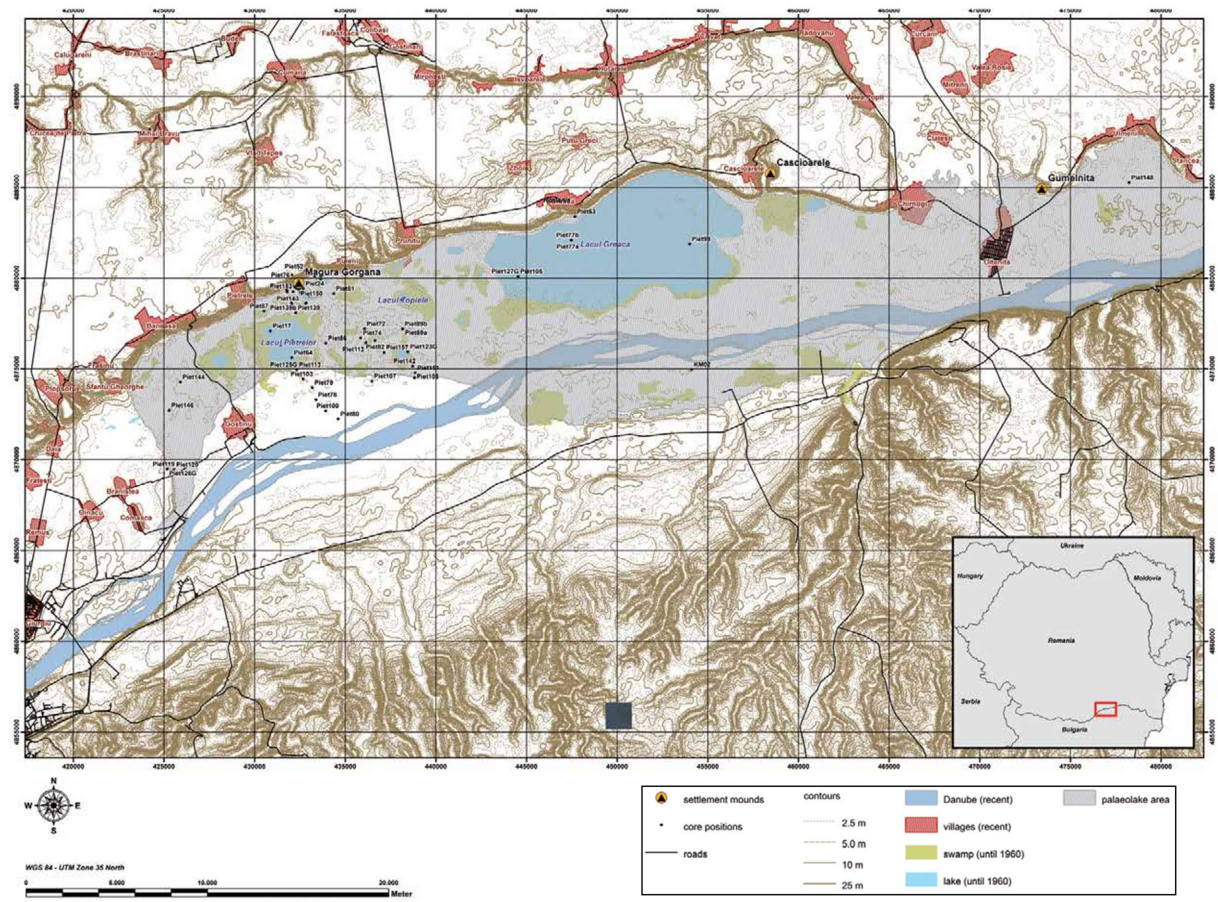


Figure 3.4. (top) Reconstruction of the palaeo-lake near Pietrele (source: D. Nowacki, in Benecke et al. 2013, Fig. 3); (bottom) aerial view of the Phase 4 site of Năvodari – La Ostrov on a former islet in Lake Taşaul (photo: C. Haită).

and 3 ranged from 5% to 87% (6 sites), while fishbones frequencies never fell below 40% at the Phase 4 Lower Danube Gumelniţa sites (7 sites), reaching 95% at the Hârşova tell. The reconstruction of a 60-km-long palaeo-lake in the floodplain of the Lower Danube (Comşa 1974; Benecke et al. 2013, 183-7)[27] (Fig. 3.4) meant that Phase 4 tells had ready year-round access to fish. The Phase 4 Gumelniţa A2 tell at Lake Taşaul (Fig. 3.4) was an ideal intercept location for anadromous and seasonally migrating fish[28] beginning their long journey up the Danube river (Radu 2000-2001, 167-8). This community was fishing intensively throughout the year, with an estimated total weight of the catch at 154,673kg, or the equivalent annual average of 10 sheep's-worth of fish for an estimated population of 150 (Voinea & Caraivan 2011). Fowling was also important in the lowlands, with the extraordinary total of over 40 species of birds caught

27 This interpretation of the sedimentological record of the Lower Danube plain has been recently challenged (Ţuţuianu et al. 2018).

28 The seasonal cycle of anadromous fish such as the sturgeon includes the sea as well as freshwater rivers, whereas other seasonally migrating fish, such as carp and catfish, swim downstream to the mouth of the river but do not enter the sea.

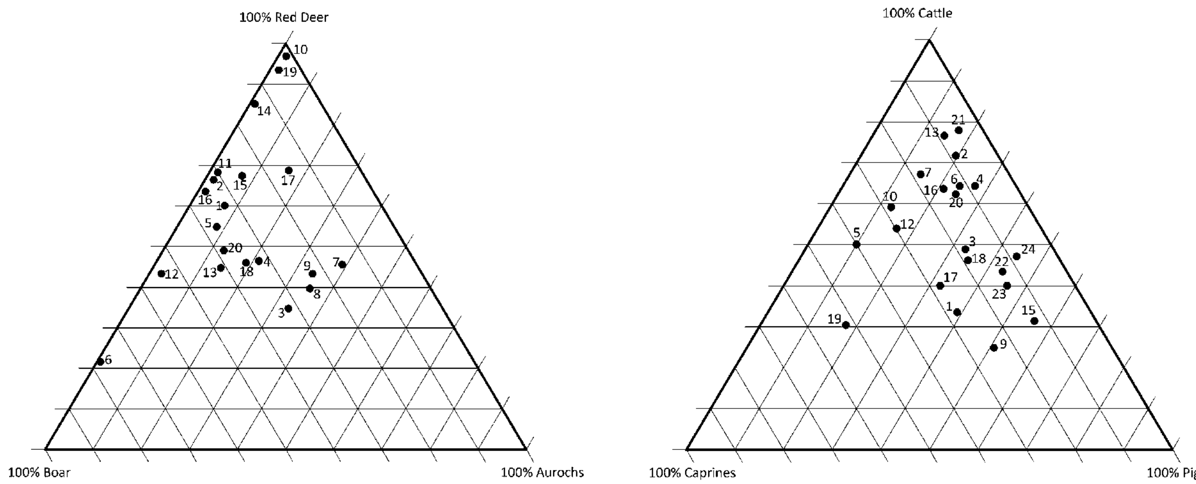


Figure 3.5. (left) Frequencies of wild animals by Phase: Phase 2 (13 – Lepenski Vir; 14 – Korbovo); Phase 3 (2 – Opovo; 4 – Csőszhalom – inner tell; 5 – Parţa 1; 8 – Aszód; 9 – Csőszhalom – tell ditches; 10 – Petnica 1-3; 11 – Vinča – Belo Brdo (phase D); 15 – Costişa-Cetăţuie; 16 – Liubcova – Orniţa; 17 – Foeni – Cimiturul Ortodox; 18 – Târgu Frumos; 19 – Traian (Pre-Cucuteni); 20 – Poduri (Pre-Cucuteni); Phase 4 (1 – Căscioarele (Gumelniţa B1); 3 – Vităneşti (Gumelniţa A2); 7 – Vităneşti (Gumelniţa B1); 12 – Drăguşeni – Ostrov; (L. Woodard);
(right) Distribution of NISP, Phase 2 settlements. Key: 1 – Tinj – Podlivade; 2 – Anza I – III; 3 – Obre I; 4 – Madžari; 5 – Divostin I; 6 – Mihailovac-Knjepište; 7 – Starčevo-Grad; 8 – Schela Cladovei; 9 – Korbovo; 10 – Lepenski Vir (Starčevo); 11 – Ovcharovo – Gorata; 12 – Koprivec; 13 – Trestiana; 14 – Lánycsók; 15 – Ecsegfalva 23; 16 – Endrőd 119; 17 – Ludas-Budžak; 18 – Donja Branjevina; 19 – Foeni-Sălaş; 20 – Gornea-Cauniţa de sus; 21 – Röszke-Ludvár; 22 – Golokut; 23 – Sofia – Slatina;24 – Kovachevo; 25 – Miercurea Sibiului – Petriş I; 26 – Magura – Boldul lui Moş Ivănuş; 27 – Pokrovnik; 28 – Szajol (source: author) (L. Woodard).

at the Phase 2 Ecsegfalva 23 site (Gál 2007) showing how birds were variety foods and provided plumage for special clothing.

In all subsequent animal bone analyses, the cutoff for the minimal sample size of identified bone fragments (or NISP) is 1,000 per site. While Bartosiewicz (2007a) has demonstrated that the most reliable results derived from samples of over 10,000 identified fragments, this rigorous threshold would exclude 99% of all published Balkan – Carpathian faunal spectra. The final list of sites or phases with a sample of 1,000 or more bone fragments comprises 114 units (Figs. 3.5-3.6).

In Phases 2 and 3, the deposition of bones from the four main domestic animals[29] reached 50% of all NISP on almost 90% of the sites; at one-third of the sites, the percentage of domesticate NISP rose to 90%. These figures show the importance of flocks and herds on Neolithic sites in contrast to the wild animals in the untamed zone beyond the settlement clearings (Fig. 3.5) (e.g., Bukova Pusta IV: Krauß 2016). Dividing the study region into a Northern and Southern zone defined by the Danube – Sava line, it is clear that most Phase 3 sites with over 90% domesticates were located South of the Danube – a big increase over Phase 2 sites[30]. Using counts of red deer, aurochs and wild pigs[31], two different hunting strategies emerged in Phase 3 – a balanced hunting strategy and a strong focus on red deer with few aurochs, with the upland cave of Petnica as a specialized red deer kill site. The pattern continues with some regional diversification in Phase 4. There is a big overlap in hunting practices between the Phase 3 Middle Danube sites and the Phase 4 Lower Danube sites, with more intra- than inter-regional contrasts (Bökönyi 1974). The only general trend is that, in comparison with Phase 3, more wild pig and fewer aurochs were hunted in Phase 4. The range of wild animals varies throughout Phases 4 and 5. The occurrence of lion bones, usually with one bone found per site, indicates that status hunting and the re-distribution of bones were part of life in Phases 4 and 5 (Vörös 1983; Manhart 1998, 183 & Abb. 60).

It is important to recall, however, the major reliance on domesticates in most Phase 2 and 3 sites[32], with the

29 For these analyses, the counts of domestic dog bones are excluded.

30 The Mature Farming sites include three Adriatic sites, outside the Danube catchment.

31 The threshold of inclusion in the analyses of wild bone assemblages was dropped to 800 fragments (NISP).

32 In the analyses of Phases 2-4 (Figs. 5.5-5.6), the data consists of the frequencies of domestic cattle, pigs and caprines as a percentage of the total domestic stock rather than the percentage of the overall number of bones.

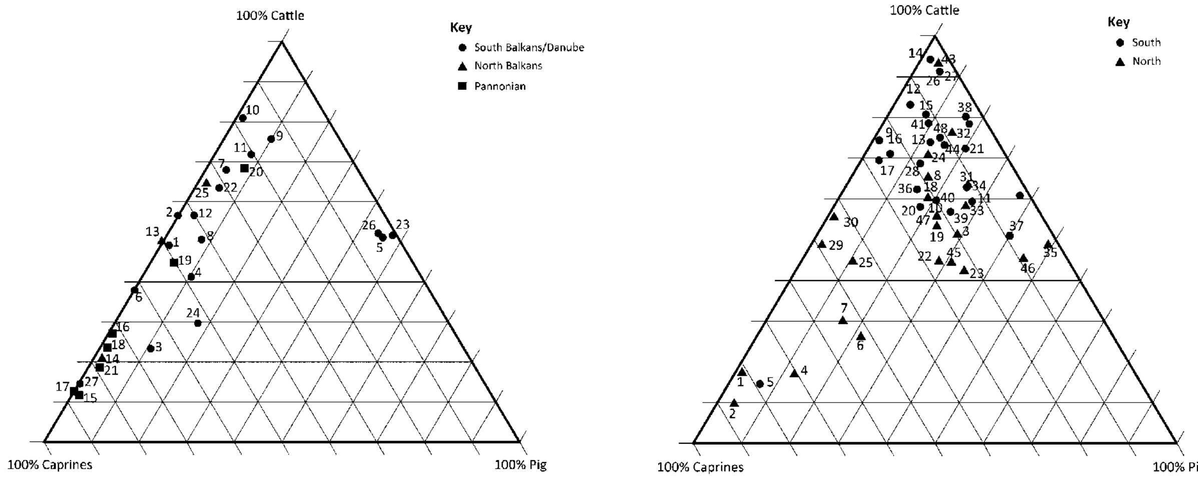


Figure 3.6. (left) Distribution of NISP, Phase 3 settlements. Key: 1 – Danilo; 2 – Pupićina cave (I-G); 3 – Goljamo Delchevo (ECA); 4 – Anza IV; 5 – Na Breg – Mlado Nagoričane; 6 – Sitagroi II; 7 – Sitagroi I; 8 – Liubcova – Orniţa; 9 – Ciulniţa; 10 – Izvoarele; 11 – Radovanu; 12 – Vlădiceasca (Boian); 13 – Târpeşti (Pre-Cucuteni); 14 – Traian (Pre-Cucuteni I); 15 – Isaiia; 16 – Târgu Frumos; 17 – Costiša-Cetăţuie; 18 – Podgoritsa; 19 – Ovcharovo (ECA); 20 – Foeni – Cimiturul Ortodox; 21 – Csabdi; 22 – Belovode; 23 – Selevac; 24 – Jasa Tepe; 25 – Drama-Merdžumekja (Karanovo V); 26 – Zau de Câmpie; 27 – Orăştie; 28 – Poduri (Pre-Cucuteni + Cucuteni); 29 – Techirghiol; 30 – Cheia; 31 – Goljamo Delchevo (MCA); 32 – Obre II; 33 – Ovcharovo (MCA); 34 – Öcsöd; 35 – Gomolava 1; 36 – Parţa tell 2; 37 – Csőszhalom (tell ditches); 38 – Aszód; 39 – Parţa tell 1; 40 – Csőszhalom (inner tell); 41 – Herpály; 42 – Opovo; 43 – Crkvine; 44 – Divostin II; 45 – Vinča – Belo Brdo (phase D); 46 – Petnica (1-3); 47 – Ezero; 48 – Sânandrei. (L. Woodard); (right) Distribution of NISP, Phase 4 settlements. Key: 1 – Borduşani (Gumelniţa A); 2 – Căscioarele (Gumelniţa B1); 3 – Drăgăneşti-Olt; 4 – Drăguşeni – Ostrov; 5 – Drama-Merdžumekja (Karanovo VI); 6 – Goljamo Delchevo (LCA); 7 – Gumelniţa (Gumelniţa A); 8 – Vlădiceasca (Gumelniţa A2); 9 – Hoiseşti – La pod; 10 – Kosharna tell; 11 – Vlădiceasca (Gumelniţa B1); 12 – Mariuţa; 13 – Obre II; 14 – Poljanica; 15 – Pietrele; 16 – Ovcharovo; 17 – Vităneşti (Gumelniţa A2); 18 – Scânteia; 19 – Sitagroi III; 20 – Targovishte; 21 – Târpeşti (Cucuteni); 22 – Vinitsa tell; 23 – Ruginoasa; 24 – Vităneşti (Gumelniţa B1) (source: author) (L. Woodard).

implication is that all Neolithic animals, especially cattle, were reared for inter-household consumption (Halstead 2005). There is a strong contrast between preferences for beef and lamb/mutton in Phase 2 (Fig. 3.5), with high frequencies of domestic caprines in Greece, the Eastern Adriatic and South-East Hungary (Perlès 2001; Mlekuž 2005; Bartosiewicz 2007a). Mlekuž (2005) makes out a persuasive case for cave-using communities targeting the meat of caprine herds in the Trieste Karst, where husbandry pre-dated plant cultivation by more than one millennium and saw the establishment of sheep as prestige items in forager – farmer exchange. In contrast to caprine husbandry, the cattle-based practices of Phase 2 in the South and North-East Balkans (Karanovo I-II, Starčevo and Criş: Greenfield 2008) required a major commitment to meat storage as well as placing a strong emphasis on community relations over household autonomy. At the same time, households would have developed new, closer relations to cattle, especially when milking was practised (Bánffy 2019).

In Phase 3 (Fig. 3.6), the only regions where caprine pastoralism continued to thrive were the Adriatic coast, Northern Greece and the Republic of North Macedonia, though few large faunal samples have been recovered. On the Black Sea coast and in Thrace, there was a small number of 'transitional' assemblages, exhibiting broadly similar levels of cattle and caprines. Elsewhere, in some areas both North and South of the Danube, a new trend developed in balanced animal-keeping strategy with a tendency to expanding the role of cattle. By contrast, North of the Danube, pastoralists kept large cattle herds, medium-sized caprine flocks and small numbers of pigs.

The hitherto clear division between the South and the North Balkans collapsed in Phase 4 with a high degree of overlap in animal-keeping choices (Fig. 3.6). However, the level of intra-regional diversity increased, often marked by a decline in cattle-keeping relative to pigs and an increase in boar-hunting. The only two Phase 5 samples currently available both show a dominance of cattle over caprines, with a smaller proportion of pigs and a few wild horses.

The take-up of animals domesticated in Western Asia was more complicated than for the plants, since cattle and pigs were local to the Balkans while sheep and goats were not native to the study region. However, aDNA studies have shown that Balkan Neolithic domestic cattle were descended from Western Asiatic herds, with a decline in genetic diversity suggesting smaller pools of Asiatic domestic cattle on a South-east – North-west cline (Scheu et al. 2012). Sheep showed a low genetic diversity in Old Europe, suggesting the introduction of a small 'founder' population, while the genetic diversity of goats increased with time in Old Europe, indicating either a large population of introduced individuals or the renewal of the population through secondary introductions (Scheu et al. 2012). After the first introduction of domestic pigs of Near Eastern ancestry, cross-breeding with local wild boar, as documented at Phase 3 Uivar and in Turkish Thrace (Scheu et al. 2012), resulted in the large-scale replacement of Near Eastern genetic make-up by that of local European wild boars (Frantz et al. 2019). A morphometric study of pig teeth in Romanian prehistory and early history supported a genetic admixture between wild and domestic pigs through a similar feeding strategy – viz., loose herding in the woods (Evin et al. 2015).

The variations in faunal spectra by both region and Phase (Figs. 3.5-3.6) pose major interpretative questions. The well-known contrast between cattle and caprine husbandry in the North and South Balkans (e.g., Orton et al. 2016) could have had its roots in environmental differences but there is also the factor of antecedent cultural traditions (e.g., the proximity of the South Balkan communities to Northern Greece, with its strong preference for caprines). However, the environmental argument is weaker in the Pannonian Basin, since cattle husbandry is popular in broadly similar environments. Dietary preferences for lamb and mutton over beef constituted one explanation but another factor may have been the social relations enchained by feasting from sheep or goats to smaller human groups as compared to cattle with much larger groups.

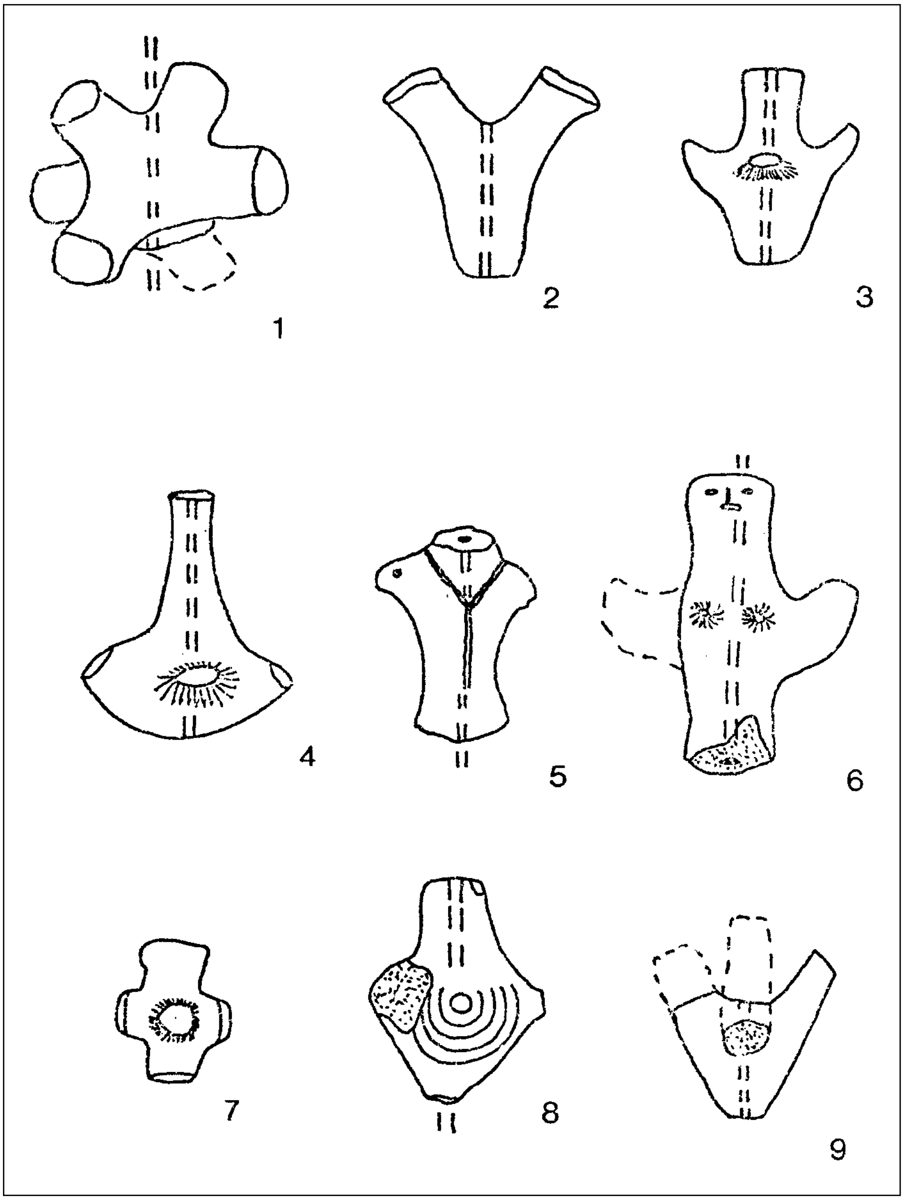
Intensification of stockbreeding

An important part of tending animals and growing crops in Old Europe concerned the scale and intensity of agro-pastoral practices; changes of scale would have had a major impact on the food produced and the organization of that production. What can we learn of the changing intensity of animal husbandry practices in agro-pastoral settlements? The basis for this discussion is Ingold's (1988) differentiation between wild and domestic animals: 'we describe as domestic any population of animals which are subject to property relations while still alive, and as wild any population which represents a shared resource up to the moment of death' (Ingold 1984, 4). Three forms of intensification have been proposed – an increase in the scale of animal-keeping, the increased use of secondary animal products and the practice of transhumance.

In terms of herd size, John Robb (2007) quotes the minimum herd / flock size for breeding viability as 30-50 cattle and 100 caprines. Co-operation between households would have been essential for husbandry (Halstead 1996: 2006), both on tells with their population thresholds of 100-150 people (20-25 households) or on larger flat sites with dozens of, if not a hundred, households[33]. At a certain scale of dwelling, transcending the limitations of the intensive small-scale horticulture model would have led to larger herds, more complex forms of scheduling and specialized production for exchange (Halstead 1999). The accumulation of cattle was a way of growing the community (Gamble 2007). This would in turn have led to an increased scale of domesticating the landscape *sensu* Clement (1999). Such a scale was identified in the Phase 3 woodland clearance phase in the Sárlo-hát pollen diagram in North-East Hungary (Fig. 3.1), in which the 40% open grassland indicators indicated mixed farming with extensive cattle husbandry on a hitherto unprecedented scale (Magyari et al. 2012). Such an increase in the scale of animal-keeping, with flocks and herds removed from the settlement, meant a distancing of domestic animals from the close and personal relationships with household members found in Phase 2 and a closer, more specialist relationship between animals and their herders and milkers.

In Andrew Sherratt's original (1981) neo-evolutionary, diffusionist formulation, after millennia of reliance on the primary (meat) products of animals, 4th millennium uncal bc communities in the Near East developed a suite of five innovations – animal traction, wheeled transport, dairying, equid domestication and wool – which was diffused into Europe in the 3rd millennium uncal bc, becoming consolidated into an influential package of practices that helped to define the Bronze Age. This hugely influential idea has generated much discussion in Eurasian prehistory (O'Shea 2011). Whatever the details of the proposal, it is now generally agreed that at least some secondary products were used in the European Neolithic, prior to the original Sherratt dating, and that the five innovations were adopted at different times in different places, before the cumulative effect of the full suite of secondary products in the Early Bronze Age (Isaakidou 2011; Greenfield 2010). However, the devil is in the detail and there is still disagreement as to which elements were used earlier and which later (Vigne & Helmer 2007). Isaakidou (2011) notes that Sherratt's later (1997: 2006) formulations "largely overlooked the growing body of bioarchaeological evidence inconsistent with a fourth-third millennium BC secondary products revolution as

33 The alternative model of each household caring for its own stock is well-known from recent East European history.



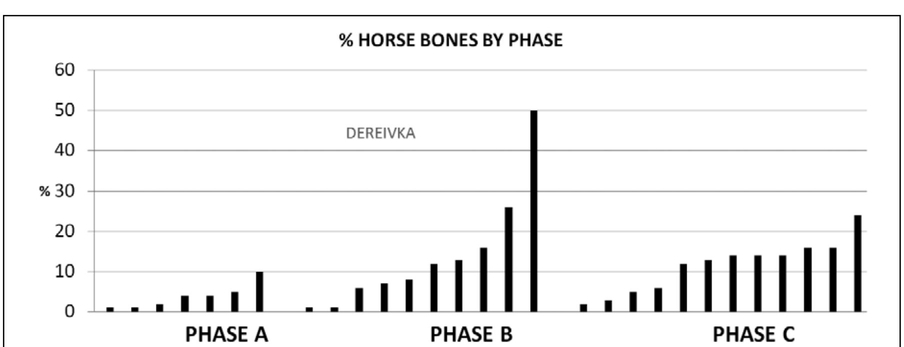


Figure 3.7. (top) 'Fired clay 'loom-pieces, Vinča group: various scales (source: Chapman 1981, Fig. 152); (bottom) percentages of horse bones from Trypillia sites (source: author based on data from Zhuravljov 2008).

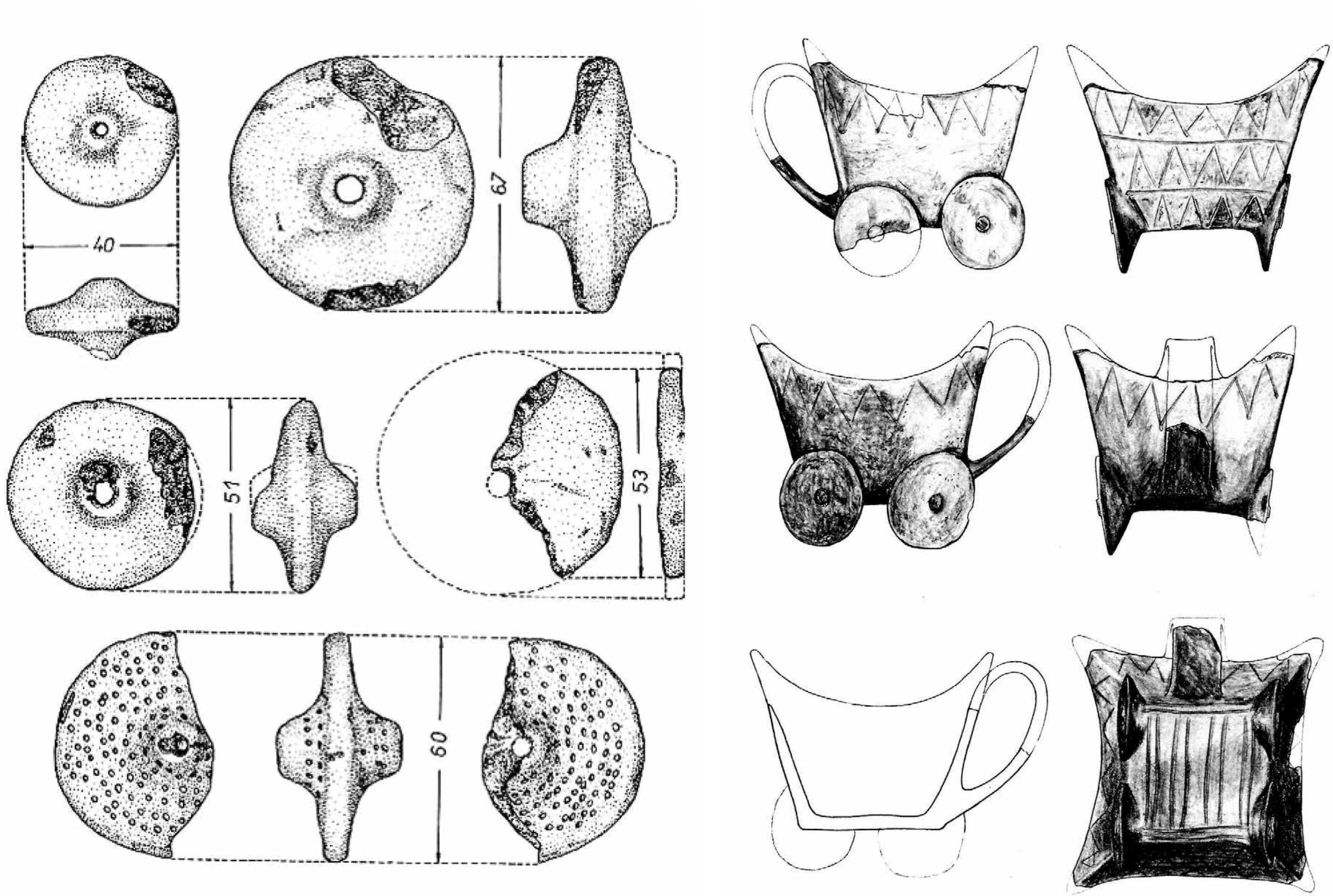


Figure 3.8. (left) Wheel models from Cucuteni – Trypillia sites (source: Dinu 1981: copyright – Journal of Indo European Studies); (right) the fired clay model cart, Budakalász: height – 8.1cm (source: Bondár & Raczky 2009, Plate LXXIX).

originally formulated"[34]. Can we disentangle a secondary products narrative in the Balkans, which takes account not just of the initial appearance of secondary products but their intensified usage (Bogaard 2011; Greenfield 2010)? A convincing narrative is especially important given Bogucki's (1993) claim that the secondary products revolution was the time when cattle took on wealth value and were used as bridewealth – a social development of potentially great significance for gendered relations in the Neolithic.

The contrasts Sherratt (1981) sought to clarify in the secondary products transformations included: the gradual replacement of leather and linen clothing by woollen clothes (Schier & Pollock 2020) (NB the loom-pieces from the Vinča group claimed to indicate woollen textiles: Chapman 1981) (Fig. 3.7); the emergence of riding of animals such as the horse (e.g., the Trypillia incidence of horse bones: Fig. 3.7), the onager and the donkey, with major potential for warfare in the case of horse-riding; the change from a hoe-cultivated garden to a ploughed field based on animal traction; the change from movement of bulk crops or salt by hand to wheeled transport (e.g., the Cucuteni-Trypillia wheel-models: Dinu 1981 (here Fig. 3.8), the Budakalász cart model (Fig. 3.8) or the earliest wooden wheel, preserved in the Stare Gmajne pile-dwelling, Ljubljansko Barje and dated 3500-3100 BC: Velušček et al. 2009); and the development of a new suite of dairy foods resulting in the fermentation of milk and the separation of curds and cheese from whey – the latter containing the unpalatable lactic acid found in natural milk.

The overall picture of the use of primary and secondary products in the Balkan Neolithic and Copper Age shows a complex pattern with marked regional and chronological variability. In this respect, the Balkan data follow the pattern of regionalization for dairying recognized in Evershed et al.'s (2008) pioneering study. As the summary table of results shows (Table 3.2), there was no secondary products package prior to the Bronze Age in the study area – rather a mosaic of new practices that fitted into the existing pattern of food production (Fig. 3.9a). All of the six Early Neolithic sites with good lipid preservation studied in a recent lipid analysis showed the use of dairy products, with dairy lipids more frequent than other lipids in the North Balkans and the Carpathian Basin and the converse in the South Balkans (Ethier et al. 2017). Recent lipid analyses from the Dalmatian Neolithic sites of Pokrovnik and Danilo showed milk consumption in the early 6th millennium BC, with differentiation between fermented milk, milk and cheese by the late 6th millennium BC (McClure et al. 2018). It is striking that the three patterns identified in mortality profiles remained the same from Phase 2 to Phase 4 – an emphasis on immature animals, a mixed 'primary + secondary products' pattern with <20% mature animals, and an emphasis on mature animals (50-75%), with an overall preference for the mixed culling strategy (cf. Phase 3 and 4 Ovcharovo tell (Fig. 3.9e – f), with the Sitagroi IV and V data (Fig. 3.9b – d)). The recent archaeo-genetic debate over the dating of the gene for lactose tolerance (6th or 2nd millennium BC: Itan et al. 2009; Leonardi et al. 2012; 2nd millennium BC onwards: Mathieson et al. 2015) means that cheese and perhaps yoghurt / sour cream / curds and whey rather than milk were eaten rather than drunk in the Neolithic and Chalcolithic (Fig. 3.10). This conclusion implies the increased importance of salt in cheese-making, as well as in generally culinary and storage practices.

In summary, the patchiness of the data makes an integrated package impossible to confirm or deny, with mortality curves consistent with secondary products usage the only evidence found in Phases 2-5, dairying and light traction confirmed for Phase 2-3 and wheeled vehicles for Phases 4 and 5 (Table 3.2).

The evidence for transhumance is mostly indirect – the location of upland sites and the movement of resources with high-altitude sources to lowland settlements (see Chapter 9). Clason (1998) has discounted this possibility in the Neolithic and Chalcolithic because of the difficulties of travelling through dense primary deciduous forests to reach areas where there was, in any case, a distinct lack of upland pasture at the time (cf. Halstead 1990 for Greece). Nonetheless, Greenfield has doggedly pursued the objective of documenting the time when transhumance was first practiced in Balkan prehistory (1986: 1999), struggling against the problems of small sample sizes. Given that proof of human mobility in the predominantly mountainous Balkan region has been amply documented through the identification of a wide range of upland lithic raw materials sources used in lowland Neolithic and Chalcolithic communities (Biró 1998: 2007), it seems to me a short step to suggest that animals accompanied the lithic specialists or that herders became lithic specialists during those long, summer days on the 'yayla'[35]. An early example of such a process leading to long-term settlement was Obre I and II, with abundant evidence of long-term contacts between the Middle Danube basin and the Adriatic coast (Sterud 1978). Another case is the network linkage between lowland settlement networks

34 One could also level this charge against Greenfield (2010), who defends Sherratt's original vision, in almost every respect, ignoring recent evidence (e.g., soil micromorphological evidence for ploughing in the Belgian LBK) and dismissing alternative scenarios with no argumentation. Greenfield even overlooks Sherratt's own change of title for the phenomenon, from 'revolution' to 'scenario' (1981: cf. 1997).

35 'Yayla' is a Turkish word for upland pastures, classically on the mountain ranges South of the Southern Black Sea coastline.

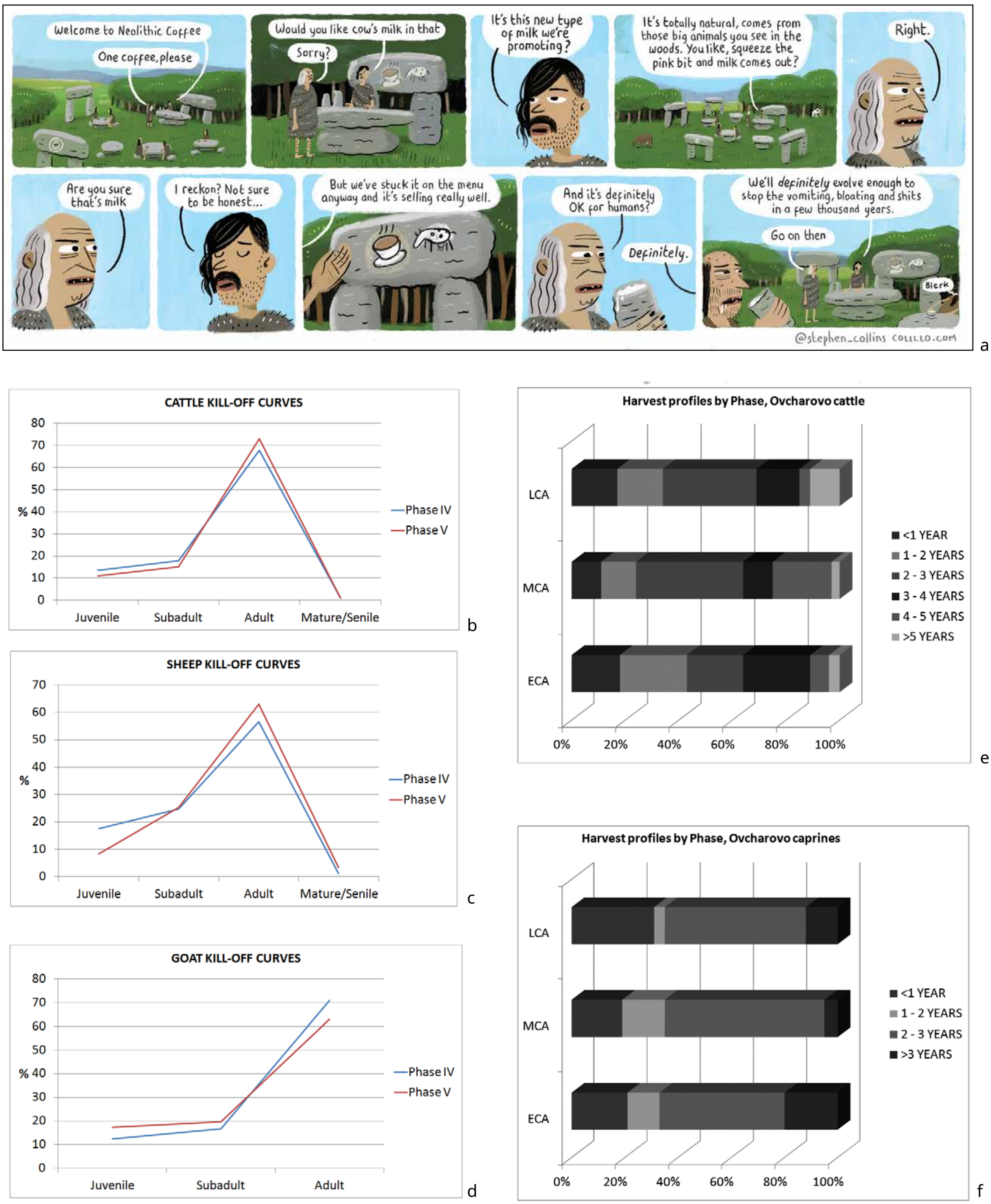


Figure 3.9. (a) Dairying cartoon (S. Collins); (b – d) Animal mortality patterns, Sitagroi Phases IV and V (source: author, based on data from Bökönyi 1986); (e – f) Mortality curves from (a) Phase 3 and (b) 4 occupations, Ovcharovo tell: a – cattle; b – caprines (source: author, based on data from Vasilev 1985).

Innovation	First usage	Intensification
Dairying	Phase 2	Possible in Carpathian Basin in Phase 2; otherwise, Phase 3
Ploughing	? Phase 2: more likely, Phase 3	???
Wool	Phase 3	Phase 5
Cattle symbolism	Phase 3	Phase 5
Wheeled transport	Phase 4	? Phase 5
Equid domestication	Phase 5	???

Table 3.2. Secondary products – first usage and intensification (source: author).

both North and South of the Eastern Rhodopes (Chapman 2010). In strictly scientific terms, there is little evidence to supplement the isotopic analysis of a Phase 5 (Coţofeni) cattle bone from the Livezile group in the Apuşeni Mountains of Western Transylvania, which indicated non-local cattle and therefore transhumance (Gerling & Ciugudean 2013). There is good locational and settlement evidence, however, for such a practice, albeit on a small scale (see Chapter 9) and despite methodological issues with the recognition of seasonality from faunal assemblages (Milner 2005).

In summary, it is hard to recognise consistent evidence for widespread intensification in stock-raising in Old Europe, despite the patchy evidence from a number of regions.

Summary of Stage 1

A complex range of dietary preferences is seen in the study region over three millennia. In Phase 2, the Northward trend towards fewer Near Eastern domestic plant species and the regional variations between caprine and cattle husbandry brought some regional changes in cuisine in the settlement context of widely shared small-scale mixed farming practices. However, the off-site pasturing of domestic animals indicates a wider use of the landscape in this Phase. The only evidence for the use of secondary products came in the form of kill-off profiles at a number of Phase 2 sites.

The clearest evidence for a North – South division in farming came in Phase 3, when communities South of the Danube preferred higher frequencies of domestic animals than in the North, although the two hunting patterns – balanced and specialized – occurred in both areas in respect of aurochs or red deer. The same regional variation in cuisine was found in preferences for emmer over einkorn wheat or *vice versa*, but the predominance of wheat continued in Phase 3, alongside new 'variety' crops and the first spice. Greater settlement agglomeration led to an expansion of the scale of mixed farming in this Phase in some regions (e.g., Eastern Hungary) but not in others (Eastern Croatia). A similar broad range of caprine and cattle kill-off patterns was found as in the previous Phase, but with a higher proportion of sites exploiting secondary products. Locational evidence for small-scale transhumance was found in Phase 3, without any other signs of secondary products; this may relate to the changes of farming scale first identified in this Phase.

One of the interesting aspects of Phase 4 cuisine was the increased preference for pork, whether from wild or domestic animals, at the same time as growing signs of the use of secondary products from cattle and caprines (Fig. 3.7). The North – South divide in the selection of domesticates collapses in Phase 4, with the continuing expansion in the scale of farming in the Middle and the Lower Danube. The development of arboriculture was only one aspect of the diversification of plant foods, also shown in the adoption of new cereal and legume crops. The first production of wine is claimed from Northern Greece, while plums and apricots are also claimed for Cucuteni sites in Moldavia.

In the Phase 5 where most evidence for secondary products could be expected, there is still a shortage of animal, plant and lipid evidence. Nonetheless, the few large animal bone assemblages are all dominated by mature animals, while dairying and wheeled vehicles are clearly documented (Figs. 3.8-3.9). The expansion of drinking, whether beer or milk (Fig. 3.10), may be related to the trend towards the preference for barley over wheat in several regions.

The question of the closer integration of arable farming and pastoralism was one of the most interesting parts of Sherratt's (1981) original formulation of the secondary products hypothesis. The origins of the five elements of the scenario across in time and space has challenged the notion of closer agro-pastoral integration, at least until Phase 5, with the coeval development of wheeled transport, probable increased use of wool and expanded crop production, but possibly earlier, depending on whether cattle traction can be demonstrated in Phases 3 or 4. However, a recently developed technique for the identification of manuring practices from charred plant remains (Bogaard et al. 2013) has shed new light on the question of agro-pastoral integration. Bogaard et al. have demonstrated how early farmers[36] made strategic use of

36 Four Phase 2 sites (Sofia-Slatina, Azmaska moghila, Kapitan Dimitrievo (all Bulgaria) and Ecsegfalva 23 (Hungary) have shown evidence for manuring for wheat or barley cultivation but no manuring for pulses (Bogaard et al. 2013).

Site/Area	Phase	Estimated Population	Low salt provision	Medium salt provision	High salt provision	Elite salt provision
Târpeşti	Cuc A	165	569	1,404	2,240	1,758
Hăbăşeşti	Cuc A	500	2,262	4,255	6,787	5,327
Pescanaja	Tryp B	>600 (20 ha)	2,715	5,160	8,145	6,393
Yatranovka	Tryp B	1,500 (50 ha)	7,335	13,860	22,005	16,750
Majdanetske	Tryp CI	8,000 (250 ha)	36,200	68,080	108,600	85,240
Uman region	Tryp CI	530 km^2 at 5 persons/km^2	11,991	22,551	35,973	28,235
Bug-Dniestr micro-region	Tryp CI	1 large + 2 small sites	41,630	78,292	124,890	98,026

Table 3.3. Estimated annual salt requirements (kg) for Cucuteni – Trypillia sites (source: Chapman & Gaydarska 2003, Table 6).

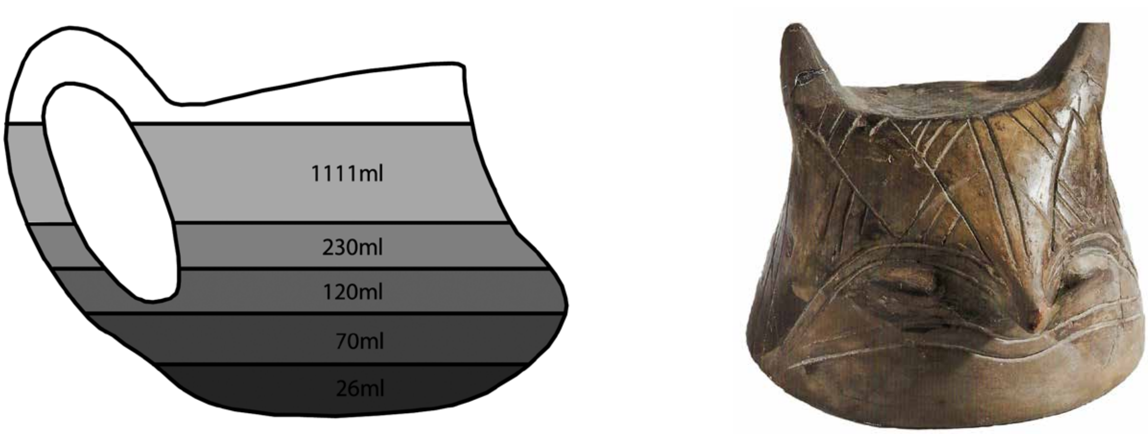


Figure 3.10. (left) Volumetric analysis of Baden cups (L. Woodard, redrawn from Spasić 2010, Sl. 4); (right) Phase 3 prosopomorphic lid, Beograd – Banjica (source: Petrović & Katić 2009, 230: height – 9.6cm).

manure relative to their herd size and the labour costs of its transport. They interpret the investment in manuring as promoting both sustainability and territorial claims, with variable access to intensively managed, heritable land giving rise to social differentiation. Manuring practices would also have favoured animal keeping close to settlements, as would the practice of daily milking. The selection of kill-off patterns favouring dairy products in Phase 2 but even more in Phase 3 provided a further envaluation of cattle and caprines, further matched by the provision of manure, especially for cattle. These lines of evidence suggest a spatial intensification of animal-keeping, in which the agency of domestic animals expanded to match the human labour involved.

Stage 2: food allocation and storage

The 'container revolution', theorized by Clive Gamble (2007), led to a plethora of new opportunities for food storage and allocation in the house. Houses grew new kinds of families and especially children, prompting Gamble (2007: 227) to compare the raising-up of children to the raising of animals and the tending of plants[37]. With each extra adult requiring some 300 litres of grain *per annum* (Reed 2013: 2015), there was a rapid increase in the quantity of grain storage required for each small family. So while John Barrett (2011, 76) is correct to recognize that farmers developed long-term investment in landscape fertility and stored energy in plants and animals, the correlate was a major investment in crop storage facilities – just as community-creating as the formation of hedges and field banks to control food stored on the hoof.

Hendon (2000, 50) has linked storage areas in field and house to the creation of social memory. "Storage, whether "utilitarian" or ritual, raises issues of secrecy, memory, prestige and knowledge that help construct the moral system within which people live." Compare Bradley's (2005, 90-91) insight that a storehouse was not only a place for accumulation but a medium of social display integrated into the spiritual life of the community.

37 Cf. further the growing of communities by increasing the size of animal herds and flocks (Gamble 2007).

	Pot				Bag				Pit				Bin				
Phase	**2**	**3**	**4**	**5**	**2**	**3**	**4**	**5**	**2**	**3**	**4**	**5**	**2**	**3**	**4**	**5**	**n**
CEREALS																	
Einkorn	x	xx	xx		x	x	xx						X	x			11
Emmer	x		xx		x	xx	x						X	x	x		10
Barley	x	x	xx	*$_{1}$		xx	xx								x		10
Rye			x				x										2
Mixed cereals	**$_{2}$		*$_{3}$	*$_{4}$						*$_{5}$	*$_{6}$						6
Flax	x					x	x	*$_{7}$									4
Unidentified Cereal		x									x	x	Xx	xxx	x		9
PULSES																	
Lentils	x	x	xxx		xx	xx	x						X				11
Peas			x		x		*$_{8}$										3
Field pea							x										1
Bitter vetch			*$_{9}$			x	*$_{9}$										3
Chickpea	x																1
Mixed pulses					x		x										2
Pulses + cereals			*$_{10}$	*$_{11}$													2
FRUITS / NUTS / HERB																	
Hazelnut									x								1
Acorn			x					x			x						3
Pear			x				x										2
Grapes			x				x										2
Elder			x				*$_{12}$										2
Strawberry			x														1
Cornelian cherry						x											1
Blackberry							x										1
Fig							x										1
Damson							x										1
Coriander			x				*$_{13}$										2
Lithospermum							x										1
Velvetleaf			x														1
Chenopodium							x										1
TOTAL	8	5	21	3	6	10	21	2	1	1	3	1	5	5	3	0	95

Table 3.4. Storage methods by Phase (source: author). Key: 1 – store of 61,300 barley grains; 2 – (1) barley > einkorn: (2) emmer > bread wheat> rye; 3 – rye > 3 others; 4 – (1) einkorn > emmer: (2) emmer > 3 others; 5 – emmer & einkorn; 6 – barley & emmer; 7 – bag and vessel; 8 – wooden dish; 9 – bag or vessel; 10 – einkorn & lentils; 11 – peas > emmer; 12 – wooden cask; 13 – wooden cask.

The conclusion that Balkan communities changed the scale of their food practices over time (see pp. 81- 2) has important implications for food allocation and storage. Nerissa Russell (2012, 249) suggests two ways in which more autonomous households could have evolved – increased storage of plant foods and the gradual switching of herders' dependence on other members of the community to an increased reliance on the resources owned by their own household. She further argues that the competition between more autonomous households could have been heightened by attaching wealth-value to animals – a major shift towards the possibility of inter-household inequality. The emergence of bigger settlements expanded the issue of looking after herds and flocks larger than could be raised by a single household to the question of the allocation of the meat from slaughtered animals. The alternative to immediate allocation and consumption of meat was storage, for which four resource-rich techniques can be identified: drying and smoking, coating in honey and salting.

Salt has an uneven distribution across the study region, underlining the importance of salt exchange for those many regions without local salt sources (Gaydarska & Chapman 2007; Weller et al. 2007; 2011; Weller &

Dumitroaia 2005; Tasić, Nenad 2000; Nikolov, V. 2008; Bánffy 2015). What is widely neglected is the scale of salt consumption for even small and medium-sized communities (Chapman & Gaydarska 2003, Tables 5.5-6). Using the basic village module of 100 people, 30 cattle and 150 sheep developed by Dennell for Early Neolithic tell Chavdar (Dennell 1978), a low-salt intake of 5g per person per day would have required 450kg of salt *per annum*, with a higher intake of 15g per day increasing the demand to over 1000kg *per annum*. The modeling of Phase 5 salt requirements from the Uman area of Ukraine, with its concentration of mega-sites, produced estimates of between 10,000 and 30,000kg of salt per annum (2003, Table 6) (here Table 3.3). It could be argued that salt was the principal bulk-traded substance in Neolithic Europe.

The ubiquity of houses in the study region provides a common context for the storage of plant foods, especially burnt houses which have been widely interpreted as a deliberate practice at the end of the life of the house (Stevanović 1997; Chapman 1999a; Tringham 2005; Johnston et al. 2018: 2019). Four kinds of evidence are found for the containers used to store plant foods: organic containers (textile bags and wooden receptacles such as casks or bowls), ceramic vessels, grain bins / silos and storage-pits (Table 3.4). Although the regular production of large numbers of ceramic vessels meant a potentially huge increase in secure storage capacity for early farming communities, pottery reports from a range of Phase 2 sites[38] show a restricted range and number of storage forms. The development of shaping technologies allowed the forming of larger amphorae in Phase 3 (cf. lids: Fig. 3.10) and then much larger storage-jars (pithoi) in Phase 4, providing greater scope for plant food storage than hitherto[39]. The group of house mice (*Mus musculus musculus*) burnt to death in a storeroom at Bucşani – La pod indicates the threat to grain stores from pests (Cucchi et al. 2011). The analysis of a representative sample of c. 100 well-attested cases of plant food storage (Table 3.4) shows that almost 80% of the plant foods had been deposited in pots or bags, with much wider use of bins than pits (e.g., the barley store of 2,000kg of carbonized caryopses at Teiu (Cârciumaru 1996, 65).

Summary of Stage 2

In summary, the decisions to consume or to share, to exchange or to store plant and animal foodstuffs were important elements of the ways that persons, households and communities negotiated everyday life, as well as maintaining or disrupting social cohesion. These relational practices posited an answer to the apocalyptic comment of Gremillion (2011, 70 & 83) that "for prehistoric farmers, the shadow of famine was always present, waiting in the wings", especially if crops failed several years in a row. Gendered practices of allocating food may well have led to more men's decision-making over meat, especially big-game meat, and more women's decisions over plant foods. These gendered practices would have had an impact on the negotiation of community morality (Hendon 2006), especially if we can demonstrate the creation of preferential wealth-value in the animal domain rather than in the realm of plants.

The container revolution expanded households' storage capacity to levels unimaginable in forager communities, with ensuing entanglements in many aspects of daily maintenance activities. The concentration of grain and pulses kept in the Sofia – Slatina house (Fig. 3.11) – equivalent to the grain consumption needs of eight people for one year – shows the scale of plant food storage possible in Phase 2 under conditions of small-scale, intensive cultivation which included manuring of cereal fields and given conservative decisions about storage rather than exchange. But the largest concentration of stored plant food in Old Europe (the Teiu bin) is no more than a year's grain supply for the household. This means that most of the grain storage necessary for permanent, multi-year settlement is invisible to the prehistorian – stored in pots or bags, consumed or sown for the next year, part of a dynamic of everyday consumption. The carbonised storage deposits that we routinely encounter in burnt houses constituted small fractions of household requirements.

Stages 3-4: cooking and eating

Stevanović' (2002, 56) contends that "sedentary life caused an increase in the density of features and artifacts within houses, such as storage, ovens and hearths and food preparation areas". One of the key Neolithic practices was the domestication of fire by bringing it into the house – into ovens and hearths (Stevanović 2002, 59; Moore, J. 2000). However, cooking facilities are not always located within the house. Kalogiropoulou's (2013) study of cooking facilities in the Neolithic of Northern Greece distinguished social implications for cooking inside the house, outside the house and in both locations. Cooking inside houses consolidated household affiliations, outdoor cooking indicates communality and conviviality in social life, while cooking in both locations blurred the physical boundaries of the household by creating links between inside and outside spaces. The location of cooking places is highly variable in time and space.

The variability in both hearth form and location in Iron Gates Mesolithic sites (Fig. 2.5d) is suggestive of

38 E.g., Balgarchevo Level 1, Western Bulgaria: Pernicheva-Perets et al. 2011: Figs. 4.34-35; Ecsegfalva 23, Hungary: Oross 2007: Figs. 27.33-34; Gura Baciului, Transylvania: Lazarovici & Maxim 1995: Fig. 38; Trestiana, Moldavia: Popuşoi 2005: Fig. 53-116.

39 E.g., Dolnoslav: Gaydarska et al. 2007: 40-45; Cucuteni in general: Ellis 1984; Majdanetske: Shmaglij & Videiko 2002-3.

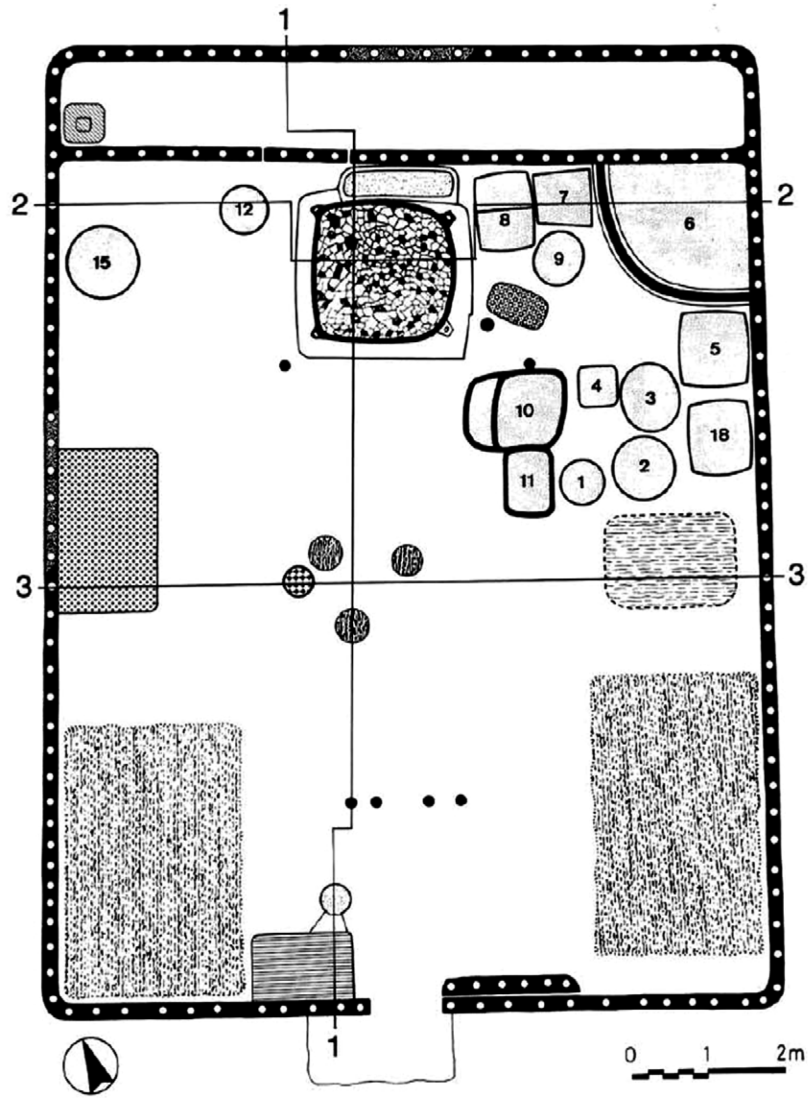


Figure 3.11. Plan of the Phase 2 house, Sofia – Slatina (Horizon IV) (source: Nikolov, V. 1989, Abb. 24).

different modes of cooking, with complex rules among these sedentary foragers for where, and with whom, to cook and share food. The general trends from South to North across the Balkans in Phase 2 seem to be an increase in hearths as against ovens and a higher proportion of sites with both interior and exterior cooking facilities. The spatial variability in the location of cooking facilities on flat sites contrasts with the emphasis on ovens in houses on tells and multi-layer sites, suggesting a concentration of household resources. Exceptionally, kitchen areas could be recognized at sites such as Trestiana, where a recess for grinding stones and burnt stones was located near the hearth in House C/L.2 (Popuşoi 2005), and Dwelling 1 at Balgarchevo I, with two domed ovens associated with grinding stones and storage vessels (Fig. 3.12).

The concentration of cooking facilities in Phase 3 and 4 houses stands in overwhelming contrast to the variability of Phase 2 settlements, with many houses boasting a 'kitchen area' with ovens, hearths, fixed grinding stones, storage-jars, often with carbonized cereals, and serving bowls and dishes. At the Pietrele tell, each room had the same combination of fired clay installations, grinding stones, storage vessels and spouted troughs (Reingruber 2010, 117-8) (Fig. 3.12). These arrangements indicate the increasing importance of 'privatized' food preparation, cooking and over-production in daily life. By contrast, the tell part of the Csőszhalom complex was full of outdoor hearths, interpreted as places for the preparation of ritual feasting (Raczky 2018).

Two sets of well-preserved Phase 3 houses can be compared in terms of their cooking arrangements – the Late Vinča flat site of Divostin IIb (Bogdanović 1988) and the eponymous tell (Berettyóújfalu – Herpály) of the Late Neolithic Herpály group (Kalicz et al. 2011). At Divostin, the South room of House 13 was a focus for kitchen activities, with a domed oven, a grindstone

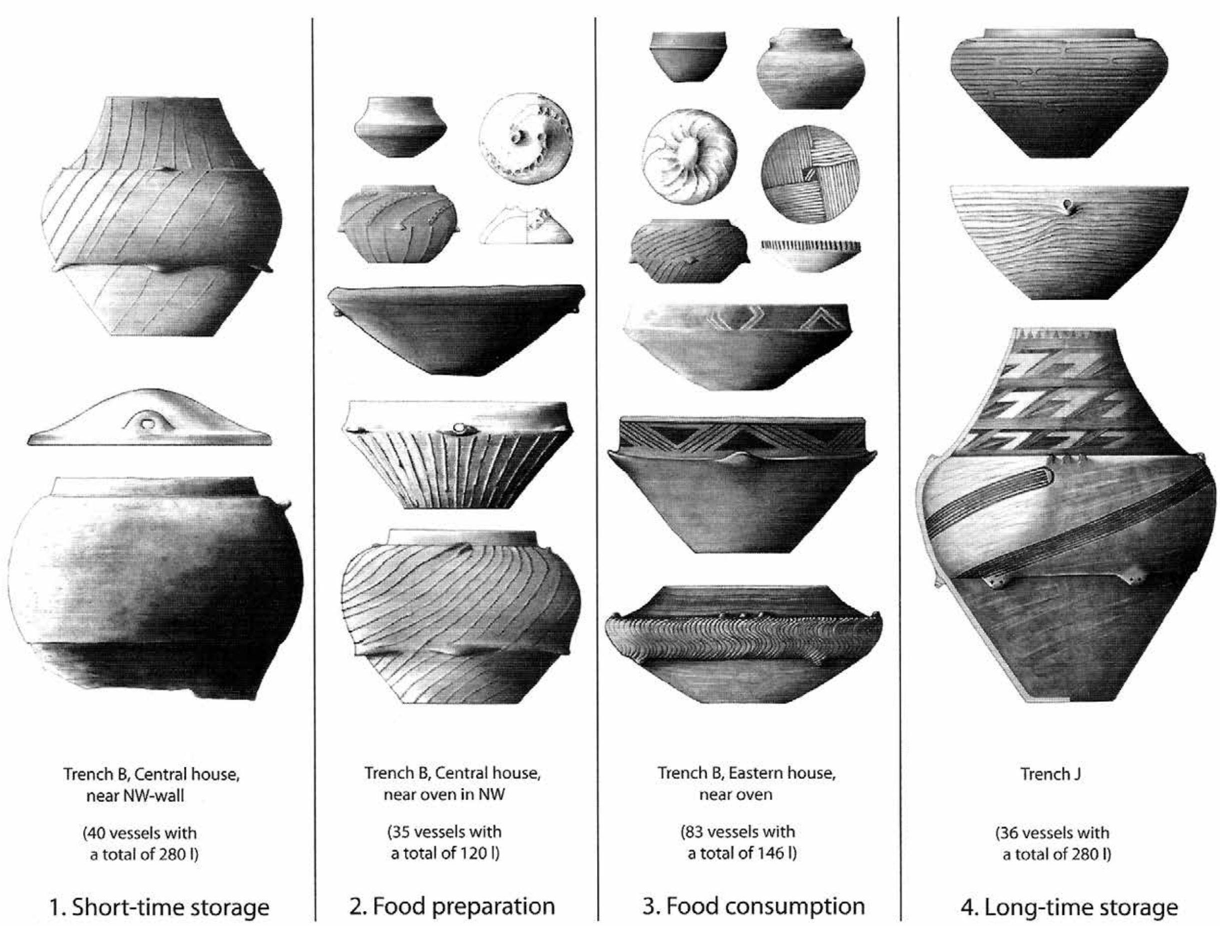


Figure 3.12. (top) Possible kitchen, Dwelling 1, Balgarchevo Horizon 1 (source: Pernicheva et al. 2011, Plate 3.8); (bottom) Standard house equipment, Phase 4 tell of Pietrele (source: Reingruber 2010, Abb. 11; copyright – Deutsches Archäologisches Institut).

Figure 3.13. (top) Interior layout, Late Vinča house 13 at Divostin: length x width: 11.6 x 6.6m (source: Bogdanović 1988, Fig. 5.28); (bottom) Interior layout, Herpály houses at Herpály (source: Kalicz et al. 2011, photo p. 43).

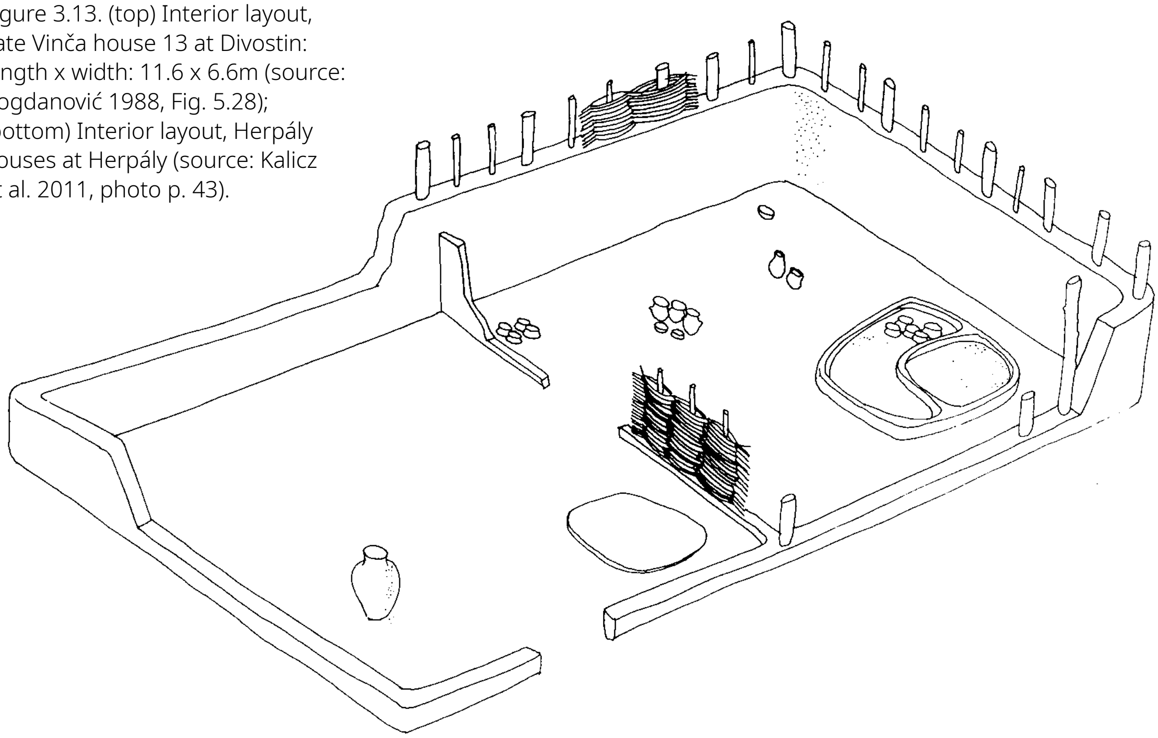


Figure 3.14. (top) Cooking facility, Nebelivka (photo: author); (bottom) Cult deposit, Promachon-Topolnica (source: Koukouli-Chryssanthaki et al. 2007, Fig. 12.3).

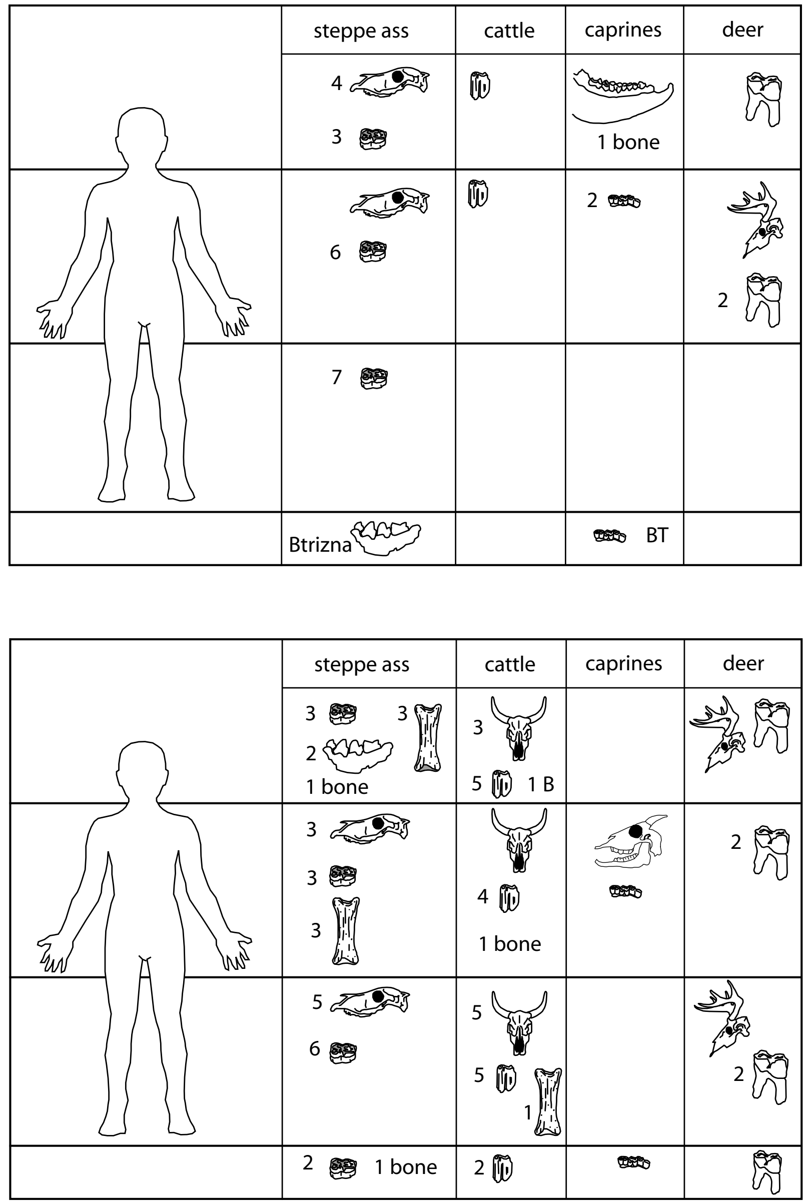


Figure 3.15. Deposition of animal parts, Durankulak cemetery: (top) – Hamangia I – II graves; (bottom) Hamangia III – IV graves (source: L. Woodard, re-drawn from B. Gaydarska).

support, storage-jars and serving dishes; there were five grindstones near the oven in House 16; and House 17 had a domed oven converted into a hearth and a second hearth (Fig. 3.13). Several four-legged rectangular tables were raised between 4cm and 50cm off the floor. In the burnt levels 7-8 at Herpály, House 10 has a domed oven decorated with aurochs' horns, a second, smaller oven and a round hearth, while House 12 demonstrates that pyramidal ovens with aurochs' horn decoration were also used on the second floor, together with fired clay platforms interpreted as tables (Fig. 3.13). The linkage of the largest, fiercest local wild species in the forest to the intimate cooking areas of the domestic domain is a citation of hunting skills as much as the power and energy of the wild, harnessed to cooking and eating.

However, not all cooking was practised indoors – a trend that increased in the Western part of Old Europe in Phase 5 in contrast to most cooking areas, located inside Trypillia houses (Chernovol 2012). An exception to the Trypillia rule is an outdoor heating facility for large-scale cooking from the Nebelivka megasite (Fig. 3.14).

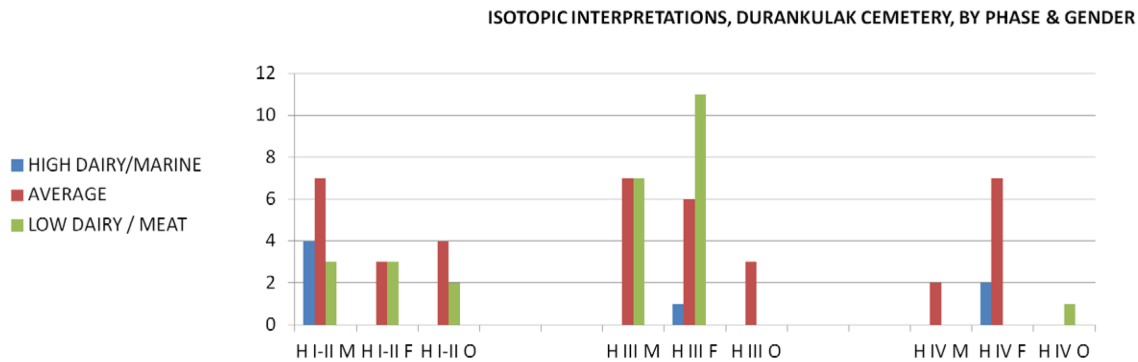
The four bio-cultural needs identified for Old Europe comprised carbohydrates (cereals), proteins (meat, milk & pulses), textile sources (flax, wool and processed wool as felt) and narcotics such as hemp (*Cannabis sativum*), to which we could add medicines and pigments (Mazoyuer & Roudart 1997; Saqalli et al. 2014). In terms of food, Fischler (1988) has identified an 'omnivore dilemma' for modern humans: as omnivores, humans have a wide choice of plant foods but we cannot get all necessary nutrients from a few plants. Thus the food that we choose to eat reflects the tension between diversity and uniformity (Chevalier et al. 2014, 6). Although wild plant foods would have been particularly important for dietary diversity, medicines[40] and food colour, with women being the main custodians of the knowledge of wild plants in many small-scale societies (Cruz-García & Ertuğ 2014), plant foods have been under-represented in our food samples from prehistoric sites.

Davidov (2004) has claimed that the evolution of pottery helped to turn the Neolithic from a 'baking' culture to a 'boiling' culture but this may only partly be true. The absence of cooking soot on Phase 2 pottery (Thissen 2005, 75) may mean the use of pot-boilers but the widespread distribution of ovens show that baking was essential to Neolithic cuisine. Russell (1999, 162) has suggested two modes of meat cooking: everyday dishes, using small bones cooked in stews, and feasts, where meat joints are carved and roasted in large pieces. The baking of low-rising bread, pasta, biscuits, pancakes and cakes would have been more common than high-rising bread. Another common use of cereals such as barley would have been for brewing; an example concerns the discovery of 54 grains of barley with signs of boiling and fermentation at tell Poduri (Monah, D. 2002, 89-90). The first instance of 'Neolithic wine' currently dates to Final Neolithic Dikili Tash (Valamoti 2015). The popularity of Cornelian cherry (*Cornus mas* L.) may have been related to its fermentation into a kind of cider (Nisbet 2009).

How common was feasting in the Balkans? The answer to this straight question lies on the continuum between very rare, based upon the small number of sites with good evidence for feasting, and very frequent, based upon the logistical point that every time a household killed a cow, there was so much meat that, storage of preserved meat apart, they had to invite (a lot of) the neighbours in. Feasts in Old Europe ranged from massive communal affairs with hundreds of slaughtered animals, whose bones were deposited in large communal pits (e.g., Makriyalos I and Promachon-Topolnica) (Fig. 3.14), through medium-sized events with dozens of animals for a hundred or so people (e.g., Târgu Frumos: Ursulescu et al. 2000), to modest graveside funeral feasts where a few animals were consumed by dozens but not hundreds of people (e.g., Giurgiuleşti: Russell 2012, 107; Bicbaev 2010). The estimates of 500kg of *Unio* remains at tell Hârşova imply several large shellfish parties (Bălășescu et al. 2005, 239). The same range (hundreds to a dozen) is seen in the deposition of drinking cups in communal consumption, which was not only limited to the domestic domain (e.g., the 326 cups found in a building claimed as the central 'shrine' in the Boian-Giuleşti settlement of Gălăţui – Movila Berzei (Lazarovici, C-M. & Lazarovici, Gh. 2006). Two general points concern the equal representation of wild and domestic animals in feasting consumption and the great variety of depositional contexts where feasting remains have been placed. The non-edible body parts in the Hamangia III graves of the Durankulak cemetery – principally *Equus asinus hydruntinus* (wild ass) skulls – were representations of the animals whose meat was consumed in feasts (Fig. 3.15). This indicates a dividual strategy of partitioning the animals into feasting components (meat bones) and trophies for mortuary ritual (skulls, jaws and teeth) (Chapman, 2018). The clearest example as yet of changes in feasting practice is Orton's (2008: 2012) account of the Late Vinča period at Gomolava, with a switch from the communal practice of roasting a wild boar followed by sharing of meat joints in Phase Ia to the dispersed deposition of roasted joints of large animals to different houses in Phase Ib (cf. the trend at Opovo: Russell 1999).

The final section on eating considers the rather scanty evidence for the direct diet of Balkan prehistoric individuals from isotopic studies of their bones and teeth or lipids from pottery, with the FRUITS technique the most recent to be tested on Balkan human remains. These techniques have been mainly used to resolve questions of dietary change at the Mesolithic – Neolithic transition. In the Dnieper Rapids cemeteries, Late Mesolithic populations ate higher levels of freshwater fish compared to the early farming groups (Bartosiewicz & Lillee 2015, 417-8). A similar picture emerges from the Iron Gates gorge (Bonsall & Boroneanţ 2018), although the study of lipid remains from Early Neolithic pottery shows over half of the vessels contained aquatic fats (Cramp et al. 2019). FRUITS analysis of Early Neolithic skeletons from the Vinča-Belo Brdo tell and Lengyel graves in the Alsónyék complex show a similar result – the predominance of cereals and terrestrial animals in the diet with less than 5% of aquatic contributions in either site (Bayliss et al. 2016, 44; Tasić et al. 2015, 124). The general trend is that some farming communities continued to eat fish but rather less than in Phase 1, while other groups consumed no more, on average, than one fish dish per week, even if they lived by the Black Sea, as at Durankulak (Fig. 3.15). This counterfactual conclusion shows that there may well have been dietary taboos against fish or status-related preferences in favour of meat-eating in parts of the study area. Bogaard et al.'s (2013) isotopic study of manuring patterns also revealed a systematic over-representation of animal protein in the human diet, meaning that the value of plant foods has been underplayed. Given the high visibility of feasting deposits rich in animal bone, this is a very important general conclusion.

40 Cf. the Final Palaeolithic section of the Ezero pollen core, Southern Bulgaria (Magyari et al. 2013): see above, pp. 67- 9).



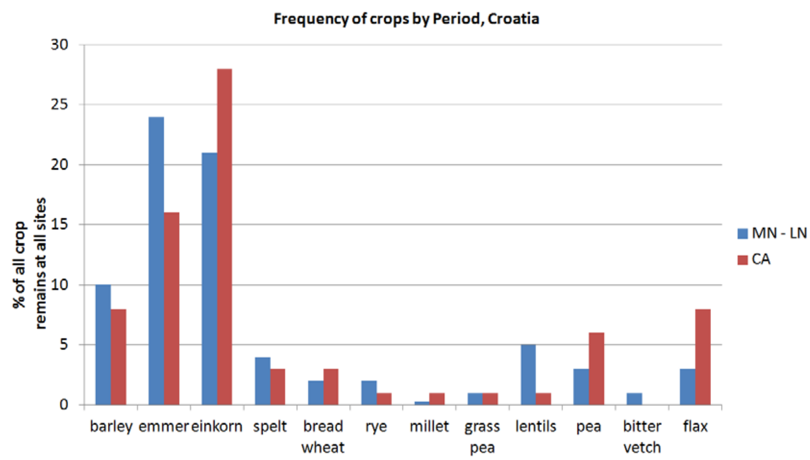


Figure 3.16. (top) Isotopic dietary studies of individuals from the multi-period Durankulak cemetery (source: author); (bottom) Croatian plant use and disposal (source: author, based on data in Reed 2013, Table 3.17a).

Summary of Stages 3-4

This account of cooking, eating and feasting in the prehistory of Old Europe indicates that day-to-day menus were built around a small number of ubiquitous staple domestic plant and animal foodstuffs and a wide range of variety crops, the greatest number of which (fruits and nuts) was attested in Phase 4. People relied, for the most part, on the baking of unleavened bread, (pan)cakes and biscuits and the boiling of often mixed cereal – pulse soups and gruels, supplemented by meat stews using a variety of wild and domestic animal sources and dairy products, including cheese, in certain periods. For drinks, some people were genetically predisposed to milk and other dairy products; everyone could have tasted honeyed drinks, fruit juices, tisanes and maybe alcoholic drinks. The frequency of feasting in different periods of Balkan prehistory determined the quantities consumed of roast beef, roast pork, roast lamb or mutton, carp or catfish, beer or wine.

Just as cooking facilities were found both inside and outside the house, so meals could have been consumed in either place. The discoveries of two different kinds of table in Phase 3 in Serbia (4-legged table) and Eastern Hungary (solid fired clay platform-table) suggests different ways in which food was eaten. The fired clay model furniture found in many Phase 4 sites shows that some people sat at table for their meals. Full-size remains of tables, whether round or rectangular, have been found in most Phases (e.g., Phase 2 – Tumba Madžari; Phase 3 – Divostin; Phase 4 – Drăguşeni – Ostrov), while, at Drăguşeni, the table in House 14 was associated with the remains of a remarkable full-size wooden-and-clay chair.

Flint and obsidian knives were sharp enough to cut meat, while the making of bone spoons in Phase 2[41], bone spatulae in other groups and fired clay spoons in the Phase 5 (Lasinja) group of the West Balkans and the Baden group of the Central and West Balkans allowed the convivial, if noisy, eating of soups and gruels. The attachment of long handles to round-bottomed Baden 'cups' suggests their use for serving hot liquids such as soups (Spasić 2010, 80) (Fig. 3.10). These basic practices made up the essence of eating in the Neolithic and Chalcolithic – a suite of bodily, gustatory experiences that people shared in their own households and communities.

41 Doubt has been shed on the use of Phase 2 bone spoons for eating on the basis of the coarse, rough finish of the base of the bowls (p.c., P. Zidarov). However, many bone spoons were highly polished and would not have damaged the sensitive tissues of the mouth.

Context(s)	Plants	Fish	Domestic animals	Interpreted season
8-1	Concentration at 3: (warm)	Declining frequencies	Spring caprines, pigs & cattle	Spring
9	Lot of Chenopods	High at 9,	Winter pigs	
20-10		Peak at 11: spring		
29-21	Lots: warm	Few fish: spring	Spring pigs & caprines; winter cattle	Spring
43-30	No plants: cold	Decline		? winter
44	Cereals + legumes	Peak: summer fish	Winter & spring pigs	???
67-45	Few plants	Few at start; rise to peak at 49: autumn carp		Autumn
68	Cereals + legumes: warm			Summer
73-69	?			
74	Legumes: cold			
102-75	No plants: cold	Summer fish		???
104-103	Glumes	Summer fish		Summer
138-105	Very few: cold	Summer fish; 126-105: autumn carp	129 & 121: winter; 130 & 110 – spring	???
146/143/140/139	Glumes only	No fish	Winter cattle/caprines but spring pigs at 139	Winter – start of spring
148/147/145/144	Very few	Few fish: summer	Winter cattle/caprines	Winter
149	Concentration of cereals & legumes: warm	No fish	Winter cattle/caprines	???

Table 3.5. Food remains and seasonality in the Gumelniţa A2 midden Complex 521, Hârşova (source: author based upon data in Tomescu 1998-2000).

Stage 5: clearing up

What happened after the meal is what the prehistorian most often finds – piles of discarded animal bones, the millet cake burnt in the oven and thrown out, the sherds of the painted ware serving dish dropped in a pit. This topic has already been broached in relation to feasting remains (see above, p. 90). It may be supposed that maintenance activities do not get more mundane than clearing up after food preparation, the meal or, worst of all, the feast. But the greater the attachment to sedentary life and special places thought of as 'home', the more necessary it became to have a strategy for the disposal of food remains. In their article "The garbage crisis in prehistory", Hardy-Smith & Edwards (2004) demonstrate systematic changes in what they term 'garbage disposal' in the transition to farming in Western Asia, showing the importance of 'consistent garbage cycling' for the community health of large settlements. While one may cavil at the incorrect use of terms such as 'garbage' and 'refuse' in this article[42], there is a certain logic to the effective disposal of used-up materials. What Hardy-Smith & Edwards ignore, however, in their search for order and cleanliness is the way in which messy deposition of seemingly inert, 'dead' objects, seeds and animal bones provided a structure and a meaning to household worlds.

For the disposal of plant remains, Reed's (2013: 2015) findings from Phases 3-5 Croatia confirmed that the charred cereal grains in houses and near hearths were preparation areas, while the large quantities of chaff in pits and ditches represented deposition of crop processing waste and the high weed content in 'cultural layers' may have derived from food, burning or waste deposition (Fig. 3.16). The classic quartet of contexts of discard for animal bones comprised houses, pits, middens and the cultural level. If it is accepted that 'death assemblages' of burnt houses were as carefully constructed as sets of grave goods for burials, then the animal bones discarded there were also part of the ritual performance of house-burning. Sometimes, however, special animal bones were placed as part of the 'living house' decorations, such as the cattle *bucrania* regularly decorating Vinča sites (Spasić 2009). These citations of hunting episodes or domestic herd wealth had been detached from the cattle carcase and cleaned prior to painting[43] and then stored until the appropriate ceremonial context for fixing to the outside of the Vinča house. A third relationship between the house and bone and antler remains comprised the making of bone and antler tools (Choyke 2001: 2007: 2010). While shed red or roe deer antler was anonymous while

42 I have been party to a long-term critique of the notion that archaeology is 'the science of rubbish' (Chapman 2000b: 2000c; Chapman & Gaydarska 2007).

43 The cattle bucrania at the tell of Vinča – Belo Brdo had been painted green with malachite and blue with azurite (Vasić 1936).

Everyday dishes (Neolithic – Copper Age)	Everyday dishes (Mesolithic)	Feasting dishes (Neolithic – Copper Age)	Feasting dishes (Mesolithic)
Unleavened bread		Roast beef	XX
cereal – pulse soups		Roast venison	XX
cereal – pulse gruels		Roast pork	XX
Roots and tubers	XX	Roast lamb / mutton	
Meat stews	XX	Roast carp	XXX
Fish stews	XX	Roast catfish	XXX
Dairy products (curds and cheese)		Beer	
Forest fruits and nuts	XX	Wine	
Pancakes			
Cakes and biscuits			
Fruit juices	XX		
Honeyed drinks	XX		
Tisanes	XX		

Table 3.6. Everyday and feasting dishes for Mesolithic and Neolithic menus (source: author).

coded male[44], the bones of hunted and domestic animals for tools were (in)dividuals with their own biographies (Choyke & Darcózi-Szabó 2010) – the largest wild boar which Nikola the lineage head ever killed as much as eldest son Nenad's favourite bull. These dividuals also contributed to household biographies.

There are two kinds of pits commonly found in Balkan prehistory – the foundation pit, constructed under a house or other structure, and the open-air pit, excavated into the living surface without any intention of building over it (Chapman 2000b). When there is more structure to pit discard of animal bones, we should attend to Russell's (2012, 54) observation that "the question is not: 'is this practice ritual?' but 'to what extent is the practice ritualized?'" The preparation of a special deposit in each of these types necessitated prior selection, and probably storage, of cleaned bones or skulls for later deposition – a curation scenario rarely discussed for Old Europe. The aggregation of open-air pits into the site type known as the pit site (see Chapters 6 and 8) increased the potential for contrasts between the content and scale of deposition.

The creation of middens in pits was typical of open, flat sites, while middens were often created between houses or in pits on tells. At the Complex 521 midden at tell Hârşova (Tomescu 1998-2000), seasonality estimates from animal bones, fishbones and plant remains were interpreted as deposition from consumption practices over a period of 12-18 months (Table 3.5).

The regularity of discovery of animal bones in the cultural level indicates relatively unstructured but frequent discard, which produced an uneven and dangerously sharp site living surface on which to walk (Chapman 2000c).

Summary of Stage 5

There was a wide range of pathways for the discard or deposition of plant remains and animal bones after food preparation or after the end of a meaty meal. Plant processing waste was rarely found in houses – more often in pits and ditches, with chaff sometimes incorporated into house daub or pottery[45]. A particular suitable bone was removed from circulation, cleaned and treated before creating a bone tool. Sometimes, a pile of fishbones was taken from a dish and thrown into a midden just outside the house. On other occasions, animal bones large or small were discarded on the living surface of the settlement, not being covered in soil for days, weeks or months. The unusually thick accumulation of animal bone refuse between some houses at the Herpály tell raised questions of past attitudes to the olfactory environment to which such concentrations of decaying organics evidently contributed (Bartosiewicz 2003). In perhaps a minority of cases, a special bone or set of bones was kept until it could participate in a ceremony. Finally, one stage of a feast may have involved rapid discard of large bones in a pit symbolising communal consumption. All of these modes of discard provided lesser or greater potential for the cultural memory that played an important part of prehistoric cuisine.

44 'Anonymous' in terms of not knowing which deer had shed its antler; 'sexed' because only male red or roe deer developed antlers in temperate Europe.

45 NB the study of plant phytoliths at the Trypillia megasite of Majdanetske (Dal Corso et al. 2018).

Chapter Summary

In this chapter, I posed questions about the relationships between plants, animals and people, as well as asking if there was a distinctively 'Mesolithic' or 'Neolithic' way of cooking or even regional cuisines, expressed in everyday meals and feasts which helped to shape cultural memory. Given adequate data from only one forager region (the Iron Gates gorge), it will be helpful to begin with the question about Neolithic cuisine.

In the summary of cooking in the study area, fourteen dishes were defined for the everyday Balkan Neolithic – Chalcolithic menu and a further eight for feasting (Table 3.6). While there is no evidence for an absolute prohibition on the consumption of feasting foods in everyday contexts, it is suggested that there would be little cross-over, with the killing of some animals and fish restricted to special occasions. This generalised comparison between Mesolithic and Neolithic dishes shows that there was something recognisable as an Old European 'Neolithic' cuisine – more diversified than the forager menu if not as healthy (Cohen & Armelagos 1984; Kotsakis 2018). Add to this the impact of fired clay for food preparation – whether vessels for boiling or clay baking ovens – in addition to forager hearths, and the Neolithic way of cooking in Old Europe becomes more clearly defined. Moreover, the evidence for actual and model tables and chairs suggests a specific way of comportment, presumably connected to eating and drinking, as do the spoons and knives needed at the table. How different the Neolithic (and Chalcolithic) way of cooking was from Early Bronze Age cuisine in Old Europe requires further research. But the Neolithic way of cooking, eating and drinking stands out from foraging practices as an important part of new lifeways.

The diversification of Neolithic cuisines arose from the processes of domestication rather than from Early to Middle Holocene environmental differences (Chapman 2014a). The warming of the Early Holocene and the spread of forests over medium altitudes and uplands alike meant that many of the habitats available to early farmers would have been attractive to foragers, whose range of preferred wild plants and animals varied little from that of farming communities. The slow, gradual pedological change of the formation of fertile Holocene soils attractive to farmers – whether chernozems or brown forest soils – was probably of greater impact than the spread of beechwoods and hornbeam forests in the Middle Holocene and allowed diversification away from the ecological givens of localized, small-scale alluvial soils.

An answer to the question of the existence of regional cuisines in Old Europe depends on the scale of the enquiry. There were few dishes on our list that could not have been prepared in most, if not all, of the regions in our study area. On the other hand, the availability of diversity foods would have differed from lowland open forest-steppe areas to upland mixed woodlands, with a wider range of nuts, berries, birds and small game in the latter. One exception was probably wine, whose preparation outside the Mediterranean zone would have been unlikely[46]. Even with the well-documented narrowing of plant cultivation as Neolithic lifeways spread North from Greece (Colledge & Conolly 2007a), the pulses found on Phase 2 sites in Hungary could still have been used to make cereal-pulse soups and gruels, albeit in less varied preparations. Although the dietary isotopic data suggest that a reduction in fish consumption in the Neolithic (Bonsall et al. 1997), this does not preclude the occasional roasting of carp and catfish for feasts whose traces would barely register on the isotopic scale but whose bones occur sporadically, even in hand-collected assemblages. Large-scale fish consumption was best attested on the Gumelniţa tells in the Lower Danube (Phase 4).

The regional differences in dishes would have exemplified not so much the presence/absence of taxa as their relative importance in settlement menus. Thus, the much-discussed decision of Neolithic and Chalcolithic cooks to prefer emmer wheat over einkorn wheat may have 'boiled down' to the flavour which each gave to gruels and soups. Equally, the seemingly minor significance of barley at most sites was perhaps a function of the way that barley beer was brewed and its remains discarded rather than an accurate measure of dietary value. Even if the claim that Neolithic 'bread ovens' were ineffective for baking high-rise bread is substantiated (Pečikova 2009), the distribution of ovens may have been related to food choices for the wide range of baked dishes -pasta, pulses, meat, fish, roots and tubers, pancakes, cakes and biscuits as well as unleavened bread thrown onto, and cooked on, the inside of the oven. While honey and fruit sweeteners would have been locally available for most sites, greater or lesser success in the procurement of salt for flavouring many savoury dishes, as well as making bread and cheese, could have led to dietary differences at the site or the regional level. Equally, the availability of large fish and quantities of shellfish in the major river valleys would have provided dietary potential far higher than for interfluvial sites or sites on 2nd- or 3rd-order tributaries, leading to site-based variation within a region (carp, catfish or sturgeon with or without trout, barbel and roach[47]) rather than inter-regional variability. Recalling the story at the start of this chapter, the significance of site locations on active river courses or dead meanders, flooded in the spring with many trapped fish, (e.g., the

46 However, it is worth noting the widespread distribution of grape pips in the Balkan Neolithic and Chalcolithic.

47 The identification of these smaller fish usually depends on the use of sieving on excavation.

Phase 2 Körös group in Eastern Hungary) was surely in the seasonal glut of fish soups and stews and roast fish for feasting.

Given that the quantification of animal bones is superficially easier than for plant remains, it should be possible to explore the notion of regional cuisines, not least because of the regional variations in the availability of food on the hoof. The most obvious difference lay between Phases 2 and 3 on the one hand and Phase 4 on the other. In the earlier Phases, regional contrasts between the cattle husbandry practised in South Bulgaria, Serbia and Romania and the caprine husbandry typical of the Eastern Adriatic, Greece and Eastern Hungary must have produced major dietary contrasts – not least the appearance of roast lamb and mutton, which tasted very different from other roast meats and which lacked local antecedents. 'Irish' (viz., beef-based) stews and mutton stews would have formed variants on the same Neolithic dish but variants with their own histories, as Whittle has suggested for the Phase 2 Körös penchant for mutton and lamb. It would be foolish to deny the impact of general environmental differences between areas preferring cattle or caprine husbandry (compare Greece and Moldova); but it is also noteworthy that there are areas with similar climatic regimes which have different preferences (cf. the Lower Danube basin, with its cattle-keeping, and the Middle Danube Basin, with its caprine husbandry).

These regional contrasts had disappeared by Phase 4, when specific local inter-site contrasts were more noticeable than generalised inter-regional differences, whether in meat from hunting or from pastoralism. Indeed, markedly similar site-based meat preferences are known from the Lower Danube and the Middle Danube Basins, confirming that individual communities were making choices about specific dishes independent of their 'regional' cuisine. What this pattern shows is that the same range of Phase 4 dishes was widely available, perhaps across much of Old Europe, but that local communities were drawing upon different dishes to create their own local cuisines. We cannot yet conclude that the inhabitants of higher-status sites ('central places': see below, Chapter 9) enjoyed different diets from those on other sites or indeed 'superior' diets with a higher meat consumption. It is important, however, to note that the emergence of inter-site differences in hunting choices can be dated to Phase 3, as exemplified in Vinča sites such as Gomolava, Petnica and Opovo (Orton 2012).

While it is not yet clear that the question of farming scale impinged on regional or even site cuisines, the scale of agro-pastoral practices certainly had an impact on the relationship between plants, animals and people. The small-scale, intensive horticulture identified at several Phase 2 sites produced an echo in the model of small-scale, local pastoralism, with manure spread on gardens and in which the decreased size of 'Neolithic' animals has been read as local pasturing separate from wild forest animals. In such a *local* model of practice, animals become close to the household, perhaps even living in some houses, especially if subject to daily milking, and assume an important role in social negotiations between people, with manure supplied to the household's gardens and fields. However, this model has been challenged by the isotopic study of animal fodder, indicating that domestic herds and flocks and wild animals often shared the same pasture. Even in Phase 2, there may have been greater animal mobility than we have so far contemplated. It is also noteworthy that perhaps exploratory upland settlements were far more common in Phase 2 in many regions than in Phases 3 and 4, with a return to upland locations in Phase 5 (see Chapter 8).

Three possible routes to agro-pastoral intensification have been identified: the growing size of settlements and households with their greater reliance on sedentism, the use of secondary products and the practice of transhumance. While the archaeo-zoological evidence for transhumance in the Balkans is ambiguous, this practice would have been complementary to upland resource-gathering trips and may explain small-scale upland forest clearances of the kind found in upland pollen diagrams above the Okolište Basin in Bosnia and above the Struma valley on the Pirin range in Bulgaria. While isotopic dietary evidence for cattle in Phase 3 and 4 South-East Hungary showed mobility was restricted to the Plain rather than encompassing upland visits to Transylvania (Giblin et al. 2013), the pattern may have changed in Phase 5, with isotopic evidence for Coţofeni cattle transhumance. Hence, the local scale of seasonal movement was unlikely to produce major systemic intensification. The same was probably true of the use of secondary products in the study area, even in Phase 3, with the evidence for small-scale dairying, animal traction and woolly sheep. There was no sign of a secondary products package in the Neolithic and Chalcolithic of Old Europe – rather a mosaic of innovations taken up at different times/places.

The settlement patterns to be discussed in Chapter 8 will show that, with important exceptions, small dispersed sites were important throughout the Neolithic and Chalcolithic, enhancing the long-term relevance of small-scale intensive mixed farming, perhaps based on the house-and-garden complex. With the exception of the Trypillia mega-sites and some nodal West Balkan tells, the dominant settlement pattern in Phase 5 was the dispersed homestead. It cannot be a coincidence that several pollen diagrams dated to this Phase show re-afforestation for the first time in the Middle Holocene. The tendency towards stability of tell communities, at the same modal size of 1-2ha, with populations of 75-150 people, ensured that intensive, small-scale farming remained viable for tell-living nuclear families. However, such small-scale practices could not have provided the social and logistical support for the emergence of large nucleated lowland sites, whether the 65ha. Vinča sites in the West Balkans or the far larger Trypillia megasites of Ukraine. In both instances, the consolidation of the household was fundamental to a transformation of social relations at the community and household levels. Houses not only contained new containers – bags, pots and bins – but were themselves new containers for different kinds of social relations. The re-arrangement of household space into functionally complementary rooms enabled adaptation to temporary, multi-functional uses, including a kitchen with ovens, hearths, grinding areas and a storage zone. Such houses undercut the communitarian advantages of outdoor cooking, thereby consolidating social relations within the household. The changing focus of feasting in Vinča sites such as Gomolava from communal feasting-pits to households exemplified the changes in Phase 3.

Settlement nucleation also transformed the surrounding landscape, with large areas of open land cleared for arable and pastoral farming in periods such as Phases 3 and 4 in North-East Hungary. The inability of household herds to supply manure to the more extensive fields favoured ard-ploughing of the rain-fed chernozems to complement alluvial agriculture on the floodplains. The expanded inner ring of fields forced animals outwards to more distant pastures, further from the settlement, dislocating those close personal relations once enjoyed between animals and household herders in times of small-scale mixed farming. But the separation between stock and garden encouraged the growth of cattle herds in response to the demand for prize beef, and with important issues of management as well as ownership. As Orton (2012) puts it, the increasing importance of domestic animals, particularly cattle, for establishing and maintaining social ties made them the key domesticate in Phase 3 for a majority of Vinča sites, leading to the first large-scale cattle herding in the Central Balkans. This was perhaps related to increasing levels of lactase persistence in human populations. The first concentration of cattle *bucrania* ornaments and depositions involving aurochs horns dates exactly to this Phase, as does the significance of cattle to household ritual in early Trypillia sites such as Bernishivka. The same argument for extensive cattle-keeping holds for the Late Neolithic tells such as Csőszhalom on North-East Hungary but also for dispersed homesteads in the succeeding (Phase 4) Early Copper Age. The outward expansion of farmland changed the relationship between settlement and forest, with clearance increasingly linked to settlement growth and perhaps household or communal accumulation. It is surely not coincidental that the feasting events attested in Phase 3 often featured the majestic animals symbolizing the wildwood; the same is true of nodal ritual centres such as the Phase 3 Csőszhalom complex, with more wild animals and bones from choicer cuts of meat on the tell than on the horizontal settlement, or the Phase 4 Danube island settlement of Căscioarele, with 80% of the animal bones from wild fauna and almost 50% of those bones derived from red deer. It is at sites like this that we can see the nature of inter-site variability in a given region, with a high level of feasting for special guests on the tiny island or the small tell. Nonetheless, given the expansion of gathering of forest fruit and nuts in Phase 4, it would be difficult to envisage a genuine polarization of values of domestic and wild places. Was there emerging in Phase 3 a gendered distinction between female gathering of variety foods and male hunting of animals?

The question arising from the emergence of the study region's first large-scale cattle-herding concerns the transformation of cattle into a form of wealth, not least because the longevity of cattle makes them ideal forms of long-term cultural memory for village communities living longer on larger sites. Several prehistorians have interpreted the exchange of cattle as indicating bridewealth (Russell 1999), as loans for breeding or traction (Bogucki 1993, 499), or, more neutrally, as a means of creating and maintaining social ties (Orton 2012). Russell (2012, 318) emphasizes that the origins of bridewealth may be found in the context of the domestic mode of production (Sahlins 1974), when women's labour was a key limiting factor to production. Moreover, bridewealth implies a gendered division of labour, based upon female cultivation and male herding, and probably mixed farming on a regional scale – i.e., only mixed farming or just domestic animals constitute insufficient evidence for the existence of bridewealth. Phase 3 farming in the Central Balkans could well be interpreted as implying a gendered division of labour, especially with the expanded role of cattle-herding on a regional scale, but we continue to lack evidence that women's household labour was the key restriction on production. We shall return to this debate in the chapter on households (see below, p. 194).

We can therefore conclude that there were broadly similar affordances for mixed farming throughout the Middle Holocene of Old Europe – both in drier, open lowland forest steppe areas and more wooded, better watered upland zones, although the latter offered a wider range of diversity plants to foraging groups. This conclusion leads to the alternative explanation of dietary diversity – cultural choice at the regional and site level. We have seen that there is an identifiable 'Balkan Neolithic – Chalcolithic' *basse cuisine* with regional variants in Phases 2 and 3 and a plethora of overlapping, site-based local cuisines, citing other neighbouring cuisines, in Phase 4. The small-scale, intensive agro-pastoralism characteristic of Phase 2 was transformed through factors of scale and control into much larger farming practices in Phase 3, leading to the first large-scale cattle-herding seen in the study area and the first major human impacts on the Late Neolithic environment. Despite the often under-theorised research on inter-site dietary variations, we can glimpse evidence for high levels of feasting at sites which include both nodal ritual centres and small, 'marginal' dispersed villages. The intriguing conclusion is that there appears to have been little difference in cuisine between tells, enclosed sites and flat sites. If confirmed, this would be an important statement about inter-personal relationships negotiated through food and drink in the Mesolithic, Neolithic and Chalcolithic.

Chapter 4

Persons

“The things that people make, make people.” (Miller 2005: 38).

“All things are threads of thought that bind things and people via things to one another” (Küchler 2013: 25).

“For centuries the bullet remained quietly confident that the gun would be invented” (McGough 1999).

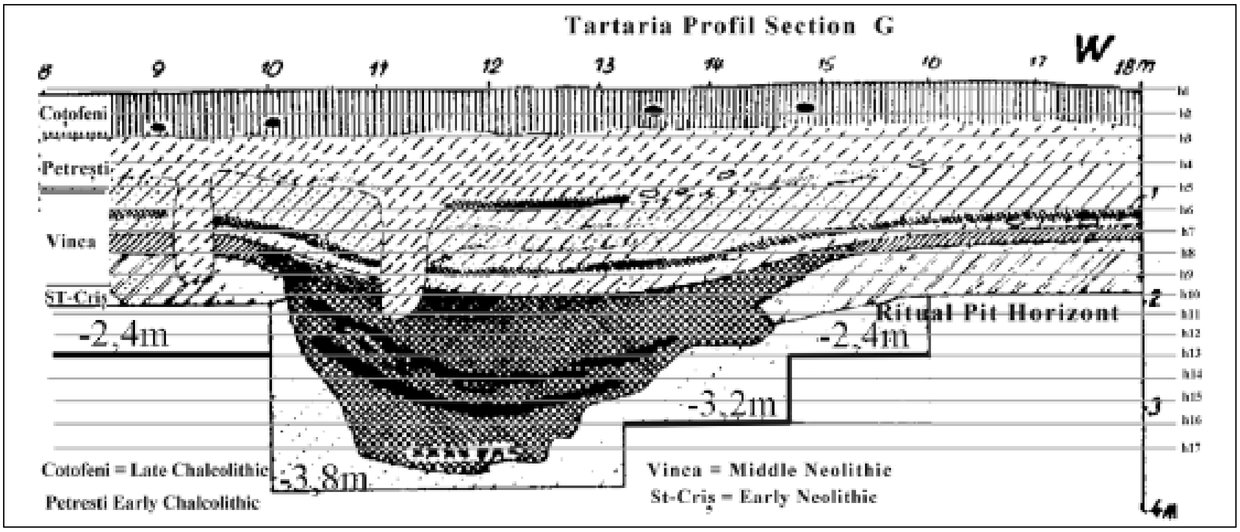
Introducing some special persons

Any study of Old Europe will reveal the existence of thousands of persons, either as dead bodies or as evidence of their images in the form of figurines. To give the reader a sense of the complexity of these people, I select three examples – the old lady buried at Tărtăria, the figurines of Stubline and the body-house model of Tumba Madžari.

One of the most famous deposits in Balkan prehistory is the so-called ‘magico-religious’ pit (Fig. 4.1a) in the Phase 3 (Vinča) levels of the multi-phase Tărtăria tell (Fig. 4.1b), in Transylvania, where the excavator discovered the three Tărtăria tablets (Vlassa 1963). These fired clay tablets with incised signs and the image of a goat (fig. 4.1c) were interpreted as a form of proto-writing and used to justify cultural diffusion from the Near Eastern Early Bronze Age to the Balkan Middle Neolithic (Hood 1973; Makkay 1969). It was Colin Renfrew (1973) who underlined the local socio-cultural complexity of the Vinča finds in the pit. Little attention was paid to the human remains in the pit’[24]. So who was the person buried with the Tărtăria tablets?

The new analysis of the human bones revealed not the cremated remains of an adult male of 35-40 years, as proposed by Vlassa (1963), but the secondary burial of an elderly female of 50-55 years who had been in pain and disabled since youth with a degenerative-arthritic condition producing multiple deformities: a severely curved posture due to a decalcified and fragile vertebral column; a limp in her right leg due to a thicker, shorter right femur; and a leaning to the right due to scoliosis of the torso and shoulder (Lazarovici, Gh. et al. 2011, 211) (Fig. 4.1d – e). The disabilities of this important elder prevented her from being self-sufficient but she could act as an intermediary between this world and the Other world. In his account of the burial, Merlini (2011: 209-237) notes that some of the bones were selected prior to deliberate fragmentation of the bones and the removal to another, unknown place of other body parts (http://www.prehistory.it/ftp/tartaria_tablets/tartaria_tablets_01.htm). The addition of burnt animal bones suggested a funeral feast. Placed with the human remains were the three famous complete tablets, fragments of a pedestalled cup, six fired clay figurines (some with androgynous elements,

24 The exception was my (1983) claim for a ‘shaman’, based on the unusual association of figurines with a burial type rare in the Balkan Neolithic (cremation) and the tablets themselves.



a

b

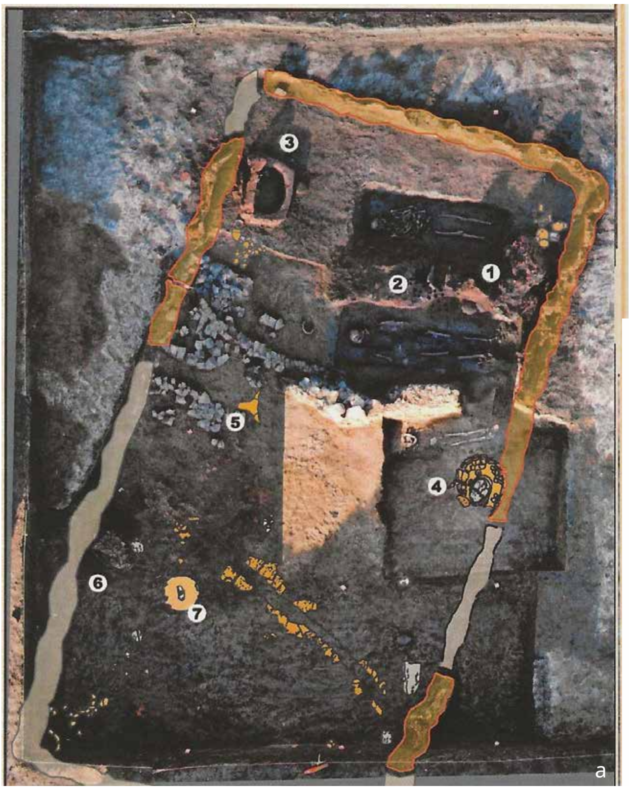
c

d

e

Figure 4.1. Tartaria (a) stratigraphy of 'ritual pit' (source: Merlini & Lazarovici 2008, Image 42); (b) photo of tell (source: author's photo); (c) tablets: diameter of circular tablet – 6.0/ 6.1cm (Merlini & Lazarovici 2008, Image 1); (d – e) bones of 'burial' (source: Merlini & Lazarovici 2008, Images 32, 44 & 45).

Figure 4.2. Crkvine (a) House 2: (length x width: 9.2 x 4.8m; (b) geophysical plot (c) 'Army': height of tallest figure – 7cm (source: Crnobrnja 2009, Slike 4 & 6b: 2012, Fig. 2).



a

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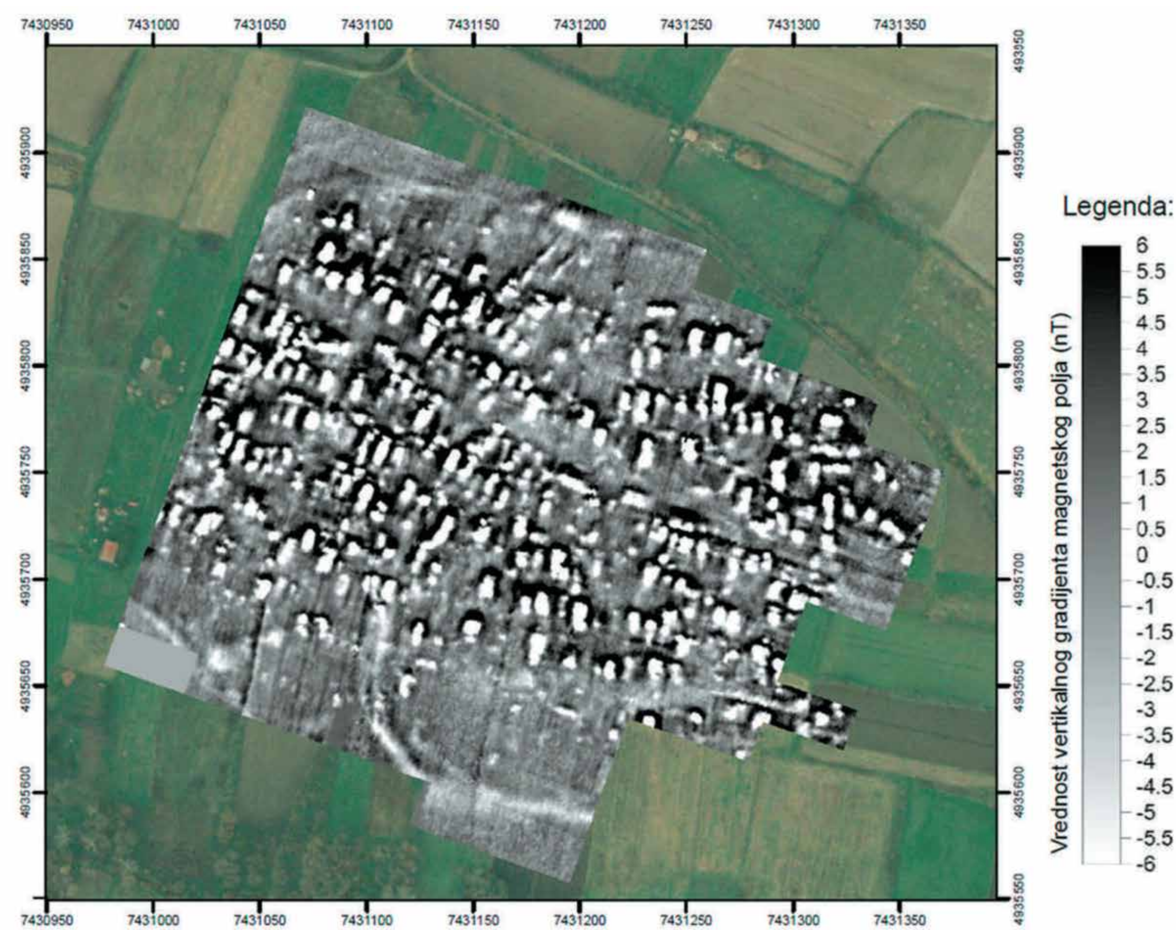


b

three deformed and three incomplete), half a *Spondylus* bracelet and a fired clay 'anchor'. Merlini claims that these remains fused with the human remains to form a hybrid[25] bone/clay/*Spondylus*/stone body with dividual links to the world of the living. His hyperbolic summary of the buried person – a "terrifying and revered holy woman" – invoked the name "Milady Tărtăria" (2011, 212-3). Alternatively, the distinctive secondary burial of a Vinča 'shaman' with enchained links to the world of the living is a classic example of the deliberate fragmentation of both the human body and her associated objects. The old lady of Tărtăria is one of the oldest and most disabled skeletons ever found in Balkan prehistory and provokes us to think of her pain-filled life and death in Transylvania.

In contrast to the old lady of Tărtăria is the unique find of a group of 43 miniature figurines from the Phase 3 (Late Vinča) settlement of Crkvine – Stubline, near Beograd, Serbia (Crnobrnja 2009; papers in *Kolubara* 5). Geophysical investigations of this 16ha site showed 270 houses planned in regular clusters (Crnobrnja et al. 2009) (Fig. 4.2b). House 2 covered an area of 44m^2 and contained two ovens, a storage-jar and fixed grinding stone, a vertical loom, an altar and a *bucranium* (Crnobrnja 2009, Slika 4) (Fig. 4.2a). On a small platform next to the larger oven and near the loom lay 38 fired clay anthropomorphic figurines – one larger figure, more carefully made and with a different tool-weapon, and 37 smaller, more rapidly made ones carrying varied miniature objects (Crnobrnja 2012). These figures were found in eight groups, seven arranged around the largest group which itself comprised 10 figures with the largest figure, carrying a (?) mace-head, in the centre (2012, Fig. 8). A further five figures in the surrounding area had presumably fallen off the platform (Fig. 4.2c). Each figure had a perforation to hold the haft of a miniature perforated tool or weapon, of which 11 precisely modelled examples were found, including two hammer-axes, three pick-axes and three possible mace-heads (2012, Figs. 9-10). Various reflectionist explanations have been proposed for these figures (viz., a cult scene, a miners' group, a warrior band, a play battle: discussed in Crnobrnja 2012). Their extreme stylization reinforces the sense of collective rather than individual action. Crnobrnja (2012) advances the claim that the composition materialized a complex, potentially hierarchical site organization conceived in the mental maps of the inhabitants (cf. Bailey 2017), with the structure more important than the dividual persons. The persons were placed in a house shortly before its deliberate burning (Crnobrnja 2012), as part of an idealised social structure which may not have ever existed.

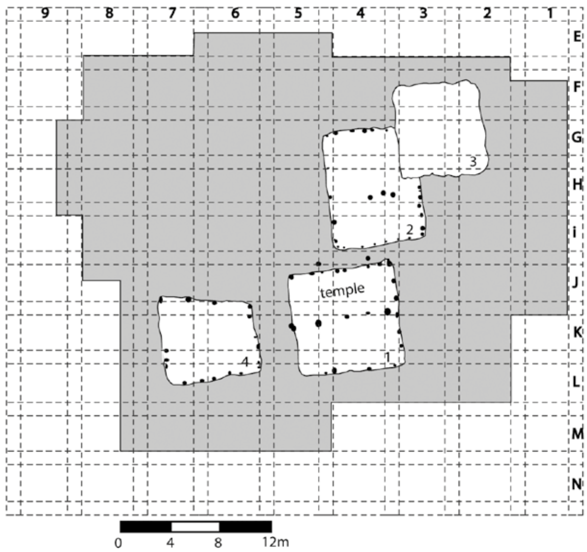
Our final person would have towered over the warrior group if she had been in the same house – the fired clay hybrid body-house discovered in House 1 on the Phase 2 tell of Tumba Madžari, North Macedonia (Fig. 4.3). The body-house stood in the South part of the house (8m x 8m), near a group of tiny figurines (Fig. 4.3). The body-house had been covered with several layers of slip, in imitation of house plastering (Chausidis 2010). Standing 39cm high, the person (Fig. 4.3) consisted of two parts: a lower square box ('house') with four 'windows', surmounted by an upper cylindrical female body ('chimney'), with a human head with elaborate coiffure, modeled nose and closed eyes, two prominent arms, two small breasts and a belly button. Two bracelets were placed on each arm. The 'chimney' was open to the 'house'; traces of charcoal and wax suggest that the person was used as a lamp (Sanev 2006, 190 & Fig. 22). This type of model forms the cornerstone of the Great Goddess theory prevalent in Macedonian prehistory (Sanev 2006; Chausidis 2007). There is also a long history of anthropological study of houses as metaphors for humans (Naumov 2009: 2010), where hybridity of meanings is related to the human identity of buildings or ceramic miniatures of specific individuals or houses (Naumov 2013).

The old lady of Tărtăria, the Stubline warrior group, the Tumba Madžari body-house – what do these finds tell us about Old Europe? First, these bodies at once distance us from the Neolithic, making it seem strange and utterly different, and yet bring us closer to the Neolithic people by engaging our interpretative attention. The strangeness of these persons challenges us to try to understand Balkan Neolithic persons on their own terms – as ontologies that are by no means obvious to us. The hybrid nature of all three examples also reminds us that dividuality was an inescapable part of Neolithic lives.

In this chapter, I explore personhood – the ways that persons became their social selves as parts of other persons. This is important since the ways in which we become the persons we are is fundamental to the life-course of each and every one of us. Understanding personhood is also vital to grasping the *modus operandi* of two of the four forms of relationship explored in this book – individuality and dividuality. The account begins with a view of the most general aspect of personhood – the life course as it relates to performances of sex and gender. This view is followed up by a more specific consideration of the life-course as performed in the mortuary domain, observed through the lens of mortuary costumes[26]. One form of personhood developed in Old Europe is grounded in age differences represented best in the mortuary zone but clearly present in life. I then turn to the distinctive aspect of embodied skills that persons

25 Merlini (2011, 230 & Footnote 908) complains that this burial was omitted from my list of hybrid burials (2010a). However, I defined 're-combination' burials as burials comprising parts of two different individuals in what appears to be a 'primary' burial. I did not include grave goods as part of re-combination burials, since this is clearly a different practice.

26 The evidence from the mortuary zone will be considered in much more detail in Chapter 7.



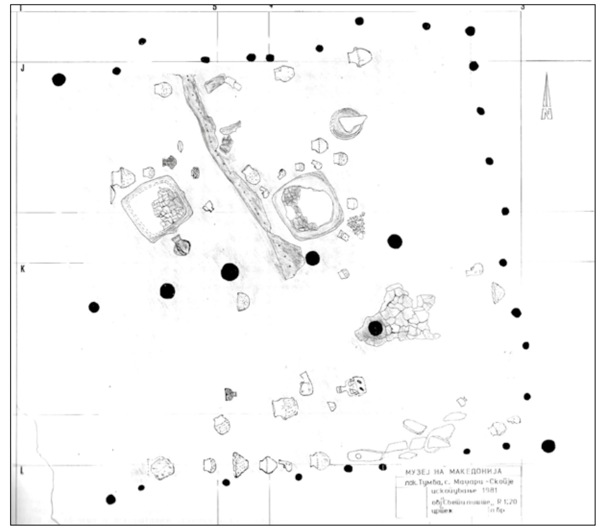


Figure 4.3. Tumba Madžari (top left) site plan; (top right) plan of House 1, with body-house and figurines: house length x width – 9 x 9m; (bottom) body-house: height – 39cm (source: Sanev 1988, Pl. II, Sl. 1 and 7).

developed – skills that varied much more between persons than the common denominator of the life-course. The sheer multiplicity of embodied skills seen in subsistence tasks such as farming and herding, building, the making of objects or the martial skills underpinning warfare makes for a complex picture that changed much through time. Lastly, I discuss the images of persons and animals which were so prolific in Old Europe but much rarer in the rest of Europe. The way that persons portrayed other beings was a key part of becoming a person in Old Europe. The images of persons grounded two other forms of personhood widespread in this area.

Life courses

In this section, I wish to consider briefly the kinds of populations who would have dwelt in settlements in Old Europe, the age, sex and gender of their members and the way that they grew in their households. I have already argued for the adoption of Kilmurray's (2009) proposal for a shorter prehistoric generation of 15 years (see above, p. 44), with its implications for the structure of the household / family, different attitudes to the past and to genealogies and the creation of memory. The short prehistoric generation of 15 years diminished the significance of the three-generational family, with overlaps between even parents and children reduced and overlaps between grandchildren and grandparents rare enough to be noticed as a significant exception. This household / family structure suggests different strategies for cultural transmission, which I consider in the acquisition of personal skills (see below, p. 110 ff.). I begin with a consideration of the different stages of the life-course.

Fertility, infertility and pregnancy

The author most closely associated with female figurines and fertility in Old Europe was Marija Gimbutas (1982: 1989), who relied on the huge corpus of (mostly female) figurines to initiate discussions of biology and reproduction or motherhood in Old Europe (e.g., Monah, D. 2016)[27].

27 Ruth Whitehouse (2006, 768) has described the virtual taboo on discussions of such topics in the West.

Figure 4.4. Early copper mines: (top) Rudna Glava; (bottom) Ai Bunar (source: author's photos).

Kokkinidou & Nikolaidou (1997) emphasise that figurines expressed an iconography of sexuality (breasts, bellies and buttocks), showing Neolithic people's interest in biology and sex. However, on an empirical level, a careful study of a large number of Balkan figurines reveals a surprising rarity of pregnant women, scenes of birthing or images of a mother and child, whether in life or death (Zalai-Gaál 2003: 2007). Perhaps images of pregnancy and birth-giving have been excluded from the male gaze or materialized in ways that have not survived. A re-interpretation of the sets of miniature figurines and furniture made in Cucuteni sites suggests that, rather than a device for measuring the date of women's periods (Dumitrescu, R. 2008), these sets helped infertile women to identify the most probable time of conception based on their periods (Watson & Gaydarska 2014).

Childbirth

Confirmation of the potential for recovering information on childbirth and mothering comes from Elisabeth Beausang's PhD thesis. In her study of the places and material culture of birthing, Beausang (2005, 66, 89-90) suggests that a wider range of persons, not just the expectant mother, would have been involved in the birthing event but that the special status of 'mother' – a new period of the woman's life course – would have been key to the woman's role. The short 15-year generation was likely to make pregnancy and childbirth a regular feature of the teenage years. While many of the objects Beausang links to birthing could have had other functions, they have been found individually in Old Europe, although without the concentration of finds at Copper Age Kissonerga, Cyprus (Bolger & Peltenburg 1991; Beausang 2005, Chapter 7). Five sites in Old Europe contain structures that may have been birthing-huts, on the basis of their special birthing-related objects and/or their isolation from core dwelling areas:- Galovo (Fig. 6.7b), Divostin 1 (Fig. 6.12), Nebelivka (Fig, 6.1), Uivar (Fig. 6.4) and Iclod (Fig. 6.17). Both Burdo (2011) and Naumov (2013) have suggested that miniature fired clay house models (see below, p. 160) may have depicted menstrual- or birthing-huts.

Childhood

A recent focus of research on childhood has produced two important collections: an edited volume (Sanchez Romero et al. 2015) and an Oxford Handbook on the Archaeology of Childhood (Crawford et al. 2018)[28]. Sánchez-Romero (2011) reminds us that identities, such as gender or status, were created and maintained through actions that included the processes of learning and socialisation, which displayed children's agency and the multiple dimensions of the relationship between children and materiality. Moreover, during the enculturation process, children learned values as well as skills. The short 15-year generation and the lack of opportunities to learn from grandparents and elders meant an increasing role for horizontal transmission through peers – perhaps mostly outside the house – and Timothy Taylor's concept of trans-generational 'limited interest groups' (or 'LIGs').

It has been challenging to recognise children's work and play in prehistory. In response to De Lucia's (2010, 608) call to 'reconceptualize houses as places of children' in order to 'integrate children and their material culture … as fundamental parts to understanding how households functioned as a whole', Sánchez Romero (2018) underlines the significance of children's contributions to household maintenance activities.

A rare example of children's work comes from one of the earliest copper mines in Europe – the malachite mine of Rudna Glava (Jovanović 1982). Here, the majority of the ore-filled shafts were so narrow that only adolescents and children could have descended to collect the ore (Fig. 4.4). A very different form of mine was the open-cast trench at Ai Bunar (Fig. 4.4), which could have been worked by all ages and genders. The use of alluvial gold to supply the Varna I cemetery (Leusch et al. 2014) implies gold-panning on a large scale – which certainly could have involved child workers.

There are two data sets from Old Europe which can be interrogated for signs of children's production – miniature vessels and figurines (cf. Varma 2018; Park 2018). Lidia Balj (p.c., summer 2011) has suggested that miniature vessels of the kind that occur in small numbers at many Phase 2 (Starčevo) and Phase 3 (Vinča) sites were practice pieces for children to show their capacity at pottery-making (Fig. 4.5a – l). There are two classes of 'small' figurines whose size is set arbitrarily at smaller than 40mm: (a) small versions of well-made, well-proportioned and often decorated images – viz., child-size versions of 'normal' figurines; and (b) poorly-made, asymmetrical examples, with no or minimal attention to facial details or decoration – viz., trial pieces made by children or novices[29] (Fig. 4.5m – u). What is remarkable is the rarity of both types of 'small figurine' in the corpus of tens of thousands of images.

Adulthood

The adult stage (15-30 years) of the life course was the most active stage for the majority of persons. This 15-year-long period formed the core of the generational

28 It is interesting to note that the chapters in the 2018 Handbook struggle with exactly the same issues of the visibility of children in prehistory as I did when I wrote the drafts of this chapter in 2015 (viz., children's toys: Varma 2018; children's tools: Park 2018; grave goods in children's graves: Sánchez Romero 2018).

29 The equally small group of poorly made 'normal' figurines may have been trial pieces made by adults who were not particularly talented in shaping clay.

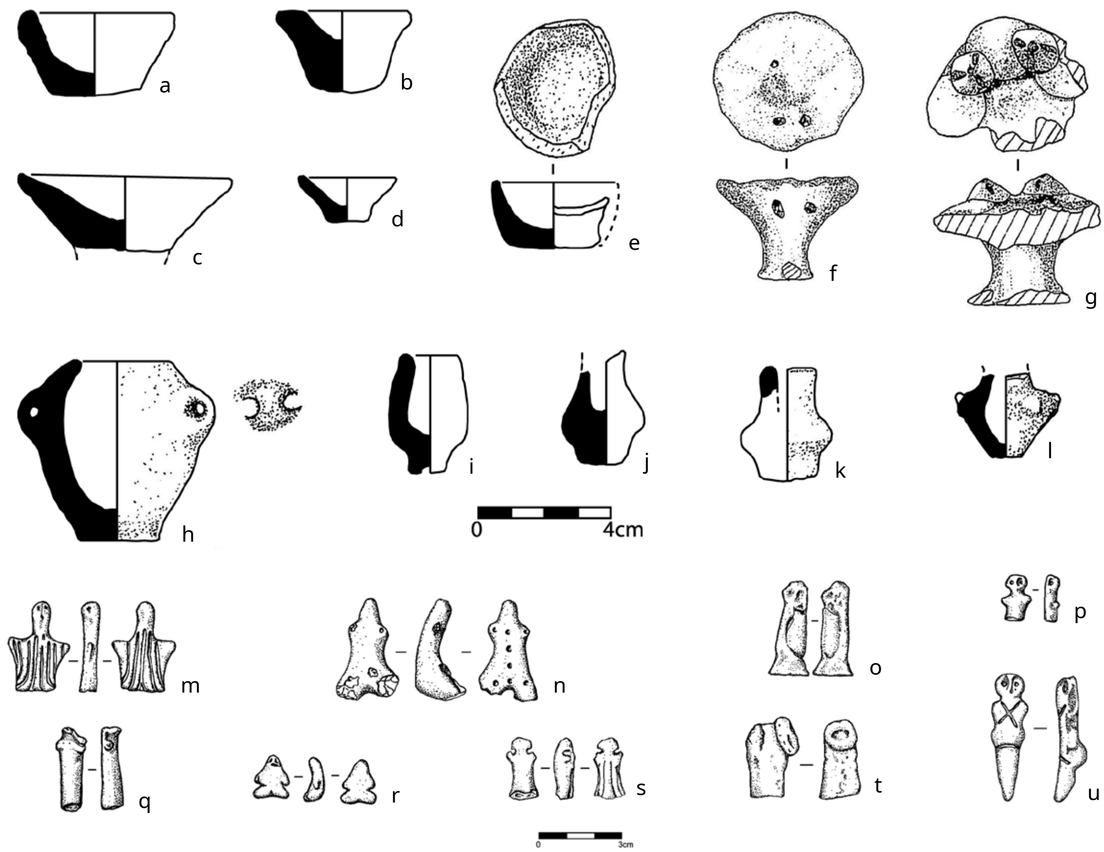


Figure 4.5. Miniature vessels, Sitagroi: (d, g) Phase II; (a – c, e – f, h – j, l) Phase III; (k) Phase V (Elster & Nikolaidou 2003, Figs. 11.39-11.50) (L. Woodard); 'small' figurines: (m & s) – Scânteia; (n) – Ruseşti Noi; (o) – Floreşti; (p) – Iablona I; (q) – Volodymyrivka; (r) – Kocherzhintsi; (t) – Bereşti; (u) – Kolomiishchina (L. Woodard).

cohort whose members shared experiences and memories. In these years, women and men would have experienced a peak in their procreativity, life-skills and the results of their work, potentially including the establishment of families, the building of houses and the accumulation of domestic stock and personal objects but also the break-up of long-term families and partnerships amid considerable social stress. This was also the time when the emergence of personal value may have led to status positions or leadership roles, as well as claims to specialized skills. The trends towards individualisation may well have peaked in these years, just as much as dividual relations would also have flourished in other practices. These were also the years of prime responsibility for household maintenance activities, including caring and socialization for the next generation. They were also the years for the eruption of health problems, including the occurrence of serious diseases such as the tuberculosis found at three Hungarian Phase 3 settlements (Bánffy, E et al. 2016, 309; Masson et al. 2015).

Older persons

Until recently, the transition from adulthood to old age has been widely neglected in accounts of prehistory[30]. Appleby (2010, 150) clarifies that "age status was often defined in terms of physical appearance and appropriate social roles rather than by the arbitrary measure of chronological age". Elderly women and men would have had major contributions to make in a three-generational settlement but the rarity of such elders would have precluded their contributing to the life of each household. Their deaths have provided us with extraordinary stories (e. g., the Old Lady of Tărtăria).

In summary, there is little evidence to support Marija Gimbutas' emphasis on the fertility cult of the Mother Goddess in Old Europe, with remarkably few images of birthing or mothering. The practice of birthing is virtually invisible in the Neolithic and Chalcolithic, as are signs of children's socialization, learning, work and play. It is simultaneously intriguing and disappointing that the evidence for such vital social practices are almost totally

30 This is partly due to the problems of accurate aging of prehistoric skeletons (Gowland & Thompson 2013).

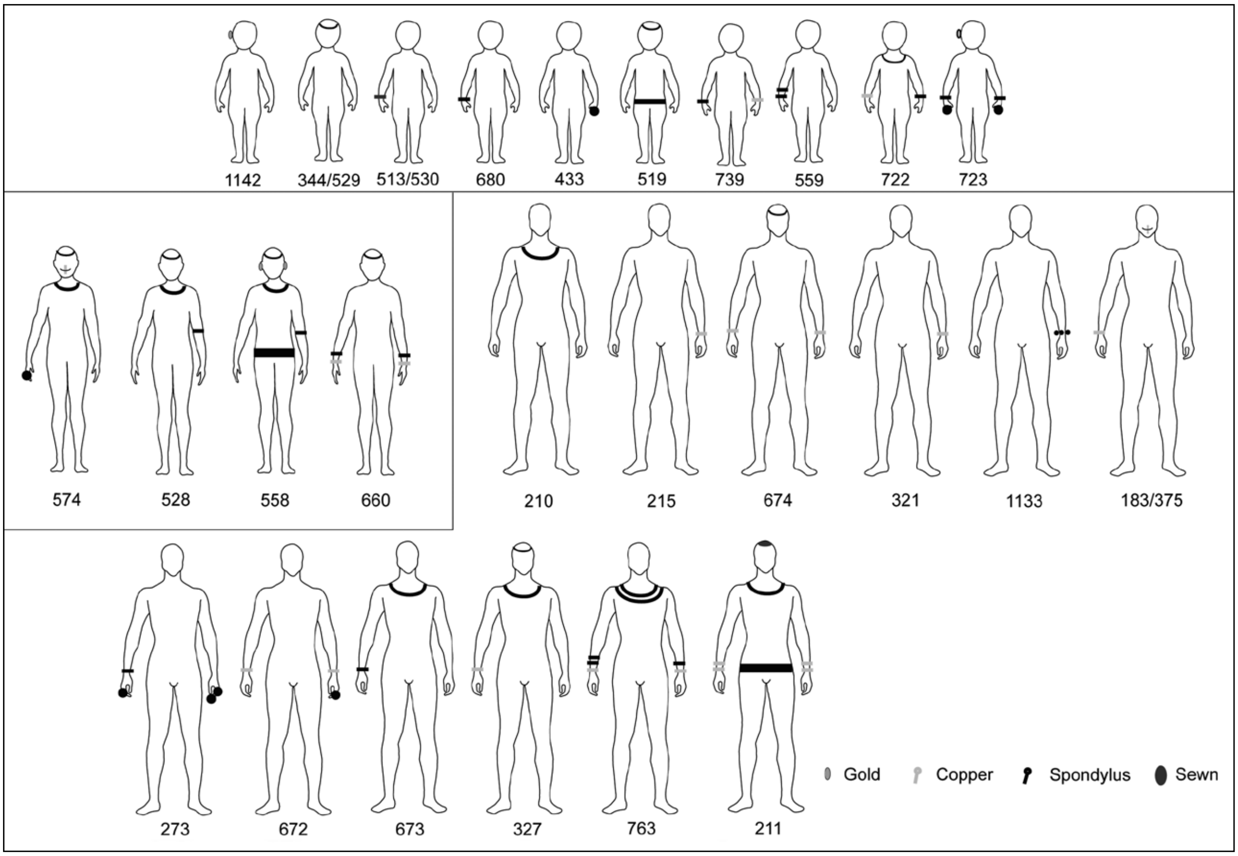


Figure 4.6. Mortuary costumes, Durankulak: top row – children; middle row left – juveniles; remainder – adult males (source: Chapman 2012a, Fig. 17.3 upper).

implicit and have to remain theorized under the banner of maintenance activities. The making of unusually small figurines by children, as well as to represent children, and the making of miniature vessels as practice pieces remain the most promising candidates for socialization practices, while the contribution of children to mining at Rudna Glava and young people's possible contributions to gold-panning in Eastern Bulgaria make welcome exceptions to the invisibility of children's work. If this is the evidence of life courses from life, what happened in death?

The life course in death: mortuary costumes and personhood

Another type of evidence often used to define life course transitions was mortuary costume. Sørensen (1997) has usefully distinguished three forms of textile remains: cloth (what has been woven from spun thread); clothing (individual items of attire produced from cloth); and costume (an integrated set of garments for a specific person or occasion). Often the only preserved remains of a mortuary costume comprise the ornaments made from metal, stone, shell, bone and antler. Here, costume elements – the single item such as a bracelet or an ear-ring – can be distinguished from costume sets – two or more elements. In the absence of costumes of the living in Balkan prehistory[31], we are limited to mortuary costumes, viewed as a form of gendered materiality that fused the adult practice of wearing a costume with children's bodies (Joyce 2000, 479). We can explore how mortuary costumes helped to perform persons at different stages in their life course.

Children's costume graves were rare in the Phase 3 Boian and Hamangia cemeteries but became more varied in Phase 4 – some even becoming spectacular, such as the child in Grave 3 of the Smjadovo cemetery, North-East Bulgaria, with a serpentinite bead diadem, a snail shell necklace, a *Spondylus*-and-bone necklace and a copper bracelet (Chokadzhiev & Mihaylova 2014). At the Durankulak cemetery, 96 costume graves have been identified, with children buried in five types of costumes (only one unique to children) (Fig. 4.6). A total of 14 shell costume sets has been defined at the Varna cemetery, with nine such sets in children's and subadults' graves and five unique to children (Fig. 4.7). These cases hardly betoken

31 The costumes on figurines will be discussed later (pp. 140-3).

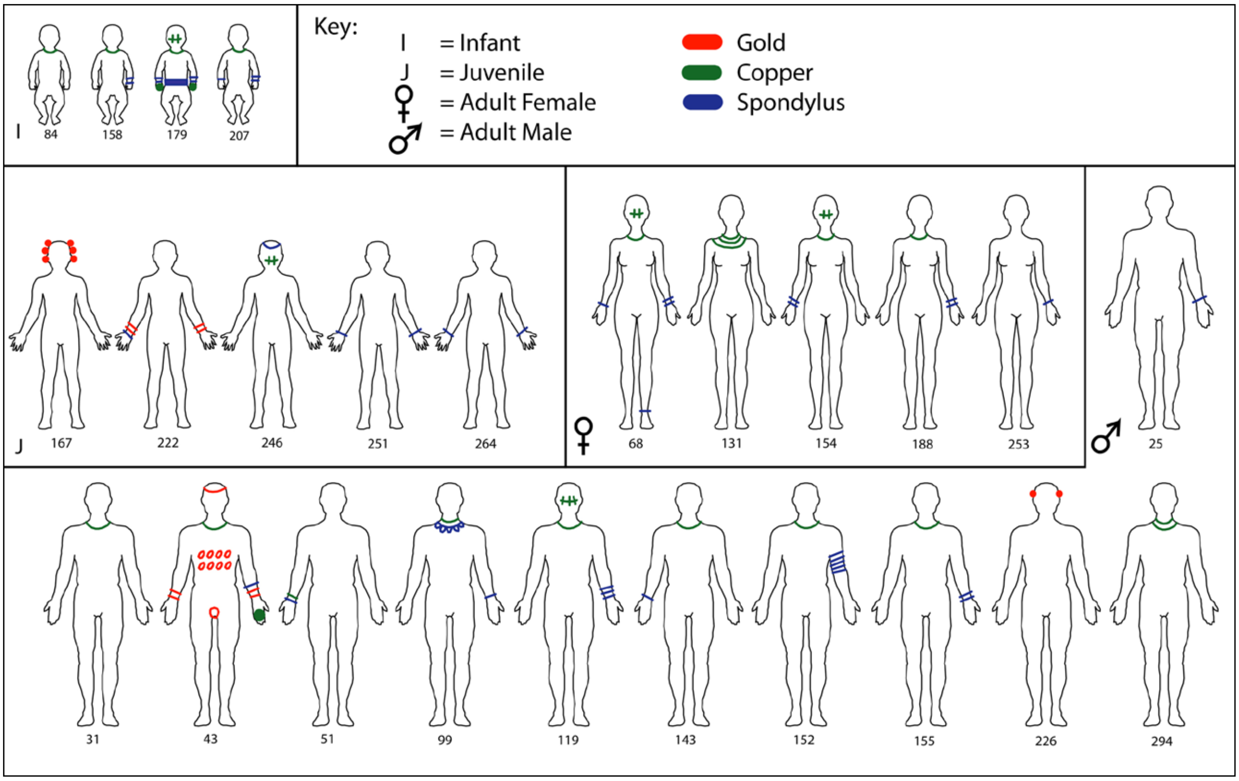


Figure 4.7. Mortuary costumes: children's costumes, Varna I cemetery (source: author) (L. Woodard).

clear differences between the costume sets of children and adults. Occasionally, children's graves, such as Grave 164 at Phase 3 Aszód, with its group of 525 *Spondylus* beads with an 8-year-old child, were amongst the richest in the whole site (Siklósi 2013, 109).

The evidence for adult mortuary costumes is so widespread and diverse that it defies easy summary. For now, it should be noted that the bodies of those who died in their middle years were most frequently wearing costume. But what of older people's costume in the mortuary zone? The burial of old people is rare until Phase 4[32]; even then, we know of only one cemetery – Omurtag, North-East Bulgaria – with a high proportion of mature – senile (40+ years) skeletons, very few adults, no juveniles and only three children (Yordanov, Y. et al. 2006). Five burials are adorned with single costume elements – either *Spondylus* diadems or bead-bracelets. Special burials for older people are well-known from several cemeteries. At Varna, old males were buried in costumes ranging from simple (one necklace, a single diadem) to sumptuous (e.g., the 45-60-year old male buried in Grave 43: Ivanov 1991). Both the ritual specialists ('shamans') known from Old Europe were old females buried without costume – the old lady of Tărtăria (see above, pp. 99-102) and the remarkable 48-52-year old woman buried in a pit at the Phase 4 Bodrogkeresztúr settlement of Pusztataskony (Raczky 2013; Raczky & Siklósi 2013). The almost complete body of the latter (Fig. 4.8) was buried in a pit with two hares, a frog, a toad, a water vole, a hedgehog and a group of at least 11 snakes, over which her left arm was placed, and a twelfth snake. Raczky interprets her as a dividual person whose partible body included the wild creatures of the watery and subterranean domains over whom she exercised control[33].

The Tiszapolgár form of personhood

While the preceding discussion about mortuary costumes has been intimately connected to personhood, other, more specific strategies for the construction of personhood can be identified in Old Europe (Chapman & Gaydarska, 2007, Chapter 3). These are by no means the only forms of personhood in Old Europe – indeed, a fourth form has recently been identified (see below, p. 150). One of the

32 For example, in Phase 3 (Hamangia) at Durankulak, only four graves of old people are known from the 68 costume graves. Even in Phase 4, old people were invisible at some cemeteries, such as Smjadovo.

33 The shaman of Pusztataskony is perhaps the most obvious example of Gimbutas' category of 'Snake Goddess' in Balkan prehistory (Gimbutas 1982, 136-145).

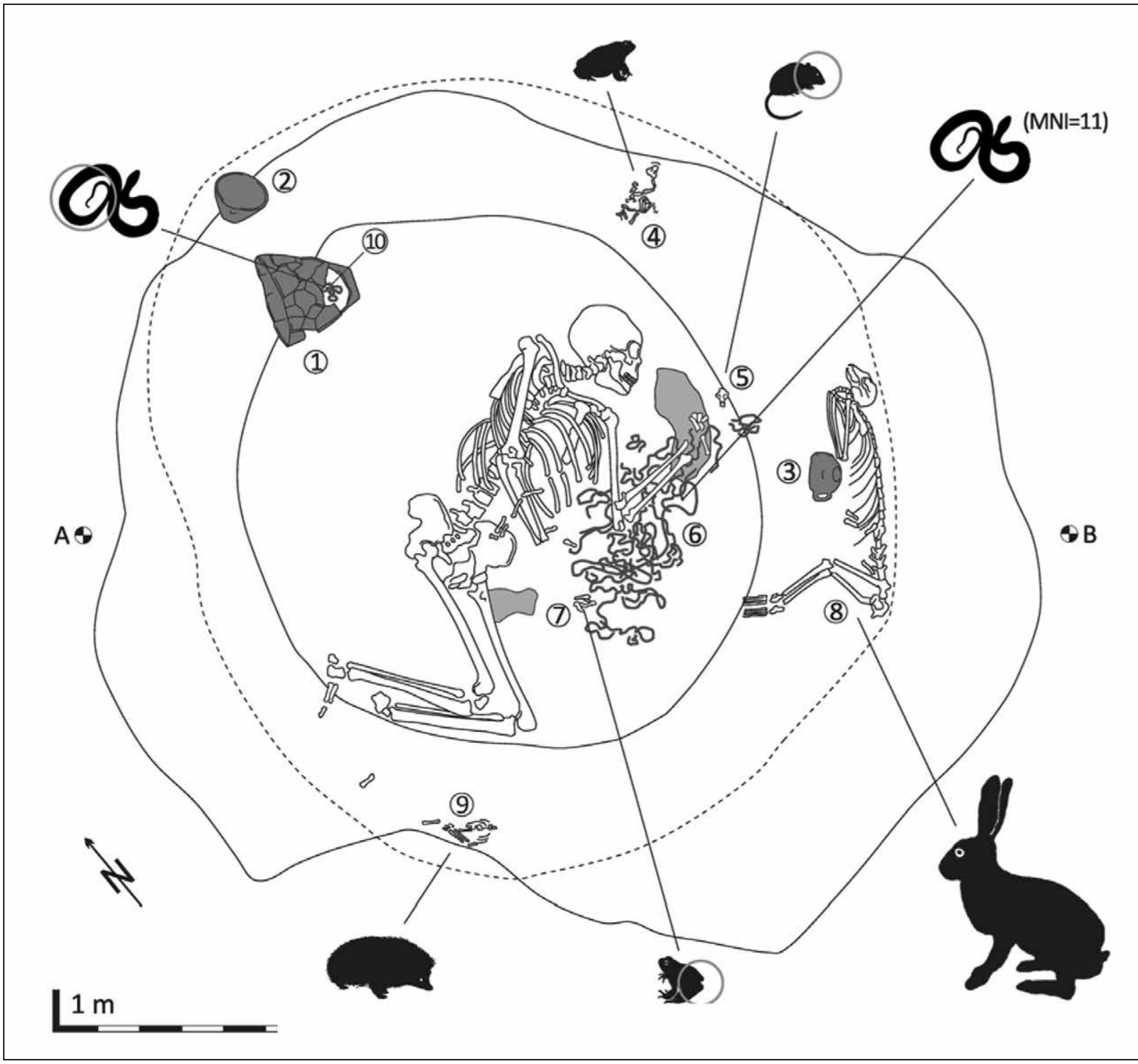


Figure 4.8. The mature female burial in the Bodrogkeresztúr settlement of Pusztataskony (source: Raczky 2013, Fig. 6.3 upper).

three forms of personhood has been named after the Copper Age cemetery of Tiszapolgár – Basatanya in North-East Hungary. This form of personhood is a formalization of Sofaer Derevesnki's (2000a) study of grave goods at different stages in the life course of the deceased. The Tiszapolgár form of personhood recognised separate genders in childhood and the continuation of the gender distinction throughout the life course, with age-stages marked by specific types or combinations of objects, often copper ornaments and tools. This pattern does not readily conform to Robb & Harris' (2018) sequence of gender fuzziness in the Neolithic and Copper Age. These mortuary performances were complemented by deliberate fragmentation of pottery, with part of a vessel placed in the grave and the remainder kept in the land of the living (Chapman 2000a). The Tiszapolgár form of personhood was distinguished by the continued significance of gender throughout the life (Fig. 4.9) and an inattention to androgyny. This form of personhood typified most Phase 3 and 4 communities, when internal social differentiation was related to the creation of many new personal skills, especially in the communal practices of advanced copper and gold metallurgy.

Summary of the life course in death

An overall characterization of the three principal stages in the life course has been followed up using costume data from the mortuary zone, despite the patchy representation of both major transitions – child to adult and middle age to old age. Diachronic changes in costume sets have been

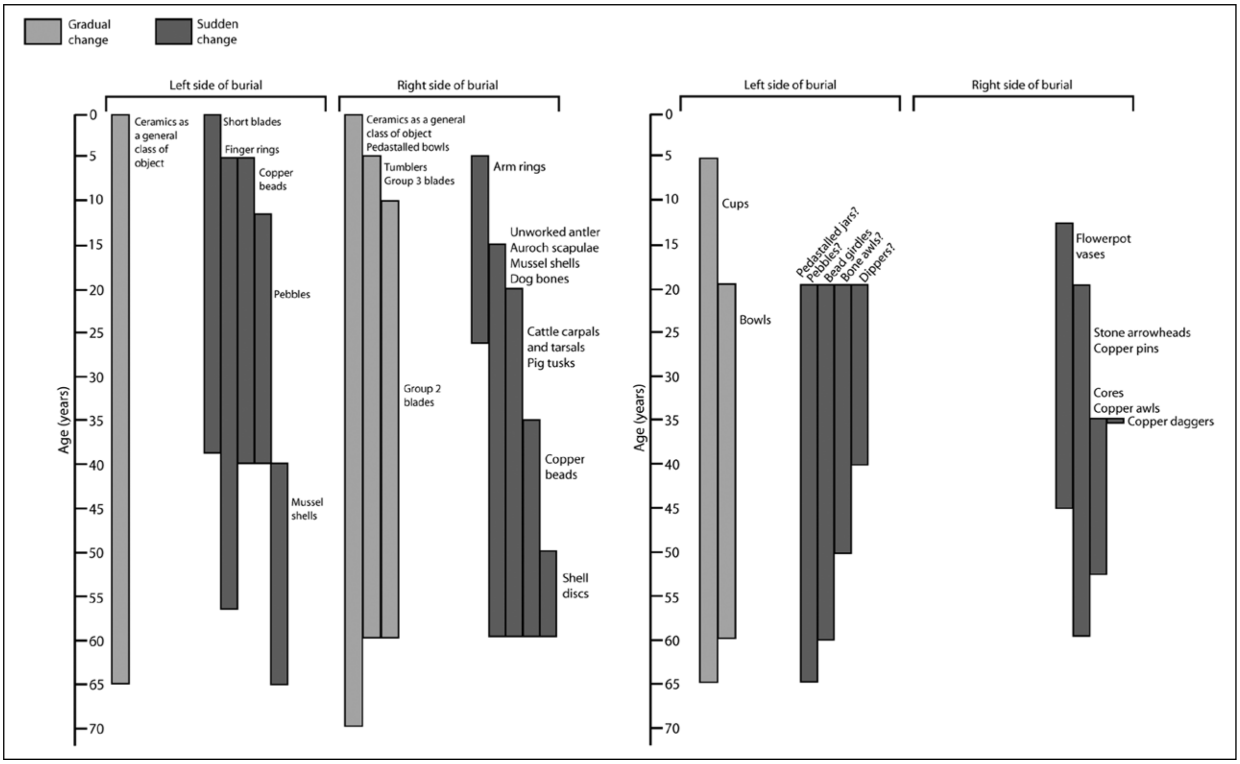


Figure 4.9. Tiszapolgár personhood at the Tiszapolgár – Bastanya cemetery (left) Tiszapolgár phase; (right) Bodrogkeresztúr phase (L. Woodard redrawn from Sofaer Derevenski 1997, Figs. 1-2).

characterized for children and older persons, with larger numbers of more elaborate costume sets based on a wider range of raw materials (especially gold and copper) in Phase 4. Sofaer Derevenski's analysis of what is now seen as contrasts in coeval grave good deposition through the gendered life course at Tiszapolgár-Basatanya broadens the analysis from costumes to all types of material culture. Thus, we can grasp, even if imperfectly, the significance of changes in age and gender to the emergence of relational personhood. These patterns suggest not only an increasing diversity of costumes but also a wider range of types of person, each fused with the costume elements and sets in which s/he was buried to become new persons. But the age, sex and gender of persons were only one part of the story. Can we diversify the story through a consideration of the acquisition of personal skills in Balkan prehistory?

Personal skills

Introduction

The central idea of this section is that major increases in the number of new skills in the Neolithic and Copper Age led to a rise in the diversity of personal identities. The picture that I wish to paint of Neolithic and Copper Age social life is based upon a rich and varied palette, with much personal and household differentiation. It was the possibility of the combination and re-combination of different skills in the same person, family or community that led to the individualization of persons through their distinctive combinations of skills and competences. However, the contexts for the growth of individual skills usually involved co-operative effort, in turn highlighting dividual relations.

The child's development of new skills would have depended upon training by the members of the family and the household, emphasizing the importance of kinship elements in the child's relational personhood (*contra* Sahlins 2011: 2011a). Doubtless, households with individual adults with skills in stone figurine-making or bone-working would have encouraged vertical transmission of similar skills (Shennan & Steele 1999), despite the rarity of three-generational households. Children with similar talents would have benefitted from peer-based learning (horizontal transmission), with important implications for dividuality. In the teenage years, the increasing spatial range and complexity of the person's social world would have led to greater variations in personal mobility. Teenage marriage would have formed the starting-point for a new cycle of skills-

Kind of personal skills	Archaeological evidence	Site example
Hunting	Projectile points; wild animal bones	Schela Cladovei
Shellfish collecting	Shellfish as food debris	Trieste caves
Fishing	Fish bones as food debris; fish-hooks; harpoons; carp-stunning batons; fish-traps	Lepenski Vir
Plant gathering	Plant food remains; pollen of edible Species	Ezero pollen diagram
Building	House remains	Lepenski Vir
Plastering	Remains of plastered floors	Lepenski Vir
Basket-making	???	???
Rope-making	???	???
Grater-board making	High densities of microliths	Lepenski Vir
Bow-and-arrow making	Arrowheads	Pobiti Kamani
Flint-knapping	Production debris	Pobiti Kamani
Stone-carving	Boulder sculptures	Lepenski Vir
Resource collecting	Resources from all zones outside the immediate site locale	Cuina Turcului
Long-distance resource procurement	Exotic materials or finished objects	Lepenski Vir
Warring	Weapons, weapon-tools and tool- weapons; defensive structures	Ostrovul Corbului
Shamanic practices	Totemic rituals ???	
Potting		Bug – Dniester group
Clay preparing	Clay vessels; stored piles of raw clay	
Vessel forming	Clay vessels	
Pot-painting	Decorated clay vessels	
Pot-decorating	Decorated clay vessels	

Table 4.1. Kinds of personal skills in hunter-gatherer – fisher societies.

acquisition, with missing skills acquired from affines or through barter, both leading to qualitatively new social relationships. The successful re-creation of the previous generation's knowledge and skills base may have been a critical factor in the establishment and growth of the new household.

The settlement context of skills acquisition was a key element in embodied skill-building. Rather than expecting blanket development of the same skills across a region, it is highly probable that particular skills and roles co-emerged with specific social events in certain places and not in others. The recent emphasis on small, flat sites at the start of the Neolithic in Greece and the South Balkans (Kotsakis 2005; Bailey & Whittle 2005) has overlooked the narrower range of embodied skills available at these sites in comparison with those found on larger, nucleated tell settlements. This underlines the importance of connectivity and interaction between nucleated and dispersed sites. However, the improbability of each household in a nucleated site having access to an identical range of skills led to inter-household skills differentiation, which could have been one route to household specialisation.

Foraging skills

The starting-point for the consideration of new skills in the early farming period must be the traditional skills developed by foragers. The list of 20 skills is not an exhaustive list for Phase 1 (Chapman & Gaydarska 2011) (Table 4.1). Since most individuals in a Mesolithic community would have learnt several skills, their social identities would have represented a complex integration of a range of diverse embodied skills. Thus, foragers were already travelling down the road to individualizing personhood which went much further in the Neolithic.

Farmers and their skills

It is widely accepted that the emergence of farming was a fundamental social change in Old Europe (Whittle 1996; Tringham 2000; Spataro & Biagi 2007). Following the dynamic nominalist approach (Chapman 2000) the simultaneous emergence of new kinds of persons with the appearance of people to fit those categories was therefore of major importance in these times of widespread change. New kinds of persons of each period would have been created within

Kind of personal skills	Archaeological evidence	Site example
Farming		
Growing cereals	Cultivated grain;	Azmashka mogila
Ditch-digging	Field boundaries	???
Hoeing	Stone hoe-blades; soil micro-Morphological traces of hoeing	Linearbandkeramik
Fence-making	Lines of post- or stake-holes	Dubravica
Weeding	Purity of archaeo-botanical sample	Chavdar
Baking	Domestic ovens	Sofia – Slatina
Brewing	Chemical traces of alcohol; traces of Pollen of sweet plants (mead) or honey	???
Animal keeping		
Cow-herding	Animal bones	Ovcharovo-Gorata
Swine-herding	Animal bones	Ovcharovo-Gorata
Goat-herding	Animal bones	Ovcharovo-Gorata
Shepherding	Animal bones	Ovcharovo-gorata
Dairy production	Isotopic traces of dairy lipids	Ecsegfalva 23
Cooking	Cooking vessels	Schela Cladovei
Salt production	Salt sources; briquetage or vessels for salt-boiling	Lunca
Other crafts		
Figurine-making	Fired clay, bone and stone figurines	Azmashka mogila
Figurine-knapping	Deliberate fragmentation of figurines	Anza
Spinning	Spindle-whorls	Rakitovo
Weaving	Loom-weights, mat impressions	Divostin I
Ornament-making	Finely made stone & shell artifacts	Kardzhali
Basket-making	Basket-impressions in pottery	Endrőd 119
Copper-smelting	Copper slag	Zmajevac; Iernut
Copper mining	AMS dates from copper mine	Rudna Glava

Table 4.2. Additional kinds of personal skills in early farming societies.

expanded forms of relational personhood. Over 20 new skills would have been developed in Phase 2 (Table 4.2), in addition to the 20 traditional skills already used by foragers (Table 4.1). In addition, a range of new skills was developed with the emergence of complex metallurgy (Table 4.3). We now consider these skills according to broad areas of practice.

Mixed farming[34]

Mixed farming presents a complex set of practices, involving new concepts of time and place and new relationships to animals, the land, the soil and often the forest (Ingold 2000). These multi-person tasks set up complex relations of inter-dependency between those participating in the *chaînes opératoires*. They involved the making and use of new tools (e.g., sickles) and containers (e.g., pottery), especially with the development of brewing and cheese-making.

Herders

Herders were responsible for a new kind of long-term relationship with animals – their inclusion into households (Jones A. & Richards 2003), which affected both human and animal personhood. Even limited seasonal mobility would have taken the herder to a wider range of places than most of the other members of the community. The use of secondary animal products would have increased the significance of the herder (Sherratt 1981).

34 For detailed evidence, see Chapter 3.

Kind of personal skill	Archaeological evidence	Site example
Copper-melting and casting	Droplets of molten copper; slagged sherds	Belovode
Gold-panning	Metallurgical analysis of gold objects	Varna I cemetery
Gold casting	Metallurgical analysis of gold objects	Varna I cemetery
Metal-wire making	Metallurgical analysis of gold objects	Varna I cemetery
Sheet-metal-making	Metallurgical analysis of gold objects	Varna I cemetery
Gold pot-painting	Metallurgical analysis of gold objects	Varna I cemetery; Bubanj Hum Ia
Lead-working	Metallurgical analysis of lead objects	Pietrele
Mould-making	Cast copper or gold objects indicating use of moulds	Varna I cemetery; Karbuna hoard
Facetted-bead making	Identification of facets, including lap-wheel traces	Varna I cemetery; Orlovo
Flint mining	Flint mine with well-dated contexts	Sümeg, W. Hungary
Bone-figurine making	Anthropomorphic bone figurines	Pietrele

Table 4.3. New skills developed in the Climax Copper Age / Late Neolithic period.

Building

Building gained in importance with the rise of sedentary foragers. The importance of builders lay in their creation of the very physical framework of dwelling – the most intimate place of forager lifeways[35]. There was a great expansion in the scale of building in the Neolithic – what Borić (2008) termed a change from dwelling to building. Houses were the embodiment of geometric design – the most visible example of precision engineering skills in any prehistoric settlement. This task was a collective, multi-stage process led by an experienced, if youthful, co-ordinator, with the choice of place, the assemblage of materials and pre-building rituals preceding construction. The minimum range of construction skills comprised woodworking, wattle-making or reed-working, plastering, house-painting and thatching (Chapman & Gaydarska 2011; Johnston et al. 2019; for details on houses, see Chapter 5).

Stone tools

A survey of the long-term lithic sequence shows the changes from forager toolkits to early farming assemblages. We can identify flint-knappers with high levels of technical skill in Phases 2 and 4, with knappers exercising lower skill levels with local raw materials in Phases 3 and 5. These changes would have had an effect on personhood, with highly-skilled knappers extending their reputation beyond their home settlement and enchaining their products to a far wider range of people and settlements. The products of the highest-quality knapping were macro-blades (Fig. 4.10) made on exotic, often Lugorie (North-East Bulgaria) flint. The longest-known superblade – a 41cm-long superblade deposited in Grave 43 in the Varna cemetery – would have required immense skill in standing-pressure using a copper-tipped antler punch (Manolakakis 2005; Pelegrin 2006). A similar trajectory in polished stone production to the lithic sequence is seen in Central Serbia, with declining skills in Phase 3 in comparison with Phases 2 and 4 (Antonović 2002) (Fig. 4.11).

Bone and antler tools

Following on from Binford's (1973) distinction between 'curated' and 'expedient' stone tools, Choyke (2001) divides bone and antler tools into Class I and Class II tools. The former were carefully made to a specific and standardised form, used over a long period of time, with repairs and re-sharpenings and carried personal identities and memories over time and across generations (Choyke 2007). The latter were made, used and discarded on a much shorter timescale, with less care in making and little attempt to repair or re-sharpen. The tendency was to use antler for heavier tools (farming, warfare), while bone was used in households for finer tools. Bone ornaments kept the memories of animals alive and close to a person's body.

A surprisingly wide range of tools, tool-weapons and weapon-tools was recovered from Iron Gates Mesolithic sites, with many skills taken over in Phase 2 (Starčevo) sites to make a high proportion of Class I tools from the bones of their preferred domestic animals (cattle in Romania and North Bulgaria, caprines in the Alföld). Special tools characterised each Phase. In Phase 2, the slotted antler sickle (Nandris 1972) and the bone spoon made from cattle metapodials were ubiquitous (Nandris 1972; Choyke 2007) (Fig. 4.12b & f), in comparison to increased regional differentiation in Phases 3 and 4 (antler plaques (Fig. 4.12a), multiple bone rings and antler harpoons (Fig. 4.13f – m)). Special Phase 4 bone objects included highly polished bone figurines and large stylised anthropomorphs from

35 The classic Palaeolithic example concerns the mammoth-bone structures made by Gravettian hunter-gatherers in Central and Eastern Europe (Soffer 2003).

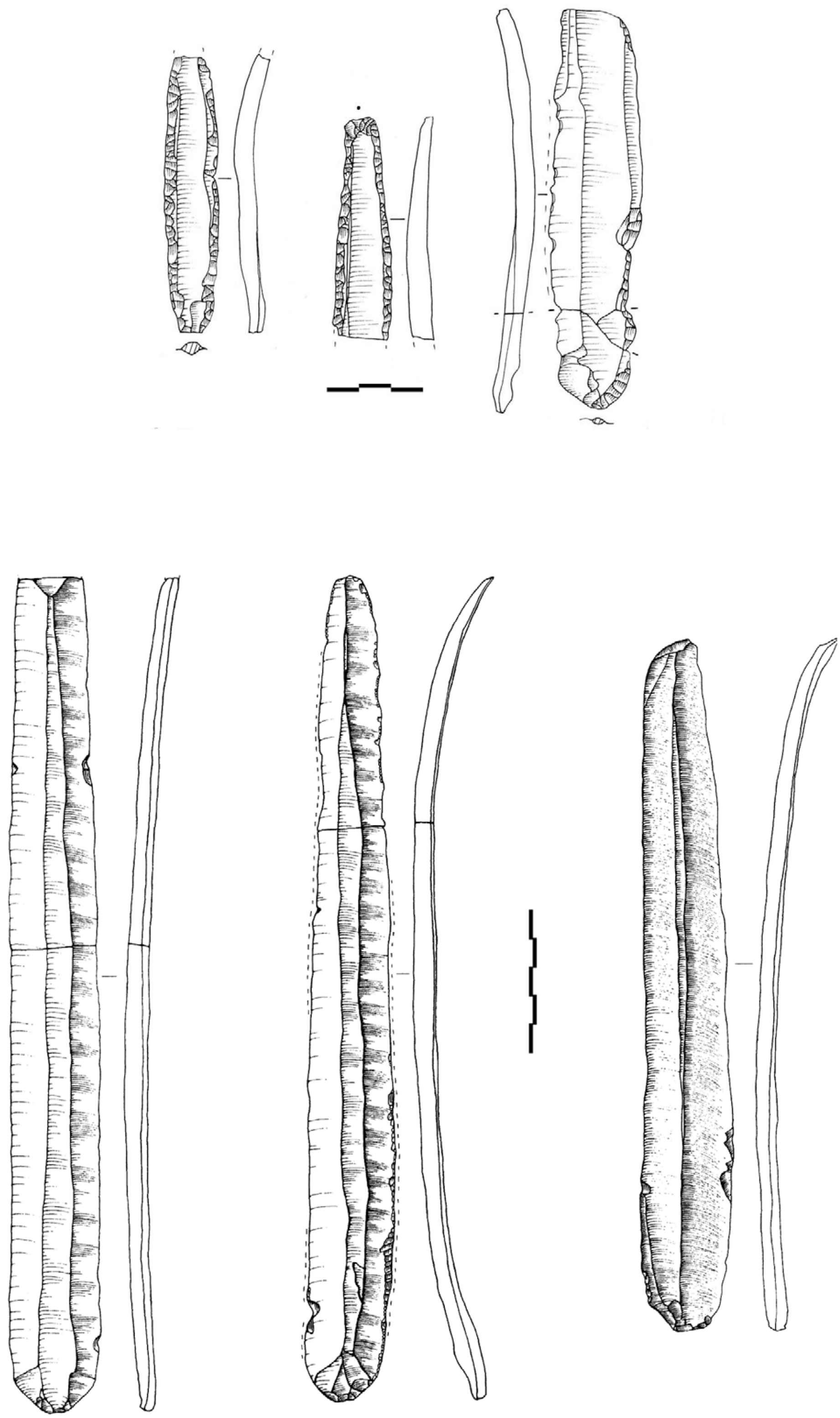


Figure 4.10. Flint blades: (top) Early Neolithic, Sofia – Slatina (source: Gurova 2012, Fig. 3/4); (bottom) Late Copper Age, Durankulak cemetery (source: Sirakov 2002, Fig. 1/8-11: copyright S. Taneva).

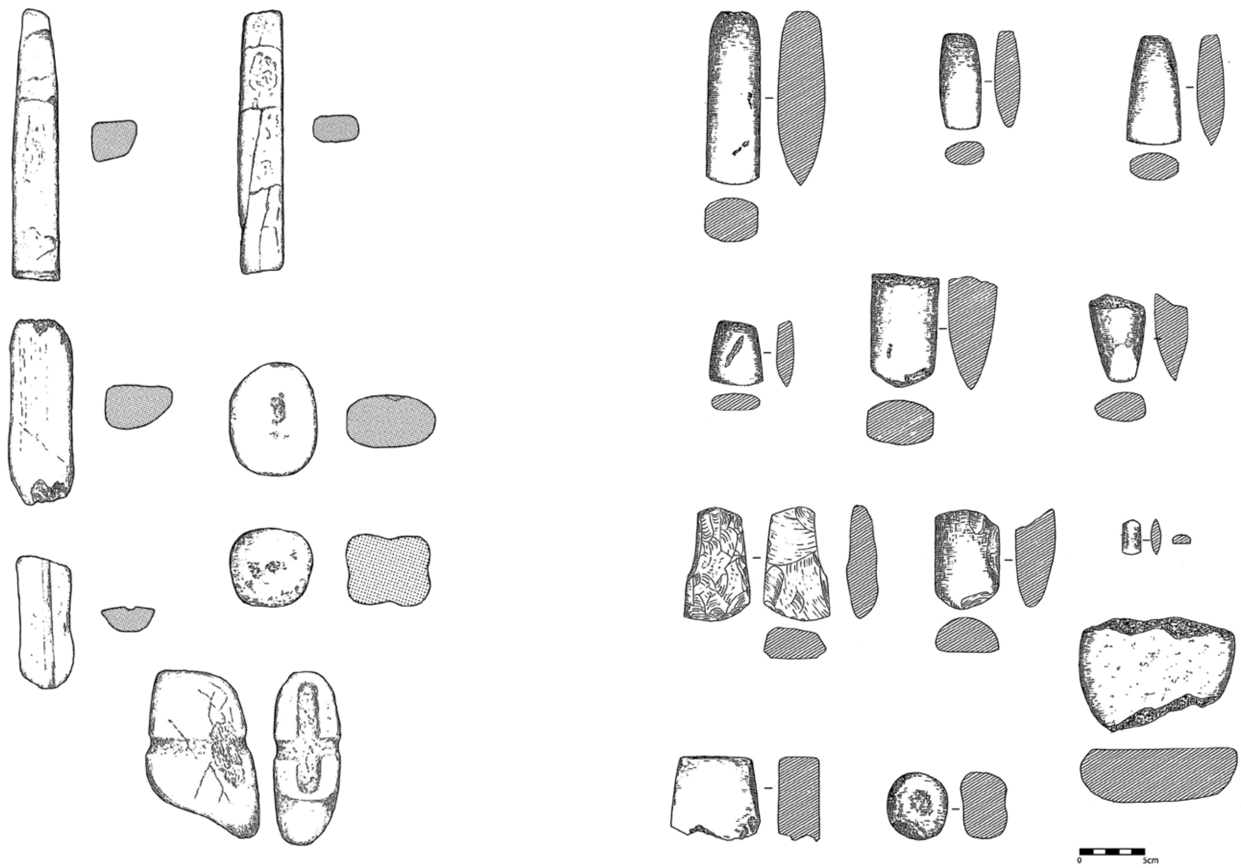


Figure 4.11. (left) Archaic 'Phase 2 ground stone tools of 'Mesolithic' tradition, Lepenski Vir: various scales (source: Antonović 2006, Figs. 18, 19, 47, 52, 65, 81, 90); (right) Phase 2 tools of fine-grained rocks, Donja Branjevina (source: Antonović 2003, Sl. 63-64).

an as yet unknown species, the latter deposited in regional centres such as Varna and Pietrele (Hansen & Toderaş 2010) (Fig. 4.13a – e).

Potting

The production of pottery offered the widest range of possibilities for the manifestation of personal skills, as well as the key principles people used in categorization (Miller 1985) and the cognitive developments implicit in the creation of material forms (Keightley 1987). Just as potters used principles and practices of symmetry, precision, standardisation and compartmentalisation to produce their vessels (Chapman & Gaydarska 2007), so those seeing and using such forms would have become familiar with these principles in their daily practices. These four principles will be considered as evidence for evolving cognitive skills. The biographical approach to objects underlying this method has been used with real insight in Dragoman's study of the Vădastra pottery (Dragoman 2013). As pottery is the most common find on the sites of Old Europe, and has stimulated the widest literature, not least on diachronic changes, I shall examine the evidence for pottery production by Phase, looking at ceramics in more detail than at other materials.

There is an ongoing debate over the origins of pottery-making in Eastern Europe, with local independent development of pointed-based vessels (Fig. 4.14) contrasting with the diffusion of pottery from Greece and Anatolia into Old Europe (Brami 2017). In Phase 2, potters made both fine, usually painted, wares and coarse wares for every house, with a common set of clay and temper recipes for all wares (Spataro 2016: 2017: in press), which implies a unified communal identity within the settlement (Fig. 4.15 a–d, f–j). The precision of pot-painters contrasted with the lack of standardized designs, while vessel design showed emerging compartmentalization of shapes with low feet and lids.

This changed dramatically in Phase 3, as exemplified by Karanovo III pottery in Bulgaria, with compartmentalisation and precision essential for multi-part vessels, featuring varied legs, handles and lugs and tight-fitting lids. In the Central Balkans, Vinča-

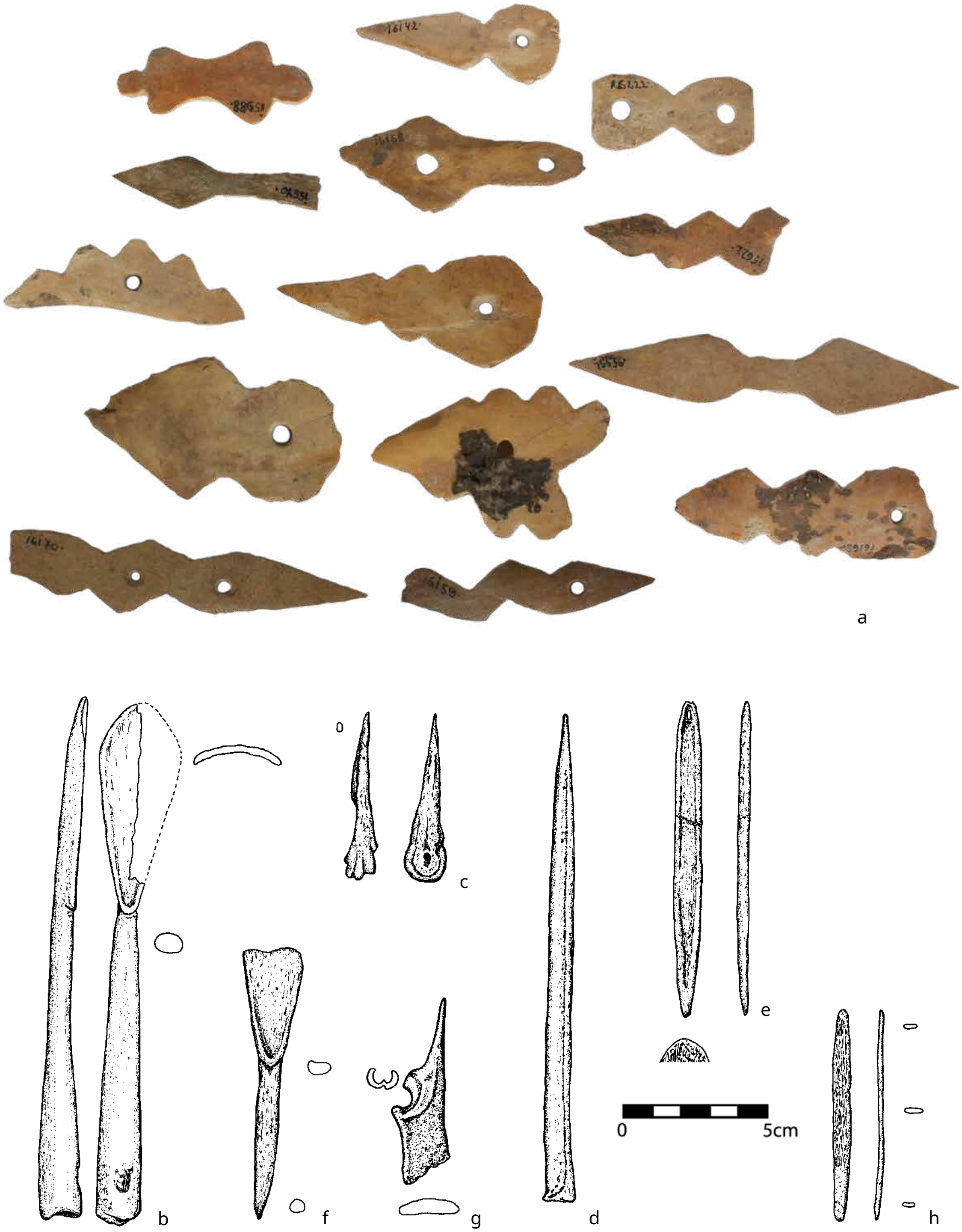


Figure 4.12. (a) Decorated antler plaques, Early Vinča site of Potporanj (source: I. Pantović); Phase 2 Körös bone & antler tools: (b & f) cattle metapodial spoons; (c – d) metapodial awls; (e) metapodial 'netting. needle; (g) ulna awl; (h) spatula on rib (source: Tóth 2012, Figs. 1-3) (L. Woodard / B. Gaydarska).

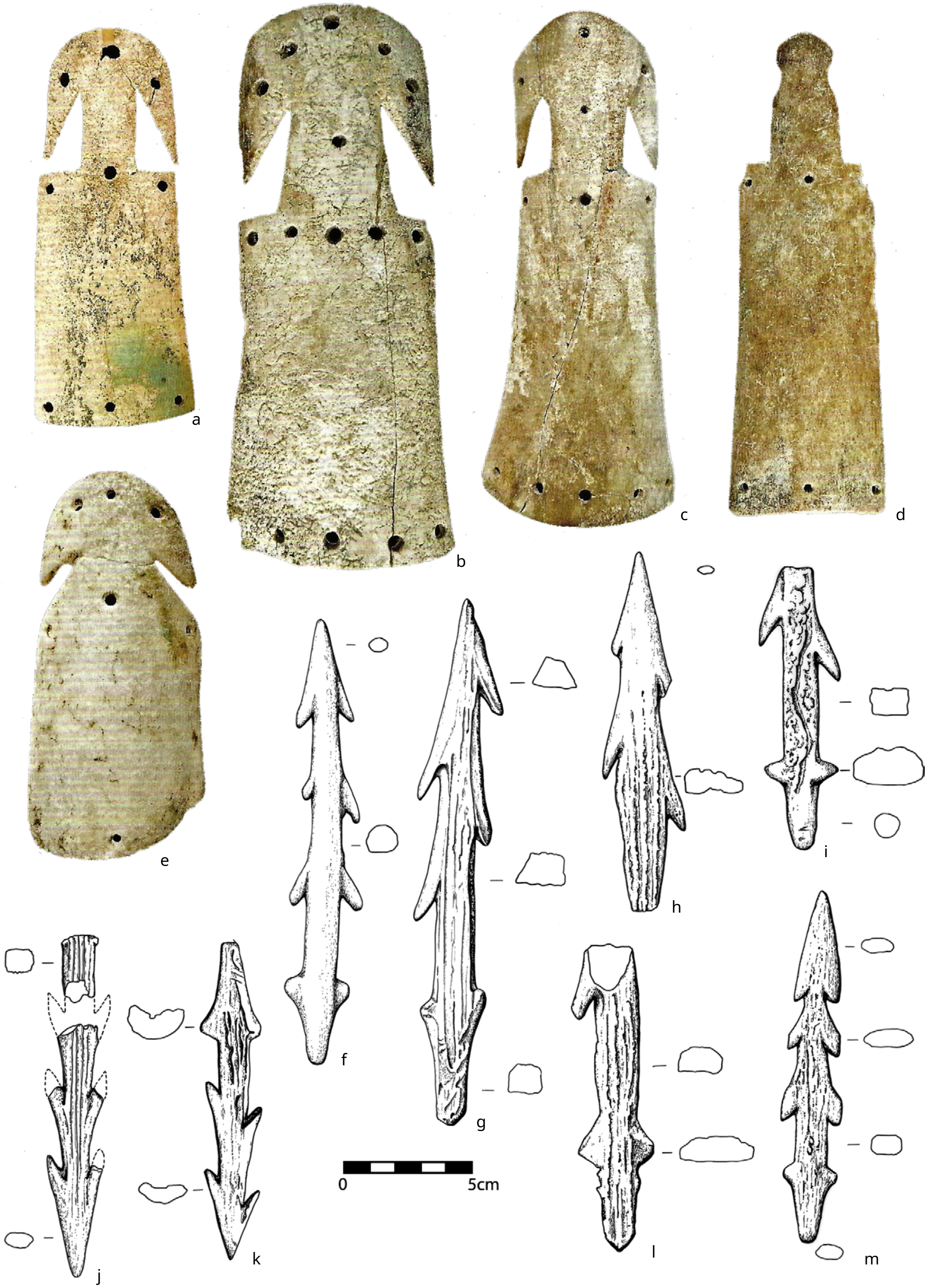


Figure 4.13. (a – e) Zoomorphic figurines, Varna cemetery: various scales (source: Smolenov & Michailov 2010, image, p. 203); (f – m) Antler rod and toggle harpoons, Phase 4 tell of Pietrele (source: Benecke et al. 2013, Figs. 11 & 13: copyright – Deutsches Archäologisches Institut) (L. Woodard/ B. Gaydarska).

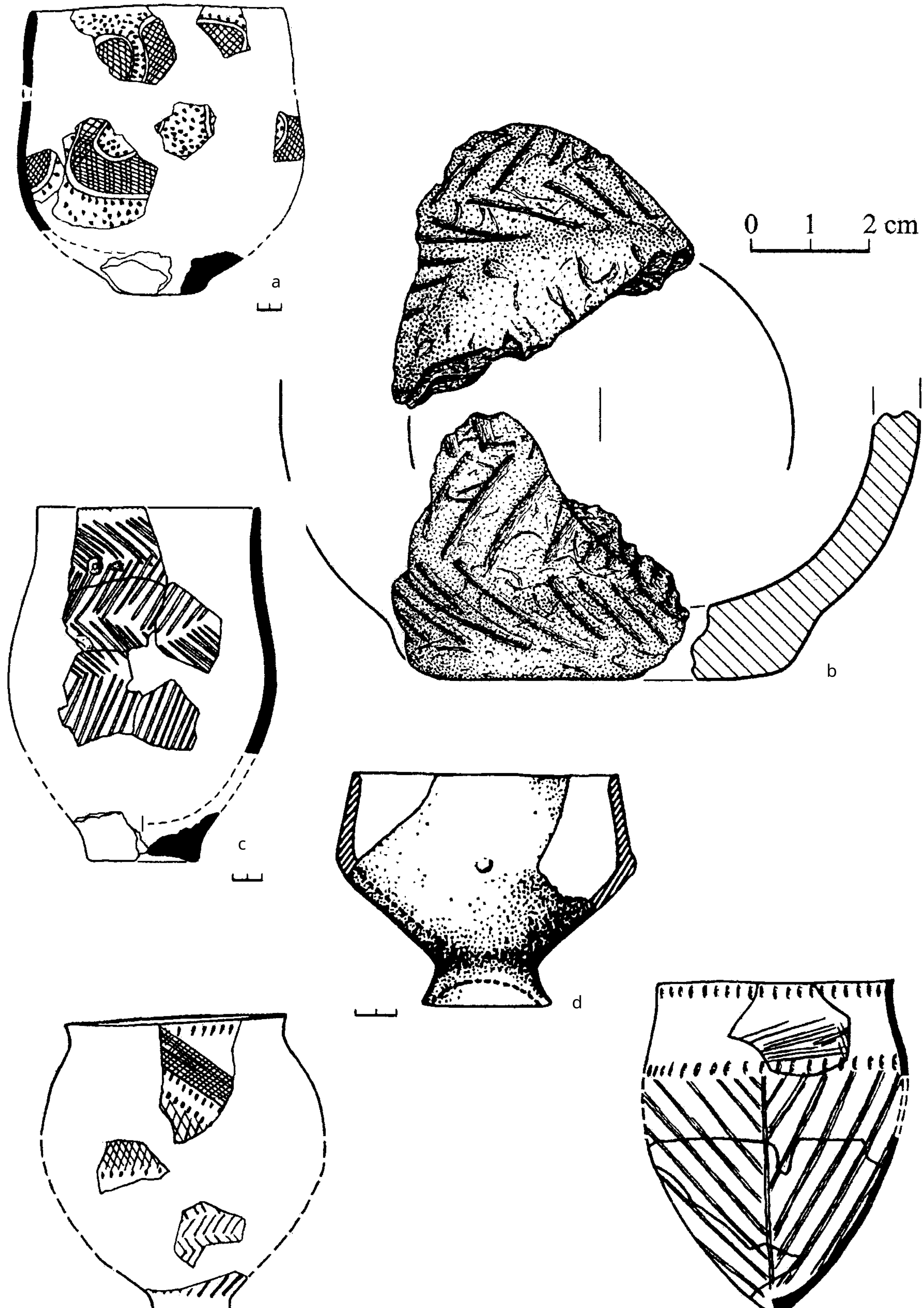


Figure 4.14. Early Bug-Dniester pottery: (a – b) Mitkiv Ostriv; (c) Sokilivtsi VI; (d) Chasti; (e) Zankivtsi II; (f) Shturivtsi (source: Gaskevytch 2008, Figs. 6/1b, 7/1, 10/2b, 13/2, 14/1b, 15/1) (B. Gaydarska).

group potters created a distinctive fusion of colour and brilliance to provide a dark burnished, sometimes black polished, alternative fine ware to painted wares (Fig. 4.16). A two-stage firing, with reduced conditions following an oxidised firing environment was the most likely way to produce such dark-faced wares (Amicone et al. 2020). Clay recipes were adjusted to different wares and vessel forms (Spataro 2017; Mirković-Marić & Amicone 2019). The simple binary principle of categorical opposition underpinning the categorisation of Late Vinča pottery was also used by coeval potters in Bulgaria (Fig. 4.15k – w). However, other Phase 3 potters created bright colours and polished surfaces (Fig. 4.17a-d), while yet others favoured matt painting applied after firing (Fig. 4.17e – h). The large quantities of bright, colourful vessels in and around houses in most settlements of these groups created a distinctive visual *habitus*. Late Phase 3 potters in the Karanovo V group in Bulgaria continued a trend towards diversification of pottery forms.

Phase 4-5 potters took pottery-making to new levels of sophistication in all aspects of their craft. The painted wares of the Cucuteni – Trypillia groups (Ellis 1984, Ch. 3; Mantu & Dumitroaia, 1997) stand out with their bold colours, dramatic motifs and surface polish, often formed on turntables and fired at 1000^0+ C in updraught kilns (e.g., the stemmed, lidded globular vessel at Scânteia: Fig. 4.18a). An appreciation of such design effects was probably widespread among Cucuteni-Trypillia communities.

The principal ceramic innovation in the East Balkans – graphite painting (Todorova 1978) (Fig. 4.18b – c) – created the effect of silver motifs shimmering on the surface of the vessel. The potters at the Varna cemetery showed a particular emphasis on precision and compartmentalisation, while pot-decorators used gold foil to reproduce motifs well-known from graphite-painting (Ivanov 1988, Abb. 19) (Fig. 7.17b). At tell Dolnoslav, potters almost completely abandoned categorical oppositions in favour of a wealth of cross-cutting contrasts (Fig. 4.19). These practices stand out as analogies for human categorisation processes, in which the cross-cutting membership of increasing numbers of diverse social groups was what increasingly defined the social identity of Phase 4 dividuals (Chapman & Gaydarska 2007).

Two long-term aspects of pottery production concerned the diversification of pottery forms and the individualization of vessels. A diachronic comparison of the number of different pottery types and sub-types shows regional variability in Phases 2 and early 3, with a linear progression from Phase late 3 to Phase 4 (Fig. 4.20) – a trend betokening the increasingly fine categorization of objects which may also have applied to persons (Fig. 4.20). One extension of the categorization of people was the making of specific vessels for particular persons. Examples of pots as persons are currently best exemplified in Phase 3, whether highly decorated prosopomorphic lids, each with different decoration designed to fit onto amphorae (Fig. 3.10), anthropomorphic vessels with unique stylised heads, bodies and hands (p.c., S. Ţerna) or unique drinking cups. Is it coincidence that the Phase with the clearest examples of individualised pots was the Phase with a decline in individual skills for stone tool production?

Figurine making and -knapping[36]

It is probable that figurine-makers made their images in the household, given the small numbers produced, their variability (Nanoglou 2008) and the use of the same local clays used for potting (Spataro 2007). Phase 2 figurine-makers demonstrated little standardisation but rather more attention to right-left symmetry, precision and some compartmentalization; the principal form was the androgynous 'rod-head' figurines (Nandris 1970: see below, p. 133) (Fig. 4.21). Much rarer were large, highly decorated images, such as the deer vessel from Muldava, South Bulgaria (Fig. 4.22a), the almost life-size rod-head figurine from Gladnice, Kosova or the large Körös horned bovines standing on fired clay 'altars' – up to 30cm high in the example from Szakmár-Kisülés, in the Danube-Tisza Interfluve (Bánffy 2019).

In Phase 3, we can detect a steady increase in both the frequency and diversity of fired clay figurines (Hansen 2007) (Fig. 4.22b – e), and a core zone in the Vinča group. In Phase 4, there was a consolidation of non-androgynous facets of personhood in the East Balkans, with figurine-makers emphasising a discourse of difference through size, shape, material, surface colouring, decoration and contexts of use and deposition. With the exception of the Cucuteni-Trypillia group and the Baden group (Bondár 2008), figurine-making steeply declined in Phase 5.

Spinning and weaving

The production of clothing, basketry and matting was perhaps the most time-consuming multi-stage operation for every household member in Old Europe. After the spring planting of flax and hemp, intensive work by women, men and juveniles in the summer was required for their harvesting, their retting and the processing or splicing of their fibres for spinning (Leuzinger & Rast-Eicher 2011). Perhaps two hours per day per person were required for spinning enough yarn for household clothing (Tuohy 1999), followed by the dyeing of the thread, its weaving and embroidery.

36 See below (pp. 146-153) for the contribution of human and animal images to personhood.

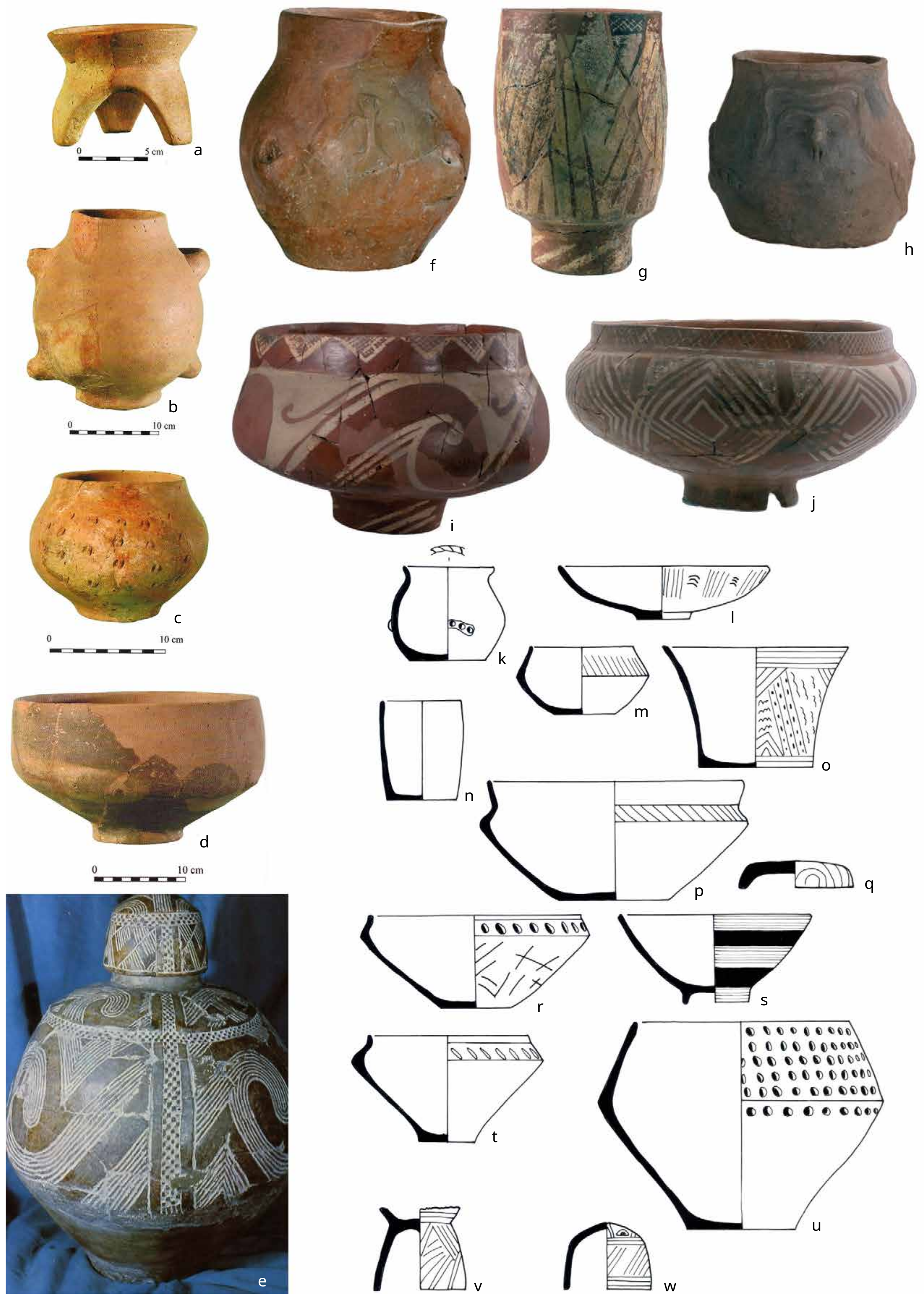

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Figure 4.15 (left page). (a) Early Neolithic pottery: (a – d) Ecsegfalva 23 (source: Oross 2011, Figs. 27. 30-27.32); Bulgaria: (f & j) Azmashka mogila; (g) Chavdar; (h) Rakitovo; (i) Sofia – Slatina: various scales (source: Nikolov, V. 2006, pp. 10, 20, 33-34 & 48); (e) Karanovo IV white-filled excised decoration (source: Todorova 1976, colour plate 39); (k – w) Karanovo IV pottery from Nova Zagora – Hlebozavoda, showing compartmentalization (source: Chapman & Gaydarska 2007, Fig. 2.5).

Figure 4.16. Black Burnished ware footed bowl, Vinča – Belo Brdo: height – 18.7cm (source: Tasić, Nenad 2008, Slika 6).

A recent compilation of textile impressions from the Phase 2 Hungarian Körös culture (Makkay 2001) indicates that weavers produced plain weave cloth using S-spun and I-spun techniques on a narrow or a warp-weighted vertical loom, probably using flax or hemp. In the same Phase, the technique of weft twining using a paired weft was typical for the Prilep region in North Macedonia (Blazeska 2017). Two Phase 3 assemblages – from the Vinča and Tisza groups – have produced an impressive range of textile and basket/mat impressions (Fig. 4.23). It is interesting that weavers in coeval communities scarcely 500km apart developed such great diversity in cloth production techniques and quality of execution. While textile-like decoration rarely figured on Vinča pottery and figurines, potters, weavers and figurine-makers in the Tisza group clearly inspired each other with techniques, motifs and sometimes overall geometric designs (cf. Robb 2007, 318) (cf. Fig. 4.23a – e with Fig. 4.23f – j).

Ornament-making

Ornament-makers were persons whose skills were so high and whose craft took so long that some may have been full-time specialists (Perlès 2001; Gurova et al. 2013), with their high status deriving from colourful, brilliant and often exotic objects. Ornament-makers used a wide range of different materials – stone, shell and minerals (for bone and antler, see above, pp. 113-5).

Ornament-makers in Phase 2 made use of at least seven different, mostly exotic materials to produce a surprisingly wide variety of forms. This included some remarkable ornaments – principally the 8m-long necklace from Galabnik, with its 7,000 beads requiring perhaps 1,000 person-hours to make, but also an exquisite nephrite 'sceptre' (Kostov & Bakamska 2004) (Fig. 2.6g) and small facetted 'frogs' / 'swastikas' from the Southern part of Old Europe (Krauß 2014, 168-171 & Abb. 104) (here, Fig. 9.10a). Several marble figurine fragments and a complete *chaîne opératoire* for marble bracelets[37] were found at Kovachevo (p.c., M. Grębska-Kulova). Amber and copper ornaments are rare in Phase 2 , while turquoise beads from a local source are known from Orlovo.

Ornament-makers in Phase 3 extended the range of their products, with regionally specific *Spondylus* and *Glycymeris* ornaments (Fig. 4.24a & f), copper beads and bone imitations of red deer canine pendants (Fig. 4.24e), together with a range of new miniature 'animal heads' and 'mushroom amulets' made of rock crystal, alabaster and marble in the Central Balkans (Chapman 1981; Pernicheva 2003) (Fig. 4.24a, d). An explosion of innovative ornament-making dated to Phase 4, much associated with the Varna

37 All the marble bracelets had been deliberately fragmented.

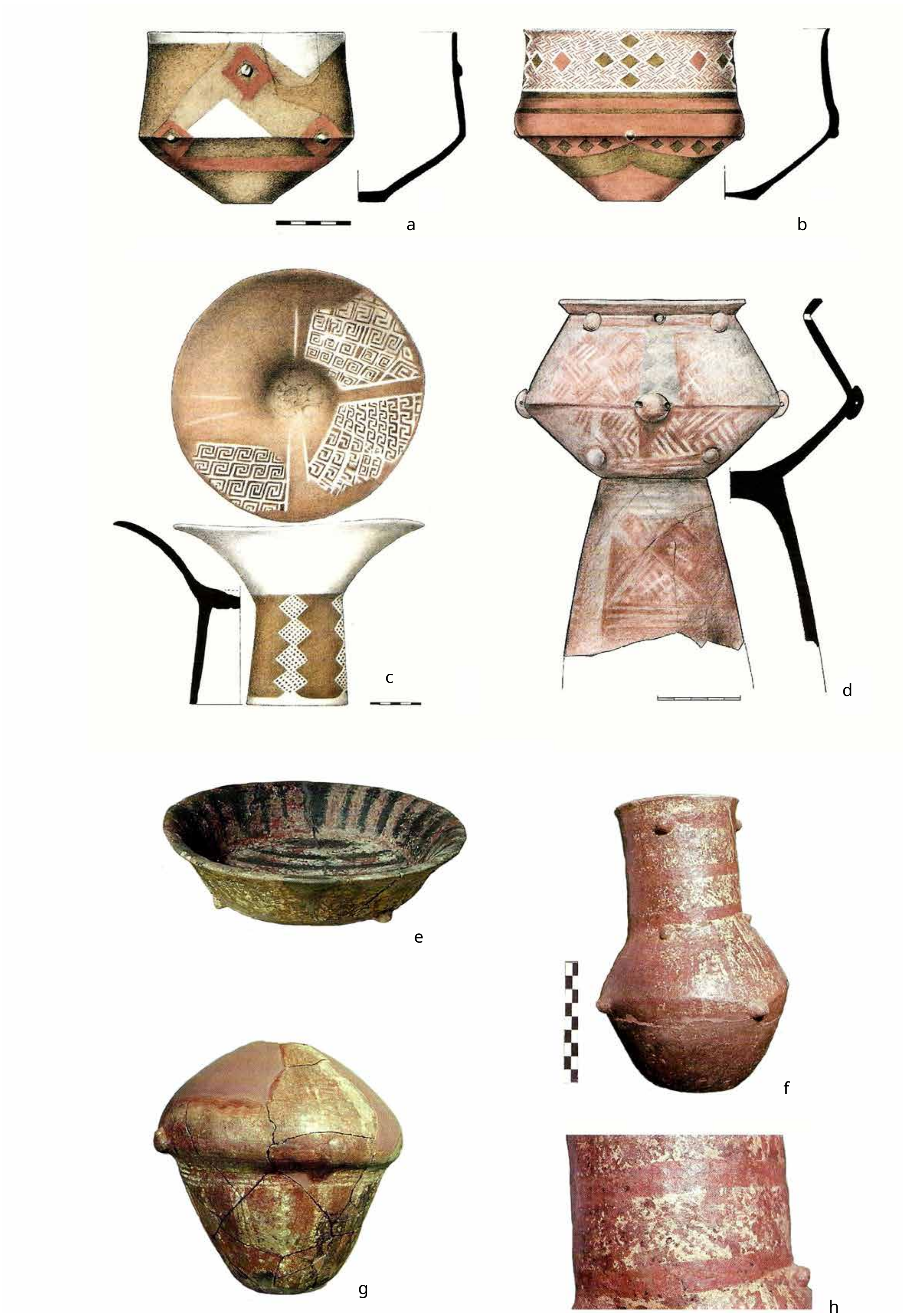


Figure 4.17. (a – d) Late Neolithic painted wares, Phase 3 tell of Csőszhalom (source: Raczky et al. 2007, Fig. 9/1-2 & 9-10); (e – h) White and Red crusted pottery, Phase 4 Lengyel group, Aszód (source: Kalicz 1998, Abb. 44 & 50).

Figure 4.18. (a) Cucuteni A trichrome painted ware showing multiple symmetries, Scânteia (source: Mantu and Dumitroaia 1997, 189, fig. 46: copyright – Neamţ County Museums); (b) Graphite-painted plate, Phase 4 tell of Sultana (source: Andreescu 2002, Pl. IV); (c) complex graphite-painted motifs on plate, Pietrele (source: Reingruber 2010, Abb. 9: copyright – Deutsches Archäologisches Institut); (d) remains of Phase 4 pottery kiln, Kozareva mogila (source: Georgieva 2010, Obr. 6).

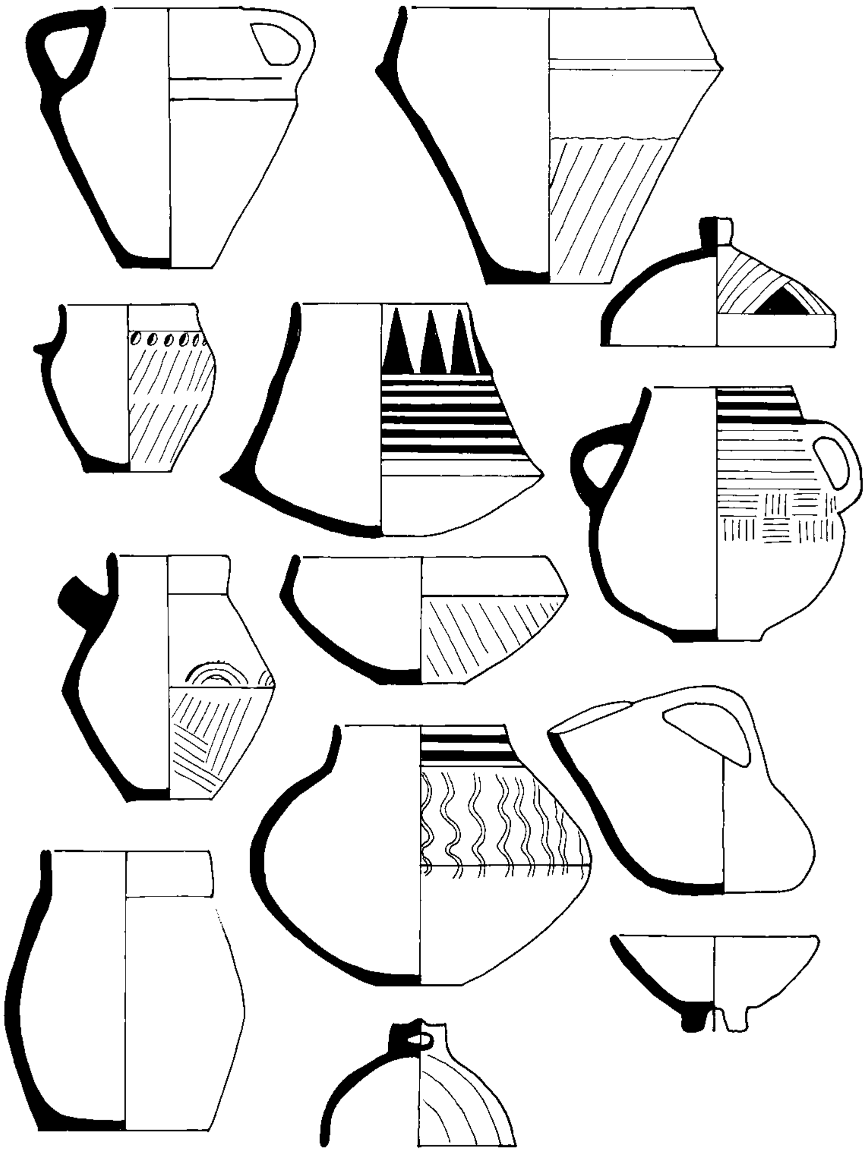


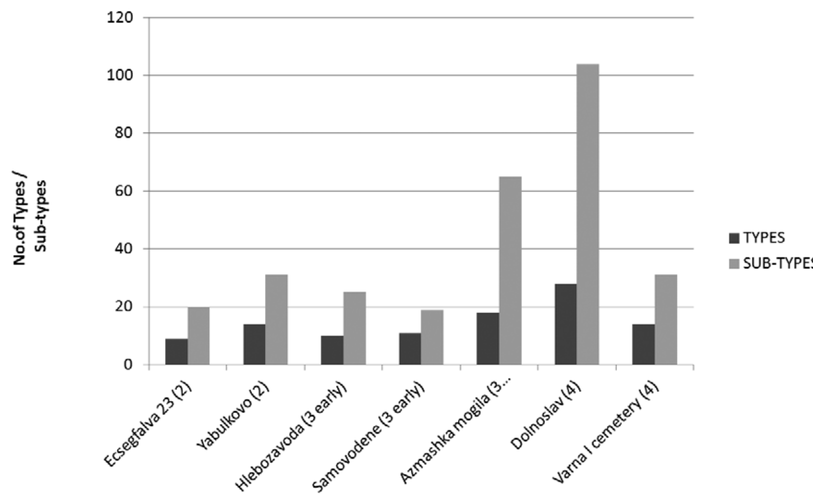
Figure 4.19. (a) Pottery, Phase 4 (Final Copper Age) tell of Dolnoslav: various scales (source: Chapman & Gaydarska 2007, Fig. 2.14).

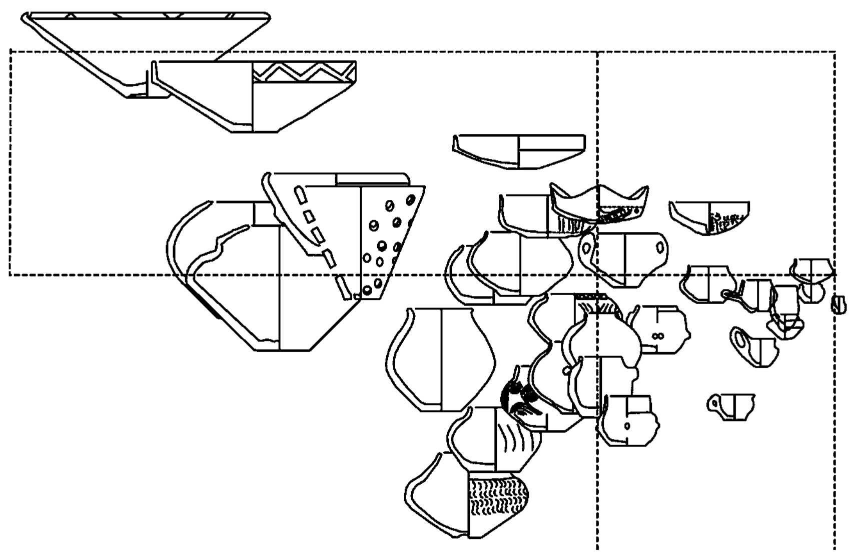
cemetery[38], where highly skilled craftspeople created gold and copper objects or used lap-wheel technology to produce facetted carnelian beads for enhanced brilliance (Kostov et al. 2004). Here, gold appeared as the brightly coloured, luminous material *par excellence* with the potential to make a visually explosive contribution to an aesthetic founded on colour and brilliance (Fig. 2.7a – b). The definition of distinctive object-colours was as much a part of the Late Copper Age people's categorisations of their material world as it was a contribution towards the individualized aspects of their personhood.

38 In the earlier of the two Varna cemeteries (the Varna II cemetery), a unique nephrite hair-pin was deposited (Kostov 2013: 14).

Metallurgical production

Small-scale copper metallurgy is known from Phase 2, with early metallurgists using native copper, malachite and azurite with techniques of cold hammering, polishing and drilling to produce small objects (Chapman & Tylecote 1983; Kalicz 1992). In Phase 3, innovative Vinča metallurgists smelted black-and-green copper ores in thick vessels to produce melted relatively pure copper, with the Belovode remains claimed as the earliest known smelting in the world at 5000 BC (Radivojević & Rehren 2016). The early malachite smelting at Promachon-Topolnitsa (Koukouli-Chryssanthaki et al. 2007), as well as smelting slag at Selevac and melting slag at Gornja Tuzla (Radivojević et al., 2010, 2778), suggests that the





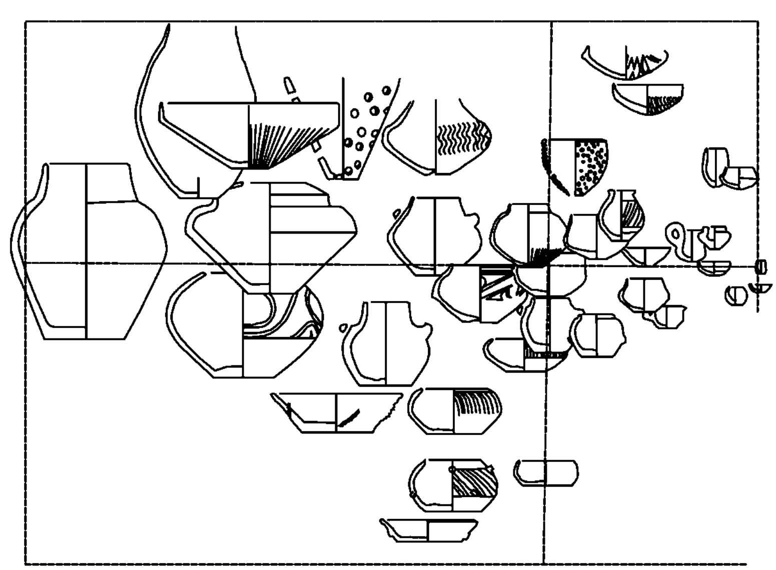


Figure 4.20. (top) Number of pottery types and sub-types by Phase: Phase 2 – Ecsegfalva 23 & Yabulkovo; Phase 3: Nova Zagora-Hlebozavoda, Samovodene & Azmashka mogila; Phase 4: Dolnoslav & Varna I cemetery (source: author); (middle/ bottom) Factor analysis of Karanovo VI pottery shapes: various scales (source: K. Tsangouli in Éluère 1989, pp. 172-3) (L. Woodard).

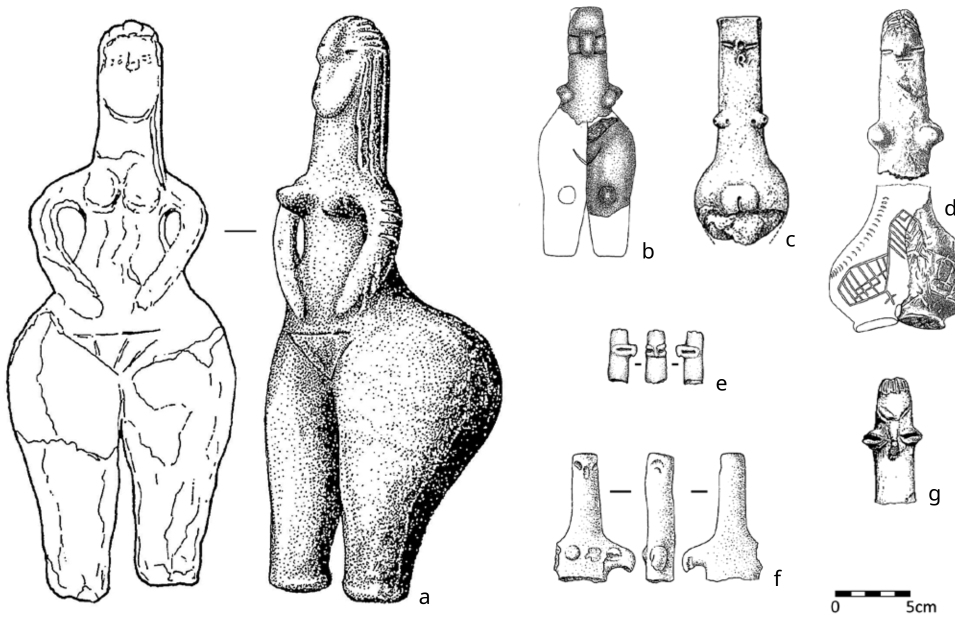


Figure 4.21. 'Rod-head' anthropomorphic figurines: (a & g) – Donja Branjevina; (b & e) – Sofia – Slatina; (c) – Szajol – Felsőföld; (d) – Endrőd; (f) – Dunavec (source: Hansen 2007, Teil II, Taf. 115/1, 126/6, 130/1, 157/1 & 165/1 & 4) (L. Woodard).

development of smelting became widespread across the Central and South Balkans in the early 5th millennium BC.

In Phase 4, metallurgists produced a far wider range of copper tools, ornaments and weapons than before, relying upon technical innovations such as casting, alloying and soldering, the expanded use of smelting technology and experimentation with new ores (tinned bronze and sulphide ores). Ottaway (2001) underlines the fundamental role of compartmentalisation in the *chaîne opératoire* of metal production, involving the co-operation of many people in the production chain. The introduction of mould-based casting led to greater regional and site-based diversification. The other principal metallurgical innovation in Phase 4 was the development of early goldworking, as exemplified in the Varna cemetery (Éluère and Raub 1991). Gold-workers used the techniques of gold-casting, gold wire, sheet gold and gold for painting vessels[39] to create an enormous range of ornaments (Fig. 2.7a). Gold-workers were not so widely distributed as copper metallurgists, who would have been found in any reasonably large settlement. Here, the possibility of full-time mining and metallurgical specialists created new types of personal skills, concentrated in particular social groups and handed down in a controlled manner. Unsuspected skills in lead-working were recently identified at Pietrele (Hansen et al. 2019). The development of previously known skills to create a wider range of objects in Phase 4 should not, however, be forgotten.

In Phase 5, several major metallurgical innovations have been identified in Old Europe, such as the production of massive sheet copper display pieces, the casting of arsenical copper daggers and the development of object-specific alloys (Hansen 2013). Most of these innovations occurred in dispersed settlement networks rather than in the conservative, metal-poor Trypillia mega-sites.

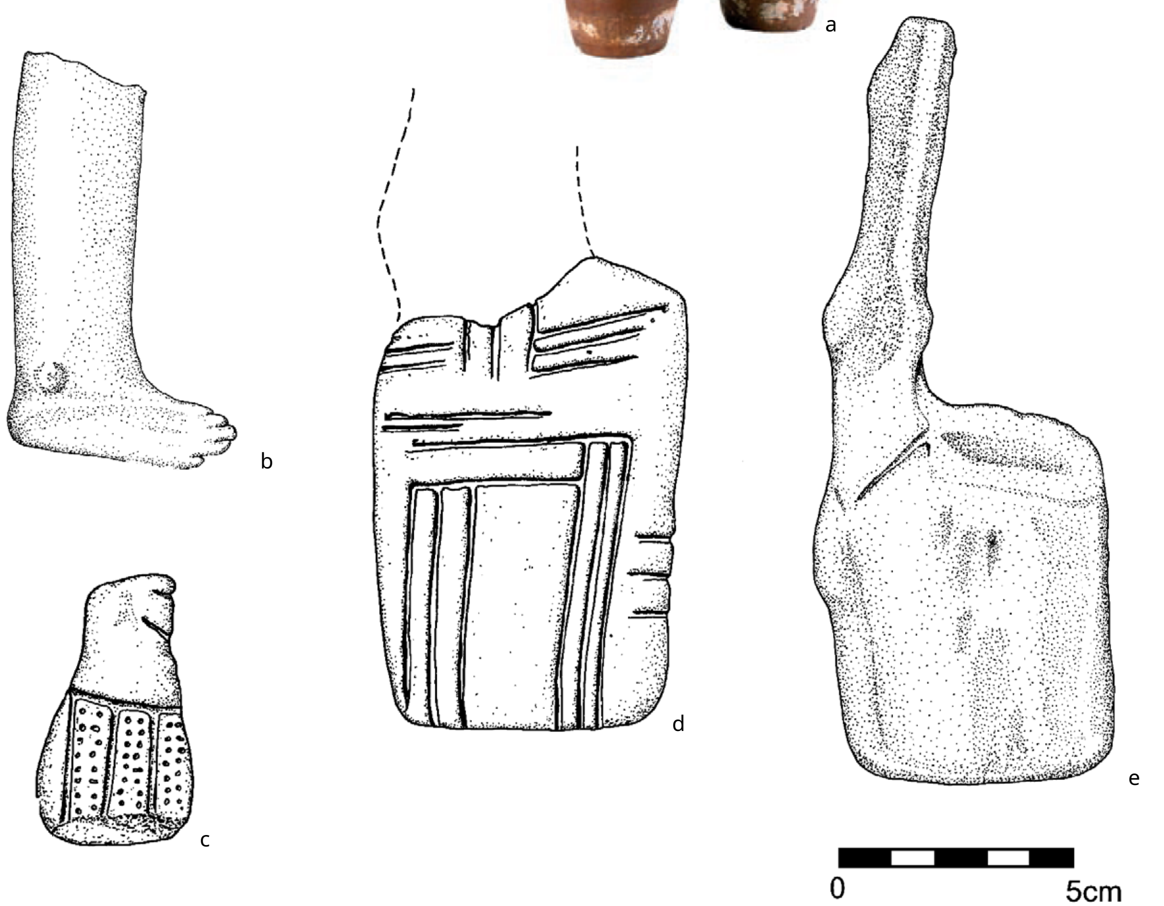
Martial skills

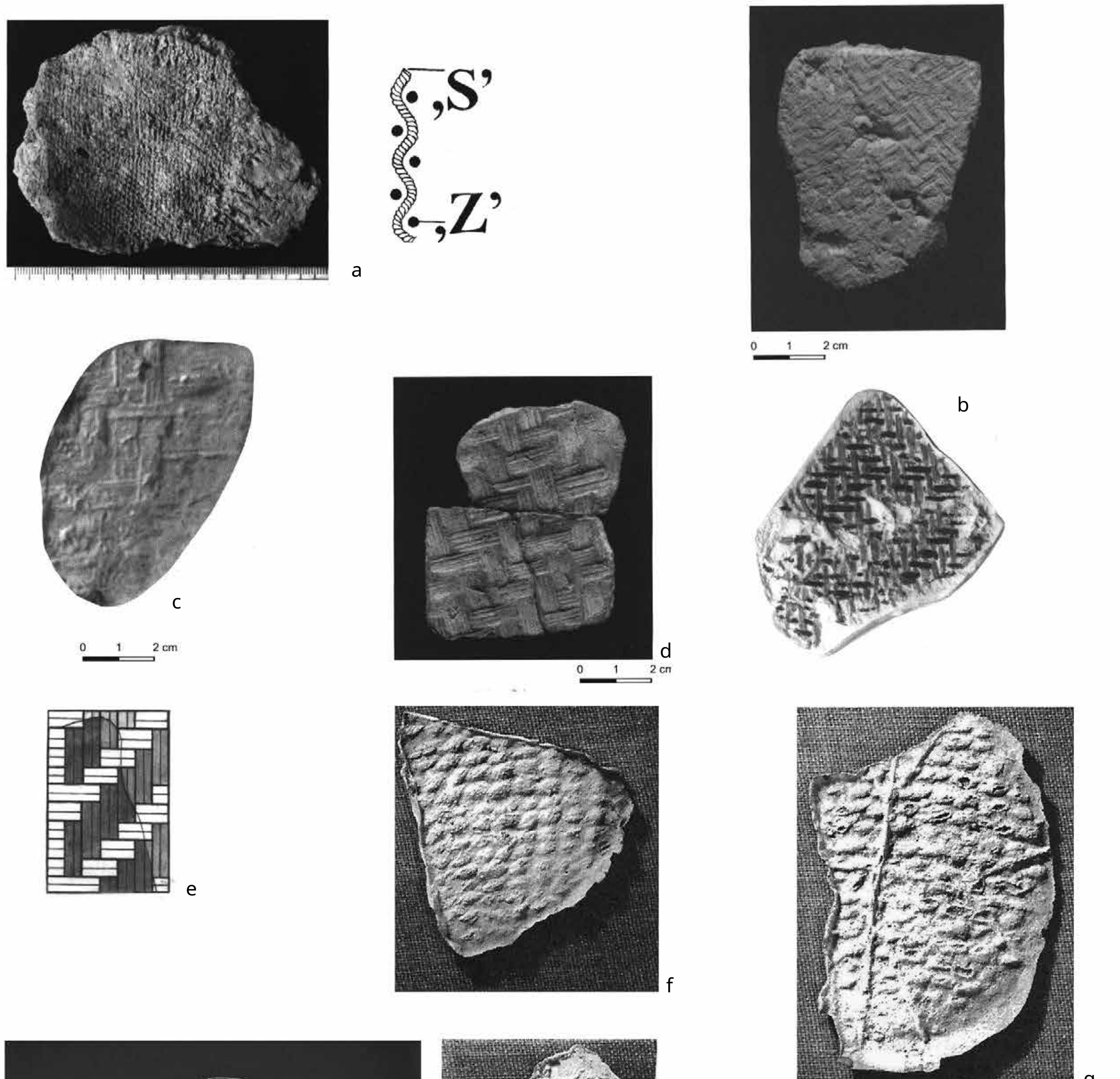
The main exponent of the significance of military power in prehistory has been Lawrence Keeley (1996), for whom primitive and prehistoric warfare was just as terrible and effective as the historic and civilized version, while being ubiquitous because no polity had the capacity to control its outbreak. Keeley's argument has provoked criticism of its essentialism as well as for the paucity of evidence for warfare in the form of massacres (Carman and Harding 1999). As an alternative to Keeley, Whittle with Bartosiewicz (2007) have sought to combine the development of the dwelling perspective into a lifestyle of conviviality and living well together with an acceptance of episodic violence of the most extreme sort. There were clearly groups who acted in 'warlike' mode more often than in 'convivial' mode (e.g., certain Papua New Guinea tribes: Meggitt 1977), while other groups lived in 'convivial' mode for a far longer time than they were violent (e.g., certain South American tribes: Whittle with Bartosiewicz 2007).

Here, I wish to examine the implications of the tensions between these two modes of being for our understanding of personhood and the development of personal warrior skills. Extending Slawomir Vencl's (1979: 1999) typology of weapons, I have proposed a continuum of objects from tools to tool-weapons (objects used more for peaceful than warlike purposes), to weapon-tools (more for warlike than peaceful purposes) to weapons (Chapman 1999b). The

39 A rare analogy for vessel gold-painting at Varna is the gold-painted vessel in Phase 5 Bubanj-Hum (Stojić & Jočić 2006, 257).

Figure 4.22. (a) White on Red painted deer vase, Phase 2 tell of Muldava: height – 39cm (source: Archaeological Museum, Plovdiv); (b – e) Karanovo III figurines, Yasa Tepe (source: Detev 1959, Obr. 51/8 & 53b; Detev 1960, Obr. 35) (L. Woodard).





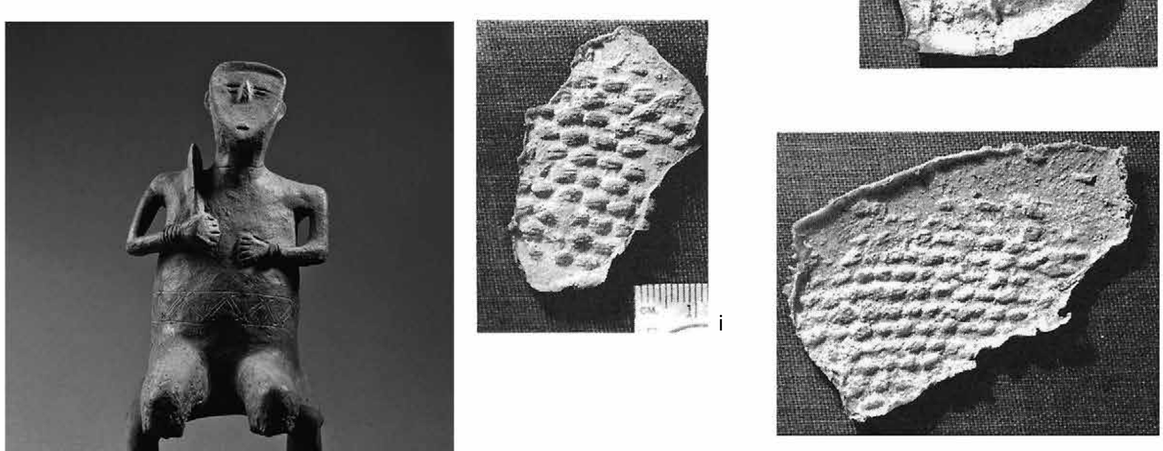


Figure 4.23. Phase 3 textile production: (a) – (e): Kökénydomb, Tisza group (source: Richter 2003, Figs. 1/ 2 & 4; 2/ 1-2; 4/ 1); (h) sickle-androgyne, Szegvár – Tűzköves: height – 25.6cm (photo: author); (f – g &i- j) Divostin II, Vinča group (source: Adovasio & Maslowski 1988, Plate I/a – c & g) (B. Gaydarska).

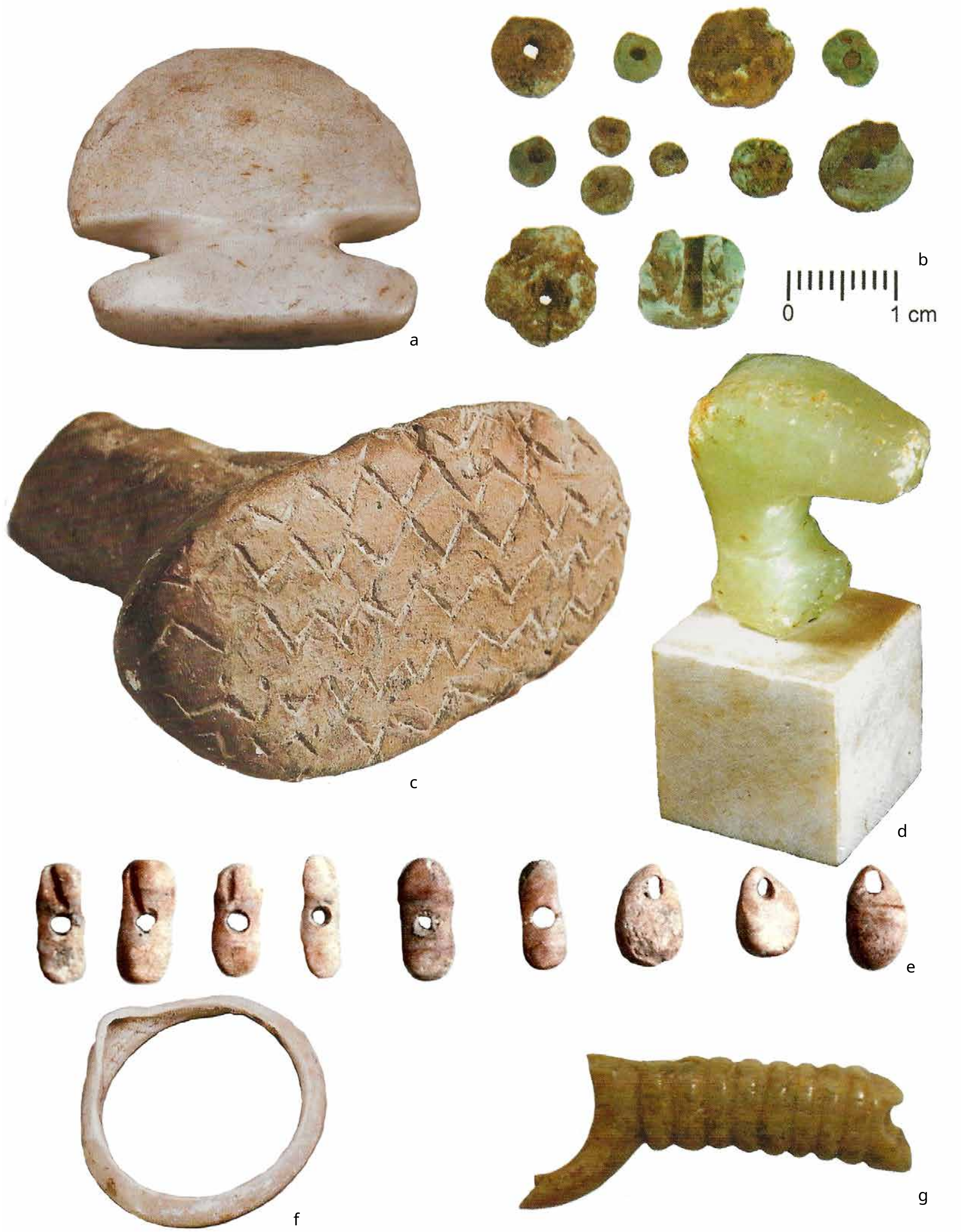
patchy evolution of offensive and defensive technologies meant that, in all Phases but especially in Phase 4, groups of predominantly young males were training in the use of weapons and communal work parties were constructing defensive structures (Fig. 4.25). The general rarity of skeletal material in the Neolithic period precludes an assessment of the incidence of warfare, with the skeletal remains from Yunacite tell representing the clearest evidence for a raid (Zäuner 2011) (fig. 4.26c – d)[40]. The Esztergályhorváti mass grave is currently the only known example in Old Europe (Makkay 2000), although Barna (2015) emphasises the local nature of this conflict (Fig. 4.26 – b). Thus, while the Keeley prediction of total warfare in prehistory is not supported in Old Europe, there was no contradiction between a community living well together for much of their lives and yet conducting occasional murderous raids on neighbours with sufficient provocation (e.g., the Drutsy I archers' attack, Phase 5: Ryndina and Engovatova 1990). The idea of alternating long-term cycles of war and peace fits this picture (Ivanova, M. 2007, 45). The strong contrast that Treherne (1995) drew between peaceful Neolithic lifeways and Bronze Age warrior ideologies is inappropriate for Old Europe. In the complex world of Phase 4 settlements, one important aspect of many young males' skills set was the ability to fight in hand-to-hand combat and become a skilful archer – very much an individual skill but activated in a dividual context of group offence or defence (Boyadzhiev, K. 2014). The construction of defensive banks and ditches was an extension of the act of enclosure, for not all enclosed sites were necessarily defended (*contra* Parkinson & Duffy 2007). Banks and ditches imply communal labour, with participation in such constructions part of the development of the communal aspects of personhood.

Summary of embodied skills

In summary, there is strong support for the initial idea that the major increase in the number of skills in the Neolithic led to a concomitant rise in the diversity of personal identities (Tables 4.1-4.3). The varied settlement contexts of Balkan tells, large or small flat sites and Trypillia mega-sites provided each person with different, multiple, opportunities for personal growth through the expansion of their own range of skills. We may not be able to identify full-time plasterers, house-painters or builders in the Balkan Copper Age but there is a high probability that part-time specialists who knew how to design a solid house were offering their services to dispersed communities. In view of the long hours of work, the possibility of full-time ornament-makers is still under consideration. While there was a strong probability of vertical transmission of, e.g., potting skills from one generation to the next in 'potting families', the bartering of skills was surely a vital part of communal life in Old Europe. The 'standard' population on a small Phase 4 tell of 100-150 persons meant the presence of several craftspeople whose skills would have been available to the community as a whole. In the Trypillia mega-sites, the probability of specialised producers in populations of several thousands meant a different layer of complexity in the production of personhood, with limited interest groups of potters building kilns for the firing of painted wares (Korvin-Piotrovskiy et al. 2016).

What is much harder to identify is the sex and gender of those people who used the varied objects under discussion. The most probable arena for gender differentiation was warfare, with differential body strength and aggression leading to mostly male adolescents being socialised into war parties and high rewards for military prowess. Otherwise, the list of 104 activities in the AD seventeenth century Swedish farm (Fig. 2.4) showed that the vast majority of daily activities could have been completed by adults of any sex or gender. The key principle for the creation of personhood in daily lifeways in all periods of Balkan prehistory was the development of complementary skills in a multi-person, probably multi-gender co-operative effort, where dividuality was of equal concern as individual skills, if not more important. Even in cultural contexts where binary oppositions were emphasised, such as the contrast between bone-tool making and antler-tool-making or the visual divergence between fine wares and coarse wares, it is not certain that gendered oppositions were mapped onto such binary divisions, perhaps because of the co-operative effort required to make pottery or bone and antler tools. The making of persons in the context of maintenance activities was a collective affair, producing dividuals with different, individual skills. In contrast to the identical yarn produced by every person for weaving cloth in each household every day of the year, one of the reasons for the immense variability of objects in Balkan prehistory must have been the great range of skills possessed by different persons in different households in varying settlements. At one level in this world of objects, a discourse of difference was being played out, most spectacularly in Phase 4 in practically every material medium but also, in a smaller-scale way, by ornament-makers in Phase 2. It is through the tension between the dividuality of teamwork and socialisation and the individual skills and talents of each person that personhood was created in Old Europe. If Mesolithic relational identities were based on food-sharing, co-residence, company and memory (Borić et al. 2012, 41), the different forms of Neolithic and Chalcolithic

40 Signs of trauma have been identified on many of the skulls deposited at the Verteba cave (Trypillia group) (Ledogar et al. 2019) but the possibility that this skeletal material has been moved to the cave from not just one but from several other sites makes it problematic to interpret the injuries as consistent with warfare or a massacre.



4.24 Phase 3 ornaments: (a) marble mushroom amulet, Vinča – Belo Brdo (source: Ignjatović 2008, Fig. 215); (b) *Spondylus* bead necklace, Botoš cemetery (source: Muzej Vojvodine 1997, 33, lower right); (c) fired clay pintadera, Grabovac – Djurića vinogradi (source: Petrović & Katić 2009, Fig. 221); (d) alabaster animal head, Drenovac (source: Perić, Sonja 2009, Sl. 50); (e) imitation red deer canine pendants, Csőszhalom (source: Choyke 1997, Fig. 166); (f) *Glycymeris* bracelet, Vinča – Belo Brdo (source: Ignjatović 2008, Fig. 218); (g) decorated fired clay plaque, Beograd – Banjica (source: Petrović, B. & Katić 2009, Fig. 223) (various scales).

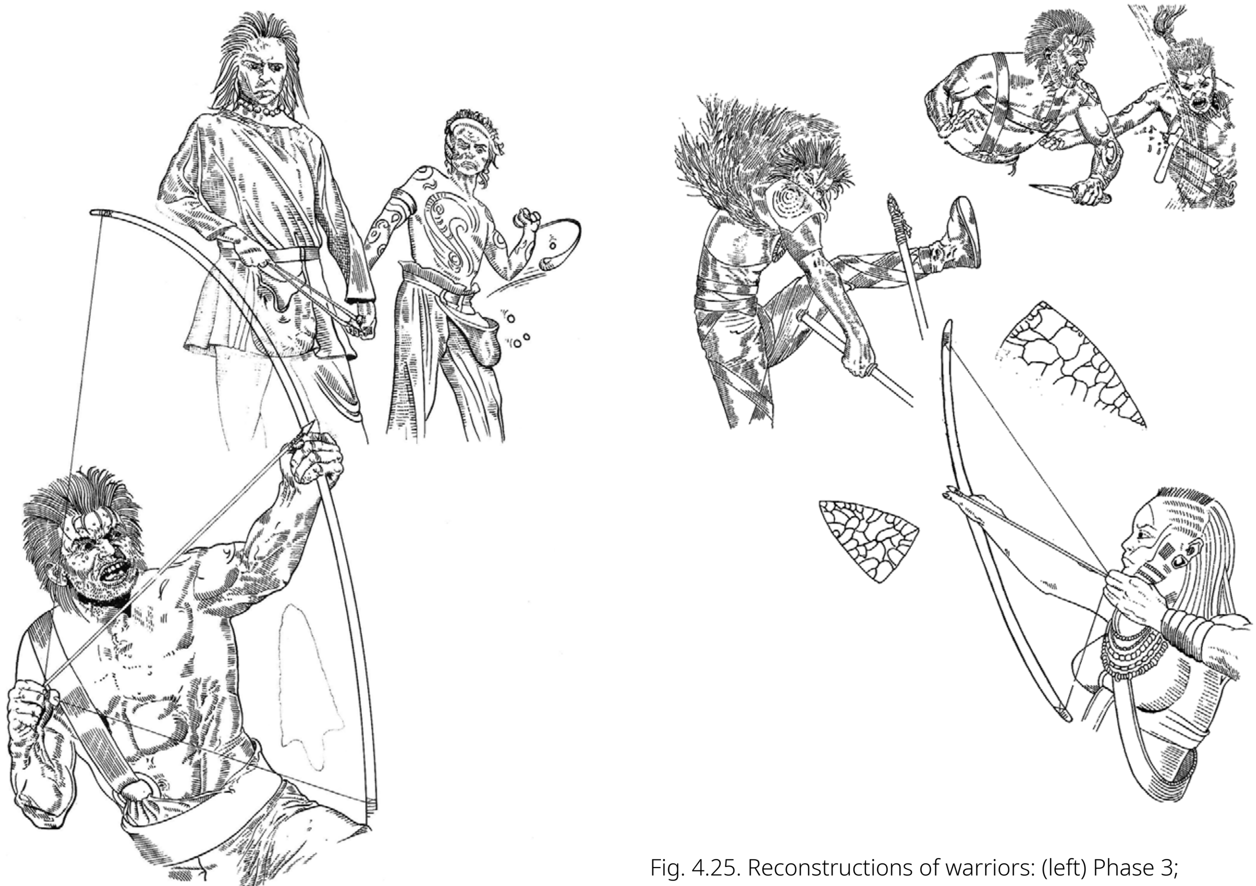


Fig. 4.25. Reconstructions of warriors: (left) Phase 3; (right) Phase 4 (source: Chapman 1999b, Figs. 2 and 4, drawn by S. Rowntree).

personhood were much more related to formally defined settlement places, the multitude of objects in their lives and the personal skills required to produce them.

Personhood and the production of images

In the final section of this chapter, we consider the ways in which figurine-makers created anthropomorphic and zoomorphic images and combinations thereof and why they did so. While we have touched upon the production of figurines before (see above, p. 119), there was no discussion of the actual form of the images and their significance. The human form has been an important subject of sculpture since the Late Palaeolithic of Europe (Conneller 2011) and the Pre-Pottery Neolithic period in eastern Anatolia (Lesure 2011). However, Ian Hodder (2010) has recognized a change in the late occupation of Catalhöyük East when the human form changed from forming one of many subjects to becoming central to the world of its inhabitants' symbols, meanings and myths (cf. Borić et al. 2012, 56-58; Biehl 2003). Bailey (2013) has built on this concept by proposing that figurines show "the elevation of the body as the basic concept for the Neolithic world and Neolithic systems of understanding … of how to be human." These notions are underlined by Devlin's (2007) assertion that the body was the most important mnemonic entity. These claims mean that we cannot understand personhood in Old Europe without thinking through the images of persons, animals and hybrids – their meaning and significance.

The interpretational move beyond Gimbutas and Mother Goddesses of the last two decades started with Hamilton et al. (1996) and created so many different aspects of figurine production and usage that it would appear that figurine-makers could use small amounts of (mostly) clay to represent almost anything and to convey almost any meaning to almost any person. It is perhaps this generalizing potential that creates such hazards for interpretation – almost anything goes. If the fleshy massiveness of large females can suggest fecundity to two commentators (Kokkinidou & Nikolaidou 1997) but the values of plenitude in older women to two others (Nakamura & Meskell 2010), there are fundamental ideological differences at issue here. While Hourmouziades (2010) takes figurines to be the representation of ideas, Hodder thinks of them as material metaphors, Andrew Jones (2012) perceives them as active agents showing wishes rather than representations and Eszter Bánffy

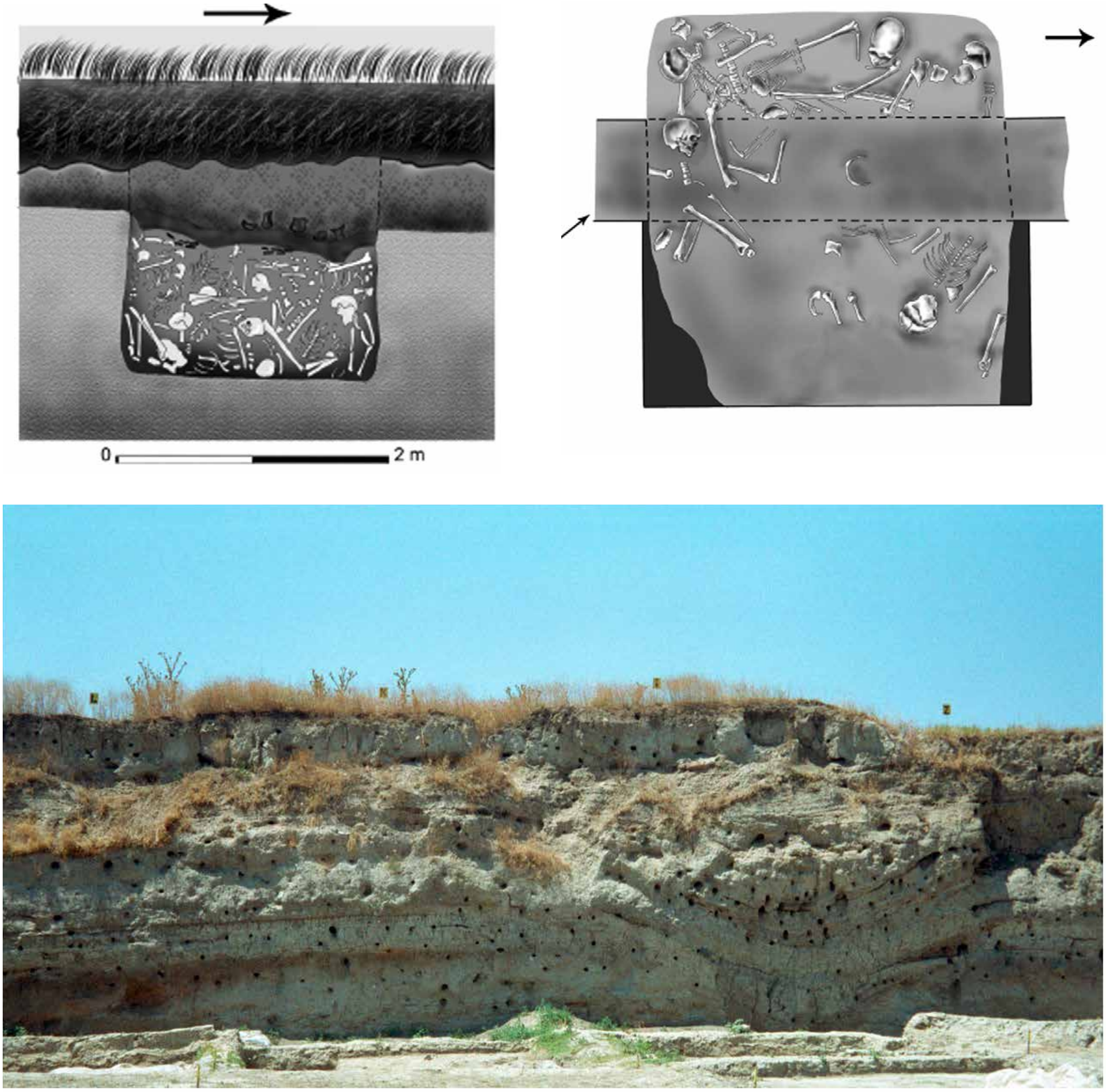
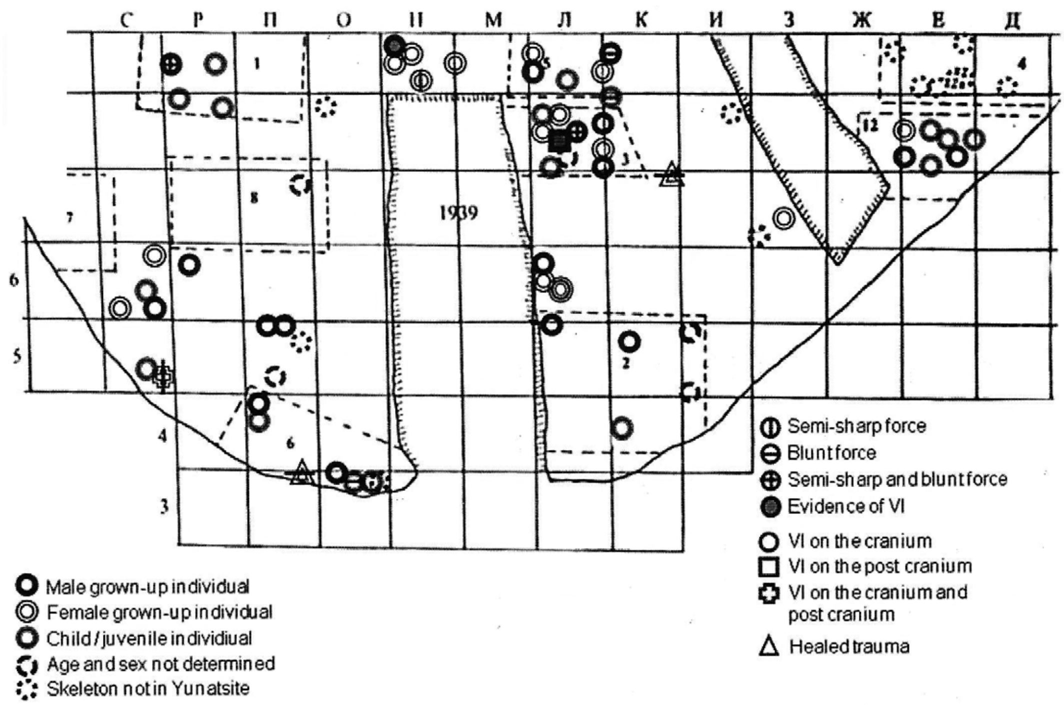


Fig. 4.26. (top) The mass grave at the Lengyel site of Esztergályhorváti (source: Barna 2015, Fig. 3.1/2 & 9; Yunacite: (bottom) site photo (source: author); (right page) Plan of human skeletons at the Late Copper Age tell of Yunacite (source: Zäuner 2011, Fig. 1).

(2001) considers they were concurrently realistic and unreal. If each of these interpretations is taken as exclusive aspects of past ontologies, we have an epistemological problem. In this section, I shall look in general terms at the way that figurine-makers contributed to the creation of persons in the different worlds of Old Europe. The only interpretative point on which I insist is that there were three kinds of agency in this creative work: the agency of the figurine-makers, the agency of those requesting the figurines and the agency of the figurines themselves in making a material difference to the world in which they played such an important part. As Nanoglou (2015, 621-2) has suggested, figurines acted upon people before the people could act, setting the terms by which action was possible. While my stance may seem to gravitate more towards considering figurines from the viewpoint of their makers, the figurines themselves and those wishing to use them are never far from my attention.

The biosocial context of figurines

The essence of the figurine-maker's craft was the repeated creation of a small, intimate material image with biosocial



meaning. Gowland and Thompson (2013, 183) summarise the meaning of the term 'biosocial' in terms of the significance of the biological body in determining the social aspects of persons' identity and identification and vice versa. Thus, for Gowland & Thompson (2013, 179), "the social meaning of being a male or female within any one society leaves different biological traces interwoven with other culturally meaningful forms of identity". In this approach, it is irrelevant to attempt to distinguish the biological from the social in looking at images. Is a severe arthritic condition such as that suffered by the old lady of Tărtăria (see above, pp. 99- 102) and the mature male in Grave 43 at the Varna cemetery or the hydrocephalous condition[41] realistically portrayed on a broken figurine head from Goljamo Delchevo, Bulgaria, any more biological or less social than a stylized Cucuteni image wrapped in a mortuary shroud? What can be more biosocial than the transition which Hardie (2010, 82) identifies from Starčevo to Vinča figurines: from overtly sensual, with phallic necks and torsos, large buttocks and separate phalli, to highly decorated and often dressed and thus 'de-sensualised', with few overt reference to gender in any form?[42]

Bineva (2008) has discussed the intimacy of figurines in terms of the direct, comfortable, friendly, trusting and safe relationship that people had with their figurines. The sequence that a figurine-maker followed in creating her intimate miniature world (Bailey 2005) began with the complex mental image of what was appropriate to shape that September day in Transdanubia – a creative tendency rooted in the figurine-maker's specific cultural context (positive: I tend to make naturalistic figurines with minimal decoration or clothing; negative: as a Lengyel figurine-maker, I would never make a figurine in the headless androgynous Hamangia style!) and household context (my grandmother has just died; I need to make a set of figurines for mortuary rituals in *my* house, not for domestic ceremonies in the big house down the track at Alsónyék). Hansen (2007) has demonstrated that regional traditions of figurine-making had developed by Phase 3 and steadily diversified in Phase 4[43]. For example, Vinča figurine-makers in the Beograd area made one set of images (Fig. 4.27), while makers in Kosova created distinctive, large figurines with pentagonal faces, as at Predionica (Renfrew 1969a) (Fig. 4.35/8). Thus, figurine-makers were not free to portray their subjects – whether persons or deities – in any possible style. There were even site-based patterns of making, such as the so-called 'centaurs' at the Late Vinča site of Valač, Kosova (Tasić, Nikola 1957) (Fig. 4.35/7). Older figurines shaped the extent to which figurine-makers could improvise forms and decoration on the basis of material tradition. However, Nanoglou (2015,

41 A hydrocephalous condition results from a build-up of excess fluid on the brain, enlarging the skull.

42 One could take issue with Hardie's interpretation of 'de-sensualised' Vinča figurines, especially bearing in mind the so-called 'Lady of Vinča' and many other explicit examples (Ignatović 2008).

43 It is arguable that regional traditions began in Phase 2, as with the house-persons in the Republic of North Macedonia (Fig. 4.3).

Fig. 4.27. Vinča figurines from the Beograd area: various scales (source: Petrović, B. et al. 2009, Images 5, 6, 10, 18, 29, 31, 34, 52, 73, 81, 128, 131).

630-2) goes further than the demonstration of regional image traditions to suggest that the drawing on different representations of human bodies meant different frameworks for life in different regions. This bold concept merits further investigation.

The specific body that the figurine-maker made on that particular day could have carried an age – gender identity or had no such categorical emphasis. In most villages, figurine-makers could choose whether to create a female body (most frequent) and whether younger or older (facial details, posture, form of breasts or buttocks) or make a gender-free body – perhaps a statement about gender ambiguity and the space thereby created for gender negotiations. It is part of the biosocial aspect of figurines that they portrayed sexuality in many forms (Kokkinidou & Nikolaidou 1997). The rarity of mother-and-child figurines has already been discussed (see above, p. 106). The Tisza-group figurine-maker who made a large androgyne dressed in elaborately decorated clothing (Csalog 1972) (here Fig. 4.23h) wanted to create an active participant in a household ceremony, emphasising the existence of the third sex in this liminal world, celebrating personhood through a specific costume, symbolizing abstract belief systems and perhaps even helping residents to gain entrance into the ancestral world through altered states of mind. The breaking of the androgyne's legs and sometimes their head led to the enchainment of this ceremony with other people and places at which the fragments were later deposited (Chapman 2000a) (for further discussion of androgynous figurines, see above, p. 45).

Regional and local choices

While the choice of the form of the body open to the figurine-maker was guided by regional and local tradition, this still allowed a fairly wide spectrum of bodily form from naturalism to abstraction in most Neolithic and Chalcolithic groups (as in the Near East: Lesure 2015). Those figurine-makers working in a widespread and well-established tradition (e.g., many of the >2,500 figurines made at the Vinča tell (Vasić M. 1936a; Srejović 1968) (Fig. 4.27) or the c. 10,000 figurines deposited at Cucuteni-Trypillia settlements: Ţerna 2017) (Fig. 4.28) were more prone to select abstract figurine bodies than those working in smaller-scale, more short-lived traditions (e.g., the Butmir figurines: Radimský & Hoernes 1895) (Fig. 4.29a – e). Orphanides (2010) has emphasized how the repetition of figurine-making in the same style gave people a better understanding of their place in time/space and their ritual world, with abstract figurines helping people to engage with ritual concepts or shared concepts of village and family. Repetition was also closely linked to the furtherance of memory. Two kinds of Phase 4 figurine-makers with very different skill sets crafted abstract human shapes from bone: an elaborate, flat shape with stylized head, arms, hips and legs and many perforations[44] (Andreescu 2002, Pl. 42-49) (here Fig. 4.29g) and an even more abstract shape made with minimal modifications to a caprine metapodial (Maier 1961, 203-4)[45] (here Fig. 4.29h). Both groups of figurine-makers reduced the complexities and variability of the human body into respectively a two- and a three-dimensional model, thereby removing any individuality from the image, apart from the occasional example of copper earrings or a *Dentalium* necklace (Hansen 2007, Vol. I: Abb. 136). But the metapodial type required far less skill than the flat perforated type of figurine. What was a far more highly skilled creation was the imitation of a schematic flat bone figurine in marble by a figurine-maker at the type-site of Gumelniţa (Hansen 2007, Vol. I: Abb. 156/3).

Portrait heads

Particularly skilled figurine-makers would occasionally create a naturalistic rendering of a head and/or a body – closer to a portrait than anything else found in Balkan prehistory. This development was particularly characteristic of Phase 4 (Table 4.4). The wide range of individual faces in these 'portrait heads' in, for example, Copper Age Bulgaria (Raduntcheva 2003, Obr. 136-151; Pernicheva 2003) and Romania (Monah D. 2016) reminds us that not all people in prehistory were the 'faceless blobs' lamented by Tringham (1991) (here Fig. 4.30). Curiously, there were very few sites where figurine-makers had made more than one 'portrait head'. The innovation of representing a person in a realistic manner must have caused a controversy in her home village. The ritual power held by the figurine-maker over the person depicted in clay may have provoked ways of controlling such dangerous practices – perhaps the reason why relatively few 'portraits' have been found. Interestingly, in groups where figurine-makers used masks, the masks were sometimes given portrait-like details[46], as if the masks exercised agency by enchaining aspects of the wearer's personality into other contexts.

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44 The figurine perforations suggest tattoing, evidence for which has recently been found in a Phase 3 house on the Durankulak Big Island tell (Vajsov & Slavchev 2019).

45 NB such 'simple' figurines were adorned with small gold earrings and placed in graves in the Varna cemetery (e.g., cover picture of Fol & Lichardus 1988).

46 Examples include Phase 3 figurines from the Early Vinča site of Rast (Dumitrescu V. 1980), a figurine from Turdaş (Hansen 2007, Vol. II: Taf. 285/1), the Sopot-Bickse figurine from Bicske (Hansen 2007, Vol. II, Taf. 504/2) and the Tisza sickle-hermaphrodite from Szegvár-Tüzkőves (Hansen 2007, Vol. I: Abb. 92), as well as Phase 4 figurines from Karanovo VI sites such as Bikovo and Kubrat (Hansen 2007, Vol. II, Taf. 366 and 380/1).

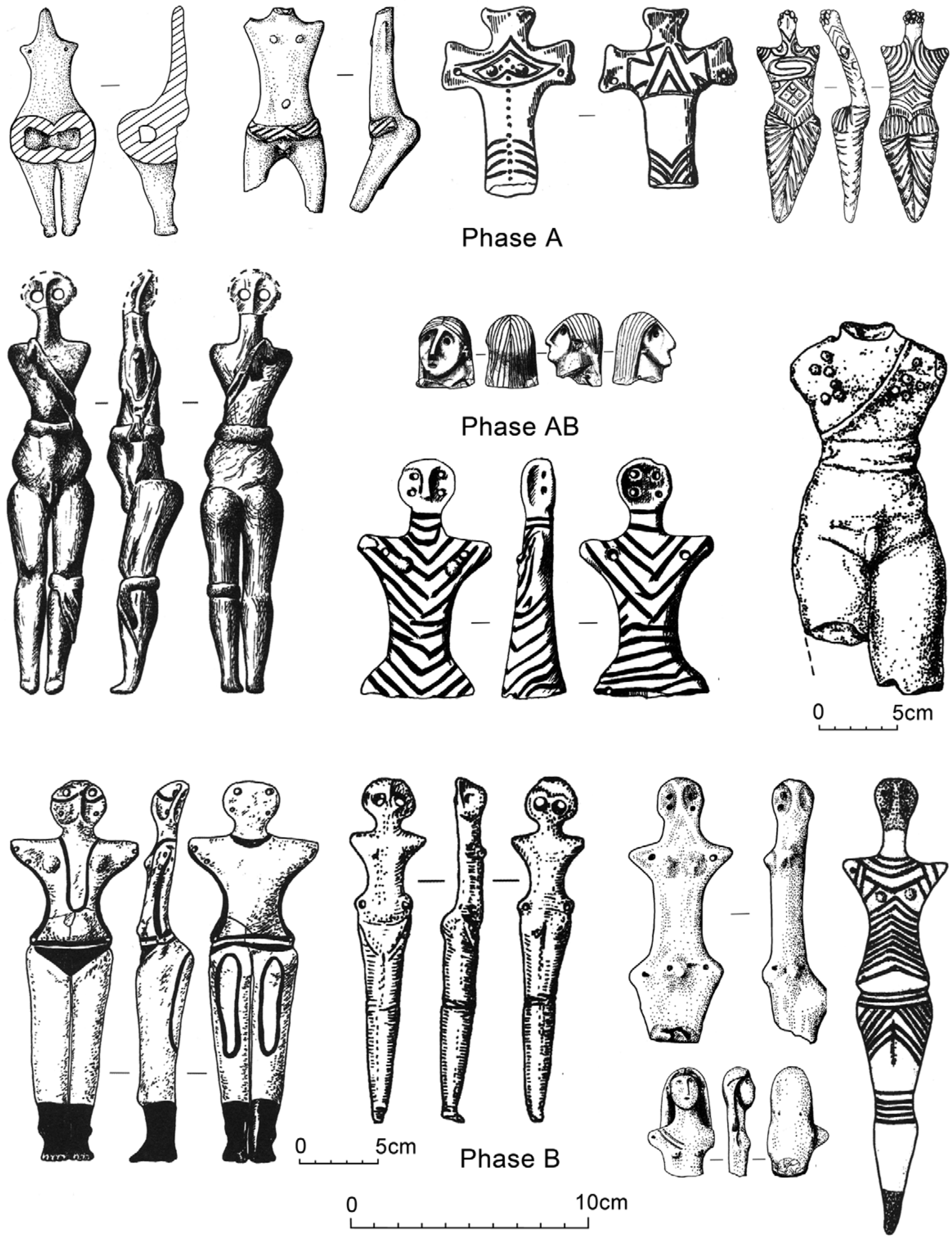
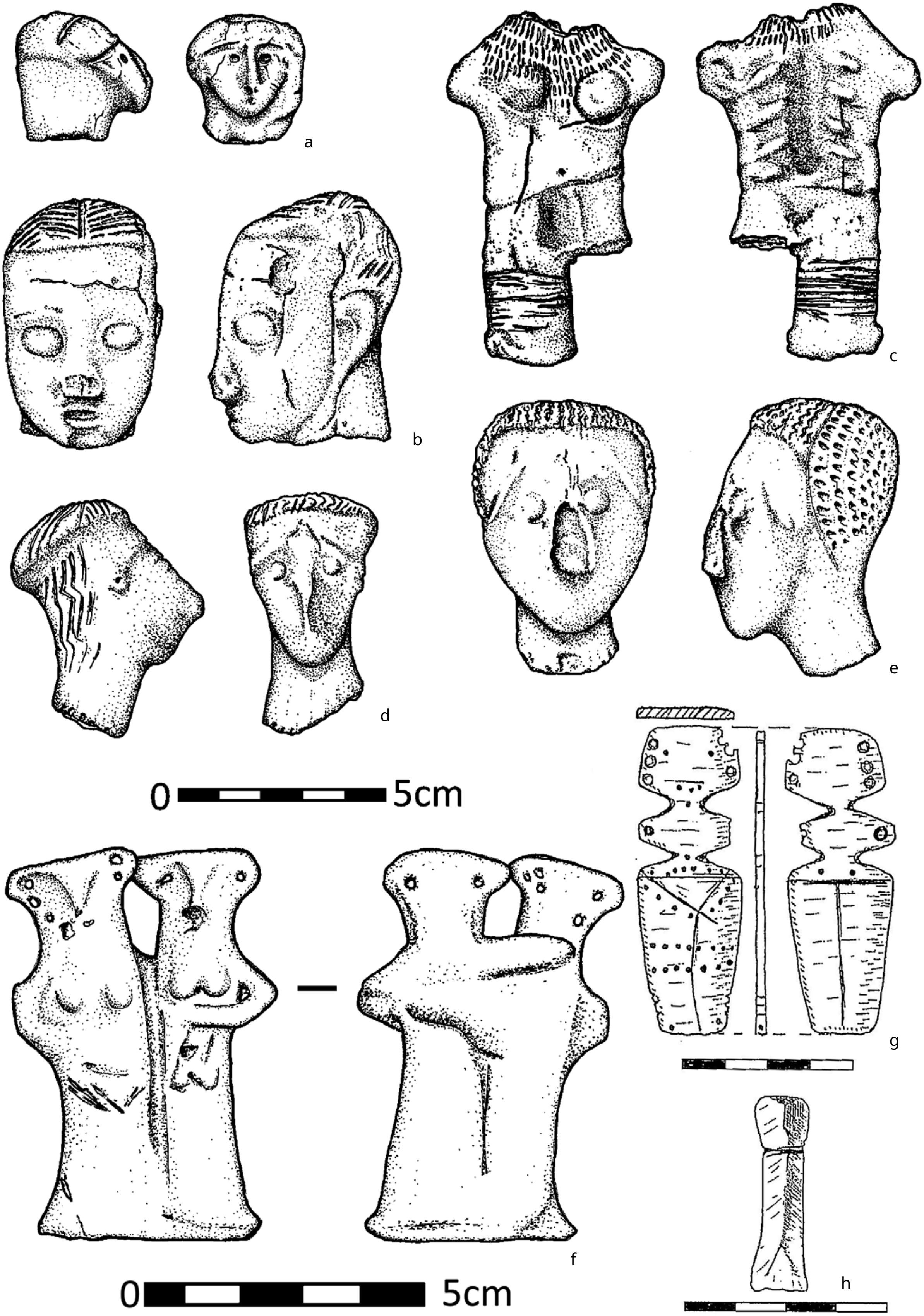


Fig. 4.28. Cucuteni-Trypillia figurines by Cucuteni Phase (source: Chapman & Gaydarska 2018, Fig. 3) (Y. Beadnell).

Fig. 4.29 (right page). (a – e) Butmir figurines (source: Benac 1979: copyright – Akademija Nauka i Umjetnosti Bosne i Hercegovine); Phase 4 Gumelniţa figurines: (f) fired clay lesbians, Gumelniţa; (g) bone figurine, Glina; (h) stylised bone anthropomorph, Sultana; (source: Andreescu 2002, Pl. 48/2, 49/5, 41/6 & 36/1) (L. Woodard).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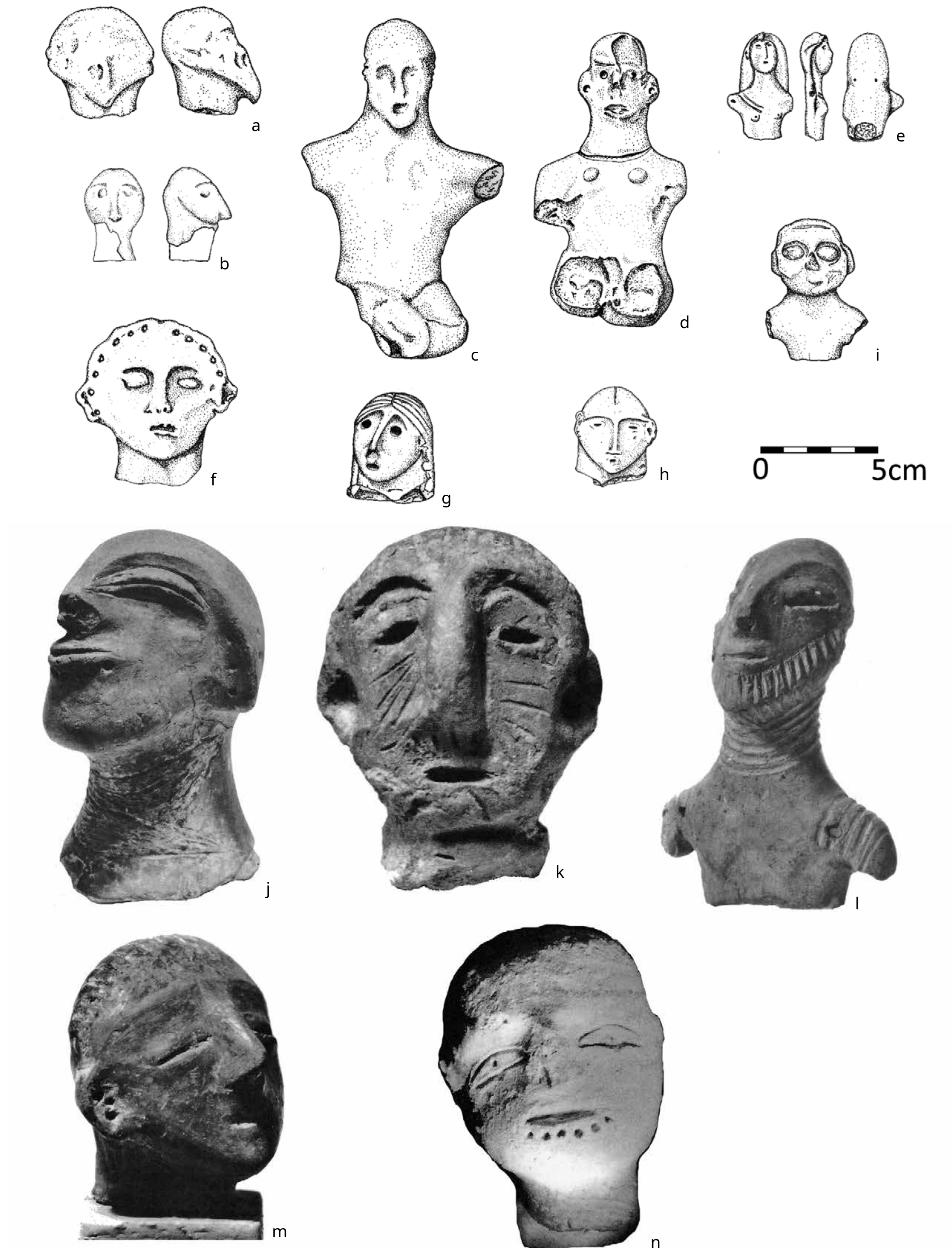


Fig. 4.30. figurine portrait heads: (a – b) – Hotărani; (c) – Moldova; (d) – Răuceşti; (e) – Koshylivtsi; (f) – Caraş Vechi; (g) – Krinicki; (h) – Kocherzhintsi; (i) – Sadievo; (j) – Tell Kubrat (Balbunar); (k) – Chatalka; (l) -Drama; (m) – Kapitan Dimitrievo; (n) – Vetren (L. Woodard)

Site	Period/Group	Description	Reference
Cernavodă	Hamangia	The male 'Thinker':	Berciu 1966:
Cernavodă	Hamangia	The female 'Thinker':	Berciu 1966:
Vale Argovei	Gumelniţa	Head, incised hair, pierced ears.	Hansen 2007, Vol. I: Abb. 140
Gabarevo	Karanovo VI	Lid in the form of head in dark burnished ware, moulded eyes and nose.	Hansen 2007, Vol. I: Abb. 150
Targovishte	Karanovo VI	Spout formed by head with wide open mouth (as if screaming), hair.	Hansen 2007, Vol. I: Abb. 138
Ruse	Karanovo VI	Head with moulded eyes, nose and open mouth	Raduntcheva 2003, Obr. 145
Gradeshnitsa	Gradeshnitsa group	(?) Male head and torso, with pierced ears, hair, ornate costume	Hansen 2007, Vol. II: Taf. 319/1
Butmir	Butmir	(?) Female head with elaborate coiffure, moulded eyes, nose, mouth and ears	Hansen 2007, Vol. II: Taf. 320/3
Butmir	Butmir	Head with hair, moulded eyes, nose and mouth.	Hansen 2007, Vol. II: Taf. 320/6
Butmir	Butmir	Female with 'Primal Scream', elaborate coiffure, necklace, ornate costume, breasts	Hansen 2007, Vol. II: Taf. 321
Goljamo Delchevo	Karanovo VI	Oval head and torso, moulded facial features, ornate costume.	Hansen 2007, Vol. II: Taf. 323/1
Sadievo	Karanovo VI	(?) Male head with moulded facial features	Hansen 2007, Vol. II Taf. 326/4th row left
Dolnoslav	Karanovo VI	Delicately modeled head with Incised & hite-infilled eyes	Raduntcheva 2003, Obr. 136
Vetren	Karanovo VI	Modeled head with incised eyes, broken-off nose, mouth with pierced lower lip	Raduntcheva 2003, Obr. 138
Chatalka	Karanovo VI	Male head with impressed eyes, modeled nose, ears and chin, tattoos/ scars on cheeks and open mouth	Raduntcheva 2003, Obr. 142
Pazardhzik	Karanovo VI	Moulded male head with eyebrows, slit eyes, pierced ears and incised mouth	Raduntcheva 2003, Obr. 146
Balbunar*	Karanovo VI	Male heads and neck, with incised eyes and mouth and pierced ears	Raduntcheva 2003, Obr. 147
Kalekovets	Karanovo VI	Male head with incised coiffure, incised eyes and mouth, and modeled nose	Raduntcheva 2003, Obr. 148
Kapitan Dimitrievo	Karanovo VI	Male head with incised coiffure, eyes and mouth, modeled nose and pierced ears	Raduntcheva 2003, Obr. 149
Haskovo	Karanovo VI	Head with elaborate coiffure, modeled eyes reinforced with incision, modeled nose and mouth and pierced ears.	Raduntcheva 2003, Obr. 150-151
Drama	Karanovo VI	(?) Male head, moulded facial features, leaning forward	Hansen 2007, Vol. II: Taf. 337/1
Drama	Karanovo VI	Bearded male with five necklaces and epaulettes	Lichardus et al. 2000, Fig. 27/2
Dinja	Karanovo VI	Head with complex coiffure, pierced ears, lips and chin, asymmetrical eyes	Raduntcheva 2003, Obr. 140
Mórágy	Lengyel	Male head with strong neck and moulded facial features	Hansen 2007, Vol. II: Taf. 526/2
Ruseni – Edineţ	Cucuteni B	(?) Male head and torso, leaning forward, with pierced ears	Monah 2016, Fig. 175/1
Ruseni – Edineţ	Cucuteni B	(?) Male head and torso, looking up, pierced right ear	Monah 2016, Fig. 175/2
Kocherintsy	Cucuteni B	(?) Male head	Monah 2016, Fig. 176/1
Brânzeni IX	Cucuteni B	Almost complete female, with (?) Hat, breasts, broken arms and legs, incised pubic triangle	Monah 2016, Fig. 176/6
Brânzeni IV	Cucuteni B	Almost complete female, with small breasts, broken arms and legs, incised pubic triangle	Monah 2016, Fig. 176/7
Moldova	Cucuteni B	Female head and torso, pierced ears, necklace, breasts, broken arms and legs	Monah 2016, Fig. 180/1
Chichirkozivka	Trypillia CI	Head and neck of vessel terminal (attachment to ear)	Monah 2016, Fig. 196/1
Chichirkozivka	Trypillia CI	Head and neck, head chipped in two places	Monah 2016, Fig. 197/6
Ryzyne I	Trypillia CII	Female head and torso, pierced right ear, long hair, perforated right stump arm, incised sash, breasts	Monah 2016, Fig. 205/2
Hârşova	Gumelniţa A2	Fragmentary head with pierced ear	Andreescu 2002, Pl. 8/2

Table 4.4. Examples of 'portraits' in Balkan Neolithic / Chalcolithic figurines.
*This figurine portrait head is represented on the outer cover of the book.

Bodily conditions and illness

The minor tendency towards naturalistic images is also occasionally found when figurine-makers deliberately distorted or exaggerated parts of the body (Fig. 4.31). A Phase 2 figurine-maker at Donja Branjevina emphasized the visual with 'cartoon' eyes extending far beyond the facial outline of an otherwise standard rod-head figurine (Hansen 2007, Vol. II: Taf. 130/1) (here Fig. 4.21g). This well-known 'Red Lady of Donja Branjevina' portrays someone who seemingly must have walked with a lifelong limp, since her legs and the *gluteus* musculature of her buttocks were of different lengths (Karmanski 2005, Plate I). Two Phase 3 (Vădastra) figurines from Hotărani have such a distended chin as to suggest a medical condition (Hansen 2007, Vol. II: Taf. 208/1-2). Equally, the large number of swellings (? boils) on the back and left side of a Phase 2 figurine from Porodin (Hansen 2007, Vol. II: Taf. 146) suggests that the figurine-maker was seeking to portray a condition rather than being guilty of sloppy work. The two most dramatic renderings of medical conditions concern the head with the deformity of an extended skull at the back made by a figurine-maker at the Phase 4 (Ariuşd) site of Sf. Gheorghe (Monah 2016, Fig. 17/3) (here Fig. 4.31/a) and a head with hydrocephalitis made by a figurine-maker at the Phase 4 tell of Goljamo Delchevo (Todorova 1975, Tablo 103/1) (here Fig. 4.31/f). Another Phase 4 figurine from Dolnoslav suffered from what appears to have been a case of the congenital hand deformity '*manus vara*' (a shortening of the lower arm and withering of the hand) (Raduntcheva 2003, 147 & Obr. 153). Figurine-makers at the Phase 3 (Vinča) site of Pavlovac – Čukar portrayed individuals with pronounced hunchbacks (Vuković & Perić 2014: Figs. 24-25) (here Fig. 4.31/b & d), as were also made at Phase 4 Bulgarian sites such as Dolnoslav (Raduntcheva 2003) (here Fig. 4.31/e). These examples show how Balkan communities recognized dangerous bodily conditions and represented them as part of material life, presumably in curing rituals. Phase 2 figurine-makers created a different pattern with exaggerated buttocks typical for a high proportion of figurines (Fig. 4.21), even if the form of the buttocks where the adipose tissue was concentrated was not necessarily identical to modern steatopygia[47]. Nakamura & Meskell (2010) maintain that this exaggeration showed high status and plenitude in times when fat-accumulation showed a superior diet. This notion would imply a different form of aesthetic sensibility, and therefore personhood, for Phase 2 women than in later Phases, with the change to more slender female figurines indicating dietary differences and/or more naturalistic imaging.

Emotional images

Another aspect of figurine-making touching on something very personal was the display of emotions. A very small number of figurine-makers tried to convey human emotion in fired clay (Fig. 4.32). The most famous examples concern the positive emotion of calm and contemplation, embodied in the so-called 'Thinkers' from the Phase 3 (Hamangia) cemetery of Cernavodă (Berciu 1966)[48] , The best-known example of extreme, negative emotion is the Phase 3 female emitting a 'Primal Scream' from Butmir (Fig. 4.32b), the terror in the eyes and the full-mouth posture bringing the moment of existential terror to life across six millennia. A similar image was found at Phase 3 Aszód, in Northern Hungary (Kalicz 1998, Abb. 55/1), while several Phase 4 images emitting such screams are known from Bulgaria and the Ukraine (Fig. 4.32e – f & h – j). Other Phase 4 figurines, and one Phase 5 example depict a greater control over the mouth, which suggests singing rather than screaming – a rare sign of music in the Balkan prehistory (Fig. 4.32d & g). There is amother example of 'singing' from the Vinča tell in Phase 3 (Ignatović 2008, Fig. 33). Pernicheva (2003) interprets this class of figurines as experiencing ecstatic moments in a shamanic trance. More subtle depictions from figurine-makers in Drama and Volodymirivka show sadness. Even more surprising is the rare Phase 5 figurine from Tiszafüred – Majoros, where the figurine-maker has managed to convey the fear of a woman holding her body in – before or after an assault (Fig. 4.32c)? The biosocial achievement of these figurine-makers was to make the emotion recognizable to anyone seeing the image – then or now – whether its significance was individual or collective.

Figurine clothing

A last fundamentally biosocial design negotiation for every figurine-maker (or team of makers[49]) was whether to portray the figurine as naked or clothed – revealing the sexuality of the image, concealing their sexuality or choosing not to emphasise it in a naked body. A *locus classicus* for the interface between inherent sex and performed gender is the skin of the body as a boundary between self and society (Bethien 2002; cf. Sørensen 1997).

47 For modern medicine, an angle of 90^0 between the back and the top of the buttocks constitutes true steatopygia, while the corresponding angle on Phase 2 figurines rarely exceeded 120^0 (exception: the Körös figurine from Szolnok: Hansen 2007, T. 114/4). However, occasional Phase 4 figurines showed an angle close to 90^0: Târpeşti (Cucuteni A: Monah 2016, Fig. 32/7), Bereşti (Cucuteni A: Monah 2016, Fig. 35/8) and Traian (Cucuteni AB: Monah 2016, Fig. 115/2).

48 More stylised versions of the Hamangia 'Thinkers' with lessened emotional impact were made at Phase 3 sites such as Târpeşti (Marinescu-Bîlcu 1981) and Nova Zagora – Hlebozavoda (Kancheva-Ruseva 2008).

49 Lesure (2011, 215) has hinted at the making of figurines by more than one person.

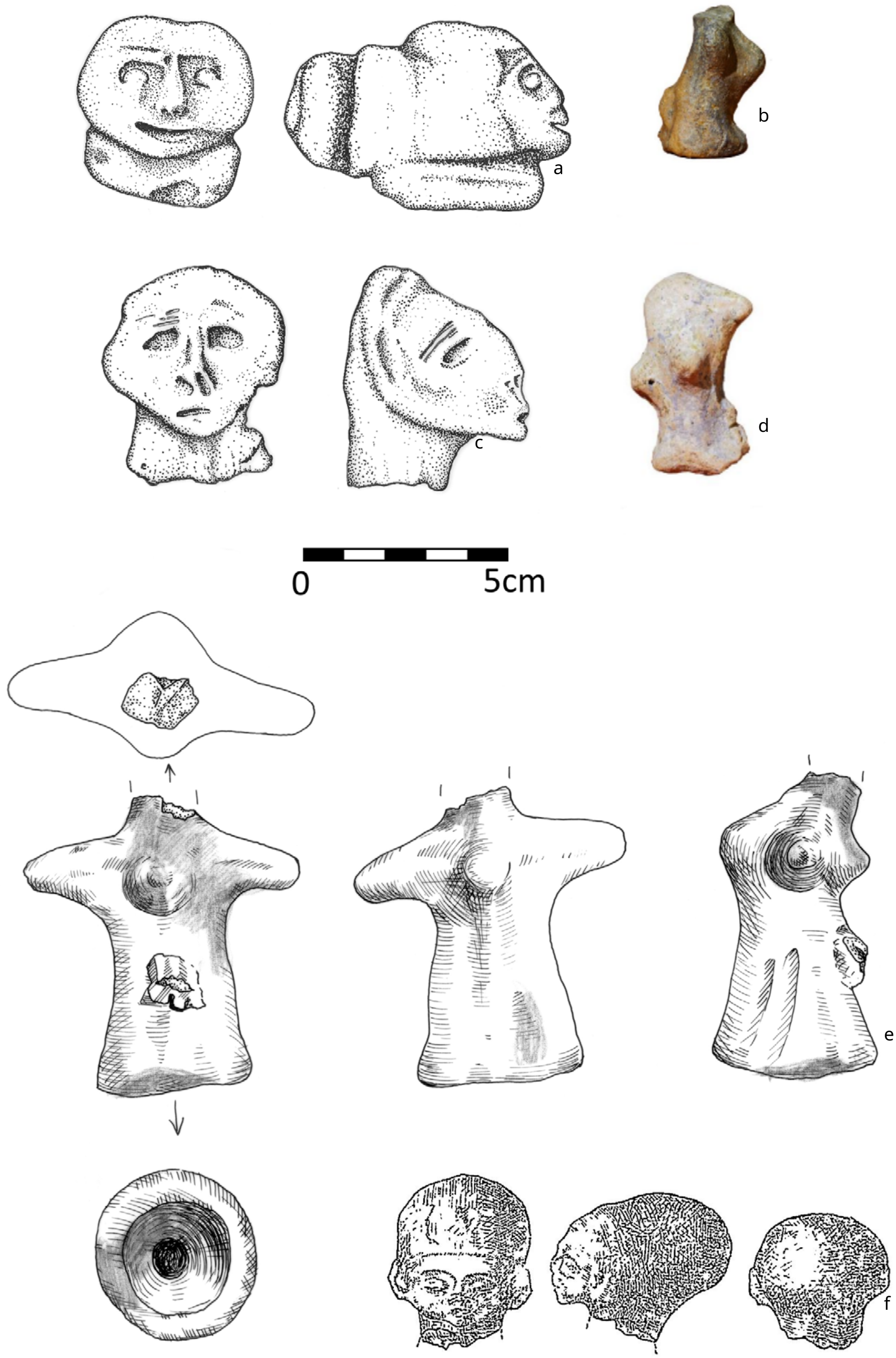


Fig. 4.31. figurines with medical condition: (a) – Sf. Gheorghe; (b & d) – Pavlovac; (c) – Drama; (e) Dolnoslav; (f) – Goljamo Delchevo Horizon XVI (B. Gaydarska).

Fig. 4.32. figurines portraying emotion: (a) – Aszód; (b) – Butmir; (c) – Tiszalúc; (d) – Majdanetske; (e) – Popovo (f) – Balgarchevo; (g) – Kolomiishchina; (h) – Slatino; (i) – Sadievo; (j) – Kapitan Dimitrievo; (L. Woodard).

Bethien (2002) takes the physical skin itself to be the 'corporeal dress of human beings' – their performative and visible (viz., sexual) surface, treating the cultural elements of clothing and ornamentation as a second layer – part of the performance of gender played out on the physical skin as sex. In comparison with the short time in which mortuary costumes would have been visible – hours and days rather than weeks or months – costumes for the living created new persons over a longer time-frame. Clothed or naked figurines played a part in the negotiations over personhood initiated by the costumes of the living – as a descant to the main melody. It is, for instance, interesting that many of the 'portrait heads' with remaining bodies attached wore striking costume or ornate coiffure to enchain the person to wider social groupings (e.g., the Butmir figurine emitting the 'Primal Scream': see Fig. 4.32b).

The choice of portraying the person as a costumed, naked-sexed or naked-unsexed body was open to the figurine-maker (or -decorator) in more or less any household or settlement. Dozens, if not hundreds, of figurines made according to each of the three main choices have been excavated in Balkan prehistory, with the figurines with the most elaborate costumes making formal statements about their roles in performances. There were very few Phase 2 sites where figurine-makers made many images; currently the largest group comes from Usoe, in North-East Bulgaria (Vajsov 1992) (here Fig. 4.33a – c). Fewer than 10% of the Usoe figurines were decorated and there was only one particularly elaborately costumed female figurine: the same statistic holds for the Ruk Bair figurines and the group from Méhtelek (Fig. 4.33d – g). All of the six sites which are representative of Phases 3 and 4 have far fewer undecorated images – always fewer than 40% – and far more complex costumes, varying from 20% to 80% of all figurines (Fig. 4.33h). Apart from the exceptional Early Vinča site of Rast, in South-West Romania (Dumitrescu V. 1980), there was a strong chronological trend towards increasing proportions of figurines with complex decoration. Figurine-decorators tended to use a very similar style on their sites, whether the incised motifs also found on Vinča pottery at Rast or the closely spaced incised lines interpreted as binding on a shroud in Cucuteni figurines (Gheorghiu 2011) but forming part of a large corpus of clothed Cucuteni – Trypillia bodies (Fig. 4.28). This trend indicates that, while figurine-makers were sending a wider range of messages about the enchained links connecting figurines to society, these memorialised messages were increasingly standardized – presumably a sign that the performances in which the figurines were used were also becoming more standardised. This tendency differs from the increasingly personalized mortuary costumes in which the newly-dead were prepared for funeral; it also runs counter to the signs of individualization in the portrayal of medical conditions, emotional states and 'portrait heads', especially in Phase 4. There is a tension between figurines wearing the wider range of homogenized costumes that developed through time, with the corollary of more standardised ritual performances in which those figurines took part, and figurines embodying increased individualization recognisable to other members of their community. The agency of figurines was important in these negotiations over persons and their place in what may have become a denser, more complex society in the late 5th millennium BC. Reconstructions of costume based upon figurine data present striking images (Fig. 4.34).

Black magic?

Special marks on figurines were made in two opposed senses. The practice of injuring figurines so as to harm related people has been proposed by Draşovean on the basis of 70 Vinča figurines out of a total of over 1,500 examples with stab 'wounds' resembling injuries suffered by voodoo dolls (Draşovean 1998). Figurine-makers also created a different, more positive form of marking – formal, ritualized signs. In a study of more than 400 fired clay and bone figurines from the Phase 4 Salcuţa – Krivodol sites in North-West Bulgaria, Biehl managed to differentiate a small number of incised symbols from incised costume and body decoration, finding a canonical style conveying special ritual messages on the fired clay but not on the bone figurines (Biehl 2003, 277-296: cf. summary of motifs in Abb. 7 with symbols in Abb. 19).

The performance of personhood through anthropomorphic figurines

We have alluded to the materialization of the Tiszapolgár form of personhood in the mortuary domain as one possible form of Old European personhood (see above, pp. 108-9). Two other kinds of personhood recognised in Old Europe are both materialized in fired clay figurines – 'Hamangia' personhood and 'Dolnoslav' personhood (Chapman & Gaydarska 2007; cf. critique by Marshall 2013, 211-3).

Two contrasting principles of personhood are found in the Hamangia group in Phases 3 and 4. The dominant principle defines the life-cycle of the Hamangia person in three stages:- birth as an androgynous person who has grown out of both parents and their respective genders; a gradual shedding of one gender with personal growth and maturation to become a single-gendered person, presumably in adolescence; and a stage in old age when the return to androgyny marks the integration of all gendered identities of the life course, with full androgyny realised with death. These three stages are materialised in the biographies of fired clay figurines. The complete Hamangia figurine (Fig. 4.35a1) is androgynous, with both female and male traits. Breakage of this form of figurine

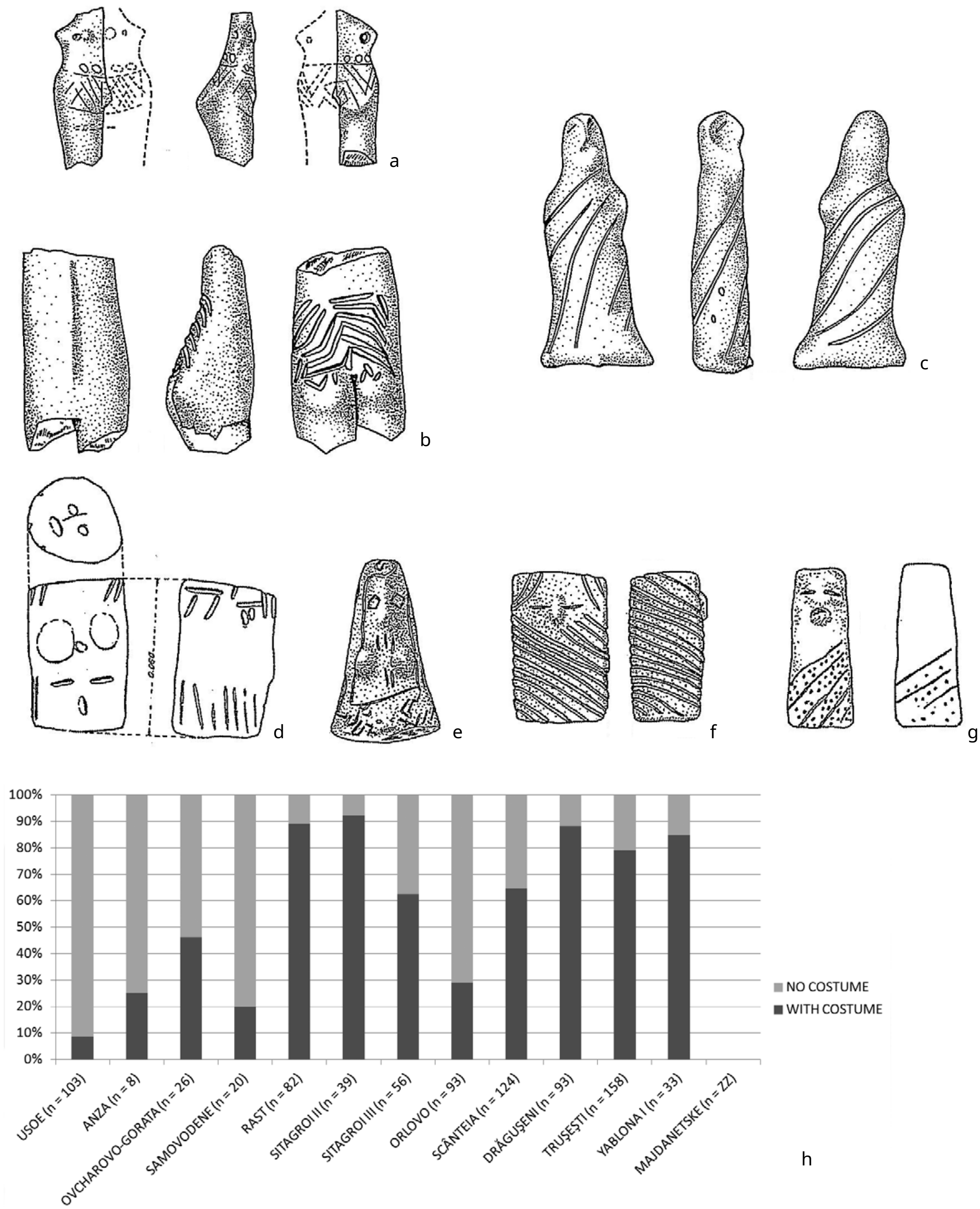
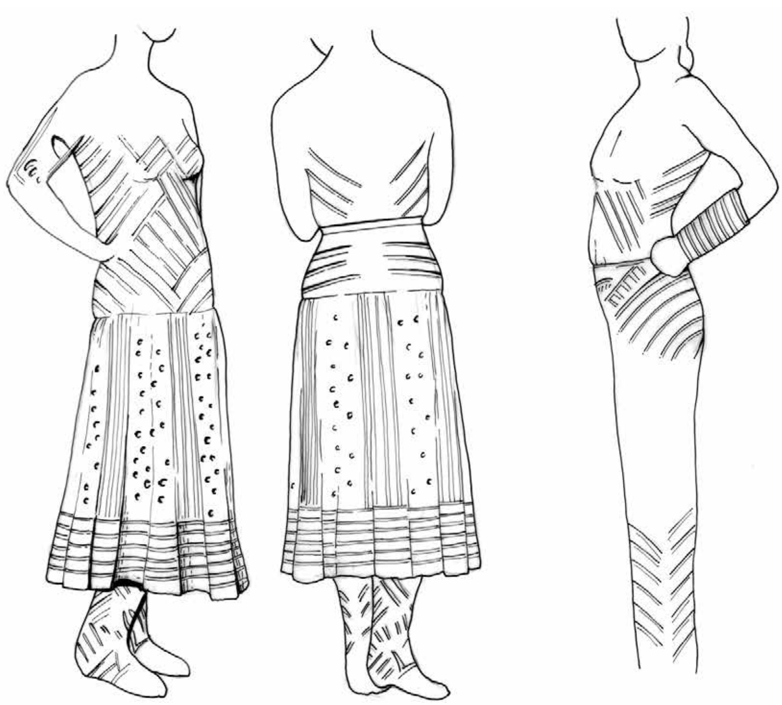
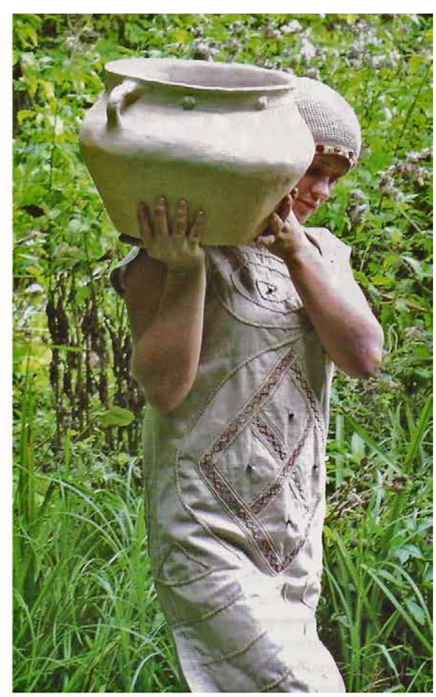


Fig. 4.33. Figurines with costume, Phase 2: (a) – (c): Usoe: various scales (source: Todorova & Vajsov 1993, Ris. 186/4, 9-10); (d) – (g) Méhtelek: various scales (source: Kalicz 2011, Fig 11); (h) Proportion of figurines with(out) costume, Phase 2: Usoe (data in Vajsov 1992); Anza (data in Gimbutas 1976); Pavlovac (data in Vuković & Perić 2014); Phase 3: Samovodene (data in Stanev 2002); Rast (data in Dumitrescu, V. 1980); Sitagroi II and III (data in Gimbutas 1986); Phase 4: Orlovo (data in Chapman 2010); Scânteia (data in Mantu 1993); Drăguşeni – Ostrov (data in Marinescu-Bîlcu 2000); Truşeşti (Cucuteni A) (data in Petrescu-Dîmboviţa et al. 1999); Phase 5: Yablona I (data in Sorokin & Borziac 2001); Majdanetske (data in Shmaglij & Videiko, 2002-3) (source: author).

Fig. 4.34 (right page). Reconstructions of costumes from figurine data: (top) Vučedol (source: Miličević 1984; (bottom left) Orlovo (source: Gaydarska & Raduntcheva 2010, Fig. 2.10: drawn by Y. Beadnell); and (bottom right) modern reconstruction of Trypillia costume (source: Videiko 2010, 19) (B. Gaydarska).





changes the gender of the figurine, with the phallic neck fragment representing the male identity and the torso/hips representing the female part[50] (Fig. 4.35a2-4).

The subordinate principle concerned four forms of a non-androgynous personhood: the so-called 'Thinkers' – gendered figures with intact heads on short necks – gendered stone figurines and two gender-neutral forms – miniature shell figures and stylised *astragalus* figures (Fig. 4.35b). The fragmentation chain of these figurines introduced only one change in gender status – the loss of gender in broken heads and legs of gendered figurines, in contrast to the maintenance of gender in 'torso + hip' fragments. But how were these two concepts of personhood played out in everyday life?

In the absence of figurine-making workshops in the small, dispersed Hamangia settlements (Haşotti 1997), figurine-makers presumably produced the images in their households. Of the non-androgynous images, the miniature shell and the stylised bone figurines (Fig. 4.35c – e) remained complete for their entire life course and were buried whole, usually with young adult females. The completeness of the shell and bone figurines may have been related to the gender-neutral design, their small size or the form of relationship between humans and non-humans. The most famous examples of the fired clay 'Thinkers' (Berciu 1966) remained whole for their entire lives and were buried whole in graves – as summary statements of non-androgynous personhood. But, as with the two stone figurines, other 'Thinkers' were broken in life, their fragments deposited in settlements. Since the breakage of these figurine types was never easy[51], we can envisage fragmentation performances as part of the negotiation of gender roles in the world of the living.

Although some androgynous figurines were broken in mid-life, most examples were used whole in household and public rituals, remaining complete until burial. While most complete androgynes were found in graves, symbolising the integration of gendered identities as the culmination of an age trajectory, complete examples were found in a wide variety of domestic contexts, embodying the principle of Hamangia personhood in all domains of daily life. The breakage of complete androgynes allowed the emergence of new gendered 'identities' in material engagements with their kin and neighbours. When people took away different fragments of the broken androgyne, they enchained their fragment to all the other parts of that fragmented body, leading to a tension between complete androgyny and single gender. It was this form of relational identity that prevented any definitive statement of gendered identity at any time in the life course: all figurines and their fragments were in a constant state of becoming (Marshall 2013).

The 'Dolnoslav' form of personhood was the inverse of that found in Hamangia communities and more closely related to the Tiszapolgár form. Located in the Southern part of the Thracian plain, tell Dolnoslav has three dwelling phases in the Final Chalcolithic (late 5th millennium BC), with the vast majority of the 494 figurines deposited in the burnt remains of the last phase (Gaydarska et al. 2007; Chapman & Gaydarska 2007). The assemblage showed a dominant and a subordinate principle of personhood which were the exact obverse of the Hamangia situation. The subordinate principle was based upon the rare complete, androgynous figurines whose gender status would have changed with the fragmentation symbolising the life course, just as in the Hamangia case. The life course of the main principle, however, comprised three stages (Fig. 4.36):- the birth of a person without gender characteristics; the gradual growth of one gender – predominantly female – during maturation; and the gradual fading of that single gender for post-menopausal women and older males. The large group of gender-neutral figurines materialised both younger and older persons, while the single-gender females and those rare males stood for the mid-life period. The number of breaks and extent of wear on gender-neutral figurines would have differentiated younger from older persons. This concept of personhood was radically different from the dominant Hamangia principle in its emphasis on age and gender as a characteristic of growth and personal maturation rather than on the inheritance of both genders from birth – nurture rather than nature. The main differences from Dolnoslav personhood was the recognition in the Hungarian Copper Age of the continued significance of gender throughout the life (Fig. 4.9), even at the earliest stage of childhood and on into the years of seniority.

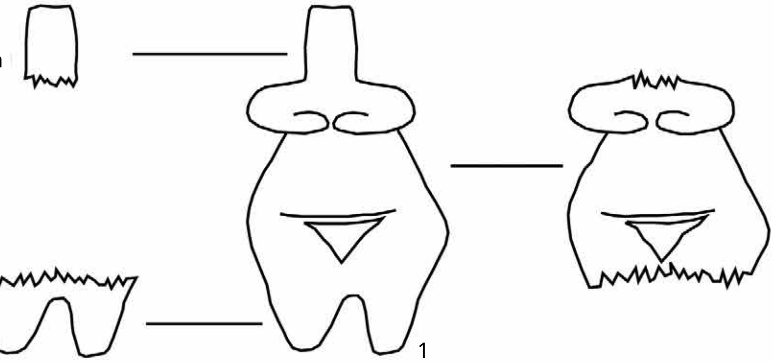
Zoomorphs, ornithomorphs and reptiles

If Kokkinidou & Nikolaidou (2010, 76) are correct in their assertion that 'figurines are material codes with which people re-shaped reality', then zoomorphic and ornithomorphic figurines tell us something about the ways in which humans created new worlds peopled by birds and animals, including the usual domestic fauna and

Fig. 4.35. Hamangia personhood (1) complete androgynous figurine, exploding to (1a – 1c) parts, with other Hamangia figurine types: (2) stylised fired clay body; (3-4) miniature shell figurines; (5) astragalus image; (6) structure of gendered figurines (source: Chapman & Gaydarska 2007, Figs. 3.1 & 3.7) (L. Woodard); Kosova-style figurines: (7) Valač: height – 10.5cm; (8) Predionica: height – 10cm (source: Galović & Lewis 1969, Figs. 111 & 176: copyright – Sheffield City Museums).

50 Chris Fowler (p. c., 2016) makes the intriguing suggestion that, when holding a complete Hamangia figurine in the hand, a slight movement can change its gender!

51 In a fragmentation experiment at Vădastra (2001), very few fired clay figurines were accidentally broken except when they fell on a stone cobbled floor – not a common feature in Neolithic houses (Chapman et al. n.d.).



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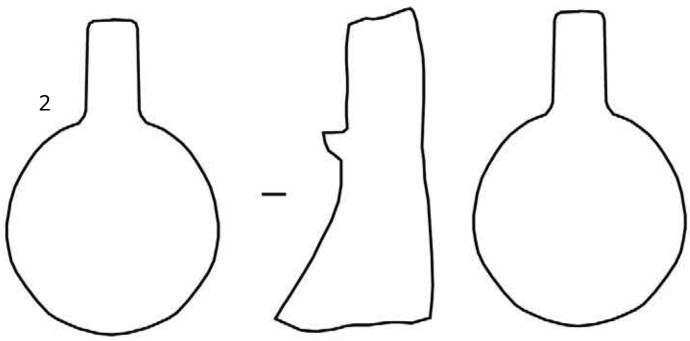

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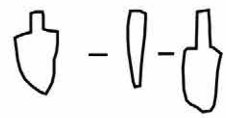

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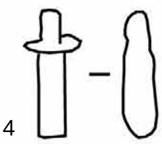

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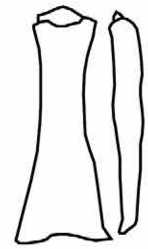

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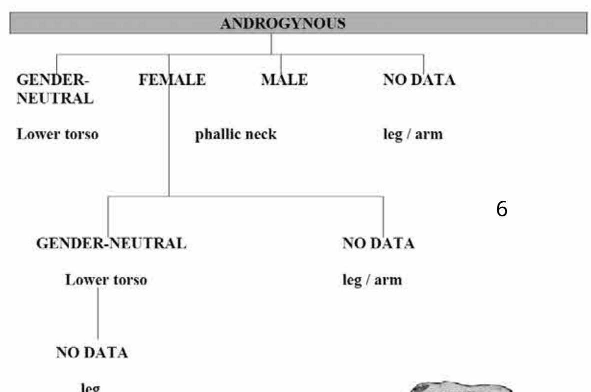

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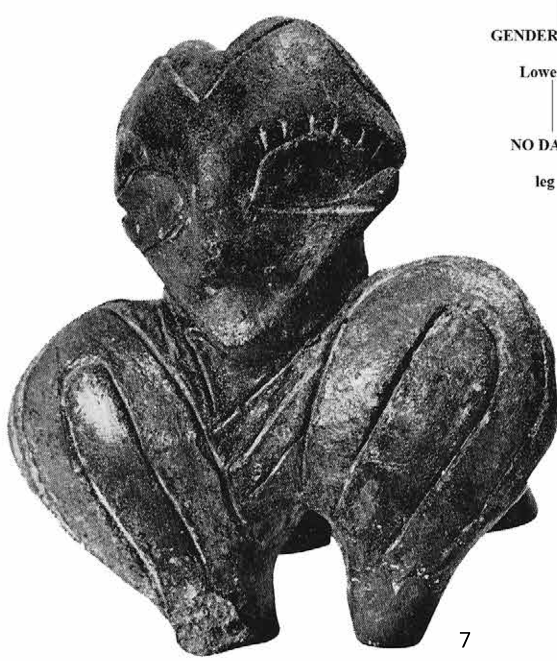

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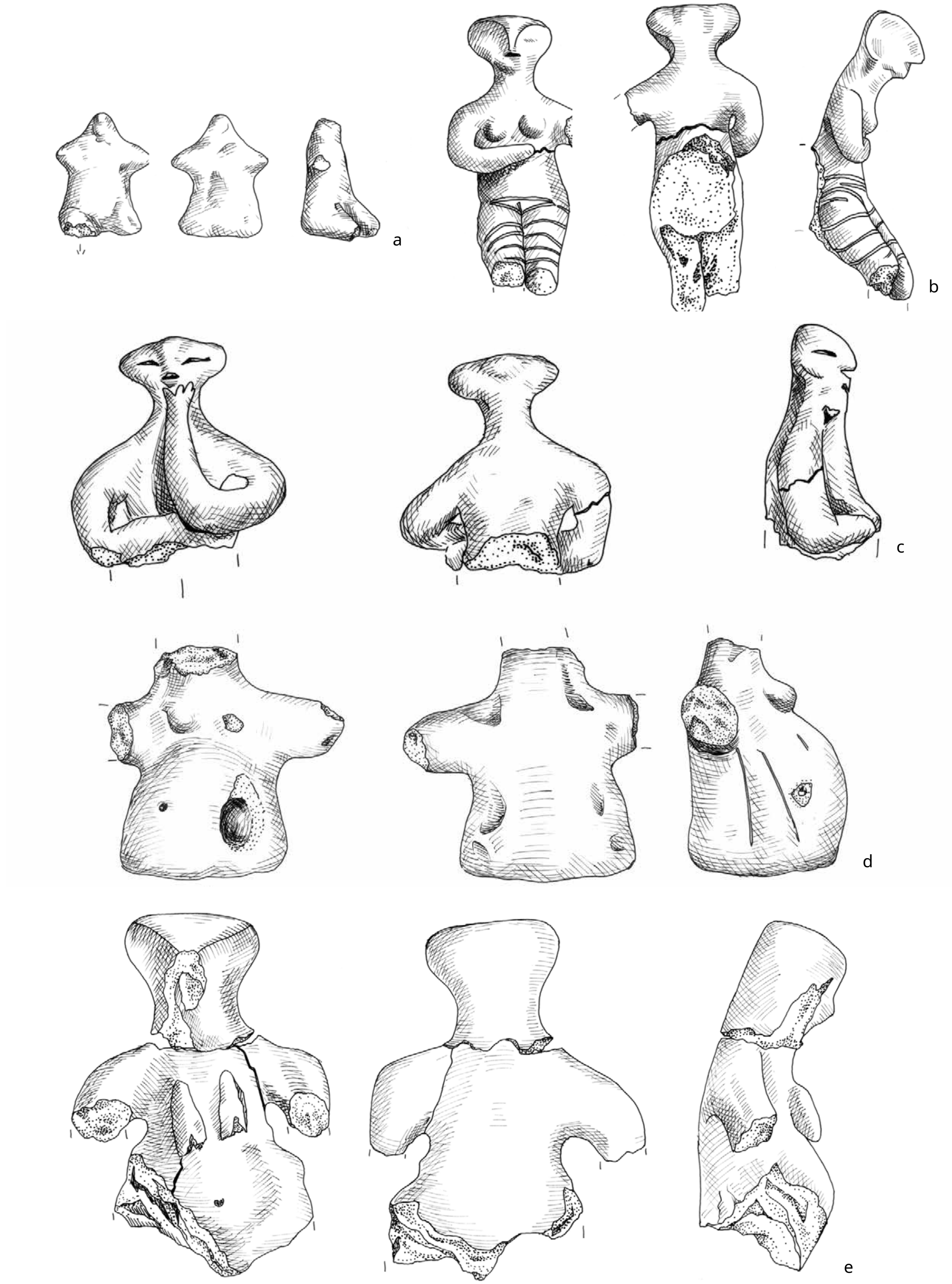


Fig. 4.36. Different stages of Dolnoslav personhood (a) unsexed child; (b) young female; (c) unsexed adolescent; (d) pregnant female; (e) older female. Scale – 2:3 (source: B. Gaydarska: drawn by A. Petrova).

Fig. 4.37. Sculpted sandstone boulders, Lepenski Vir: (a) height – 23.2cm; (b) height – 18cm; (c) height – 52cm; (d) height – 38cm (source: Radovanović 1996, Figs. 3.56, 3.58, 3.59 & 3.60).

a zoo-full of wild species. The telling contrast between the current absence of zoomorphic figurines in the Thessalian Early Neolithic and their presence as small zoomorphs in early farming sites in Western Anatolia and the Balkans suggests different ways of conceptualising humans and animals – viz., different ontological statements (Nanoglou 2008). Arguing that different figurine forms sustained and empowered different worlds and experiences, Nanoglou (2008) suggests that new forms of human – animal relations developed in the early farming period in the Balkans, as distinct from the anthropocentric discourse of Thessalian groups. These relations between humans and animals were not given but were 're-assembled' – produced by repeated performative action.

Broadly coeval with the Thessalian Early Neolithic, stone-carvers on the Iron Gates Mesolithic site of Lepenski Vir were the only specialists[52] to make monumental (viz., life-size or greater) images of a variety of subjects which were placed inside or at the front of trapezoidal houses (Srejović 1969; Srejović & Babović 1983). These sculptures are still regarded as Europe's first monumental sculpture – free-standing yet relatively portable and made from local sandstone (Fig. 4.37). The images include human bodies with stylised faces (Srejović & Babović 1983, 69, 79), full-size fish like the carp (1983, 91) and hybrid fish-humans (fish faces on human bodies: 1983, 74, 77) as well as a burnt vulva (1983, 84), meandroid patterns akin to early farmers' pintaderas (1983, 95) and many examples of Danube waves (1983, 82, 86, 92-93 & 97). The importance of anadromous Danube fish in the ritual life and cuisine of the Iron Gates foragers led local carvers to three main variants on the human – fish relationship, with the making of each sculpture a performance based upon tradition and improvisation (cf. Borić 2005).

It is important to examine how the stone sculptures of the Iron Gates Mesolithic embodied life course changes and gendered identities at Lepenski Vir (Borić 2005), thereby creating a fourth form of personhood in Old Europe. Borić uses the work of Gell and Ingold to emphasise how artworks not only constitute a social network of relationships but also have agency to create life spaces embodying complex webs of personhood. At Lepenski Vir, the connections between the human-fish hybrid boulders and the metamorphosis of the body in death are linked to the seasonal migrations of sturgeon (especially *Huso huso*) and the burial of bodies with the heads pointing downstream, parallel to the Danube. Thus, Borić claims that the form of the eyes on the hybrid boulders embodied a life course from neonates to children to adults (2005, Fig. 18) and that their positioning in the trapezoidal buildings divided that space into gendered and aged domains (2005, Fig. 20). The decorated boulders not only acted as sacred heirlooms for the Lepenski Vir lineages and households but also commemorated particular individuals in their distinctive 'Lepenski Vir' form of personhood, with the persons' 'costumes' portraying the Danube itself. Interaction with early farmers may have played a role in the Lepenski Vir group's decision to make images.

It was in the South Balkans that Phase 2 figurine-makers started to make a wide range of non-human images (Terziiska-Ignatova 2007). The life-size pig figurine at Anza (Gimbutas 1976a, Plate 25) and the modeled pig's head from Lakavica – also life-sized (Gimbutas 1989, Fig. 225) (here Fig. 2.6e) – emphasized the importance of pigs in transitional vegetation zones, whether for finding their own fodder, breeding fast or providing a wide range of mostly storable food. There are many Phase 2 sites with a small number of often ambiguous diminutive quadrupeds – cattle or caprines. A common image over-interpreted by Gimbutas as her 'Bird Goddess' comprised another example of design ambiguity – the body of a human combined with the beaked face of a bird (e.g., at Anza: Gimbutas 1976a, Fig. 144). In strong contrast to the ambiguous quadrupeds and birds, a figurine-maker at Muldava created an unusually large and striking zoomorphic deer vase, decorated with white-on-red painting in Karanovo I style and measuring almost 1m in length (Todorova & Vajsov 1993, Sl. 46) (here Fig. 4.22a) – perhaps the centerpiece of communal hunting ceremonies? Less striking but equally interesting are the fired clay felid figurine (? a leopard or a jaguar)[53] and the nephrite frog from Eleshnitsa, in the Struma Valley (Nikolov, V. & Maslarov 1987; Terziiska-Ignatova 2007, Fig. 3/9; Kostov 2007), the latter with widespread parallels in the Southern part of Old Europe (see below, p. 327).

The Körös tradition of making large horned pillars symbolizing bovids standing on fired clay 'altars' has been related to the emerging preference for cattle over caprines along the Northern rim of the early farming distribution (Bánffy 2019; see above, p. 119). While the tradition had Southern roots, in Early Neolithic settlements such as Stara Zagora – Okruzhnitsa Bolnitsa or Azmashka Mogila in Bulgaria, the main concentration was found in the North-West part of the early farming distribution, in landscapes where what Bánffy calls 'clayscapes' – areas where clay made the critical difference in the transformation of natural to cultural environments – were soon to give way to houses built with timber.

52 A small number of much smaller stone boulders from the Mesolithic site of Hajdučka Vodenica showed the carving of Danube waves and a whirlpool (Srejović & Babović 1983, Crtež 26-27).

53 The felid figurine dates to the same Phase (Phase 2) as the earliest lion bone found in the Balkans – an upper canine tooth fragment from the Karanovo II level of the eponymous tell (Bartosiewicz 2009).

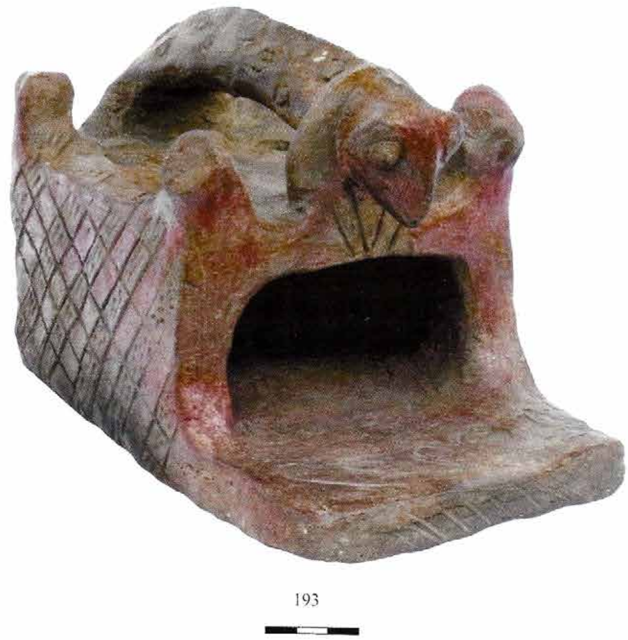


Fig. 4.38. (top right and bottom) Zoomorphic vessel (pig) from the Phase 3 Bükk site of Tiszacsege – Sandgrube (source: Kalicz & Makkay 1977, Tafel 4/8); (top left) Salamander on the roof of a house model from the Phase 3 site of Slatino (source: Chohadzhiev S. 2006, Fig. 193a).

Phase 3 figurine-makers were creating different styles of animal representation, such as the zoomorphic pig vessel from the Bükk site of Tiszacsege – Sandgrube, North Hungary (Kalicz & Makkay 1977, Taf. 4/8) (here Fig. 4.38), or portrayed different species, such as the fired clay snake from the Early Vinča site of Predionica, in Kosova (Gimbutas 1982, 136-145 & Fig. 54) or the salamander basking in the summer sun on the roof of a house model from Slatino, in the Struma valley (Chohadhziev, S. 2006, Figs. 182/5 & 206./1; Stoilka-Ignatova 2007, Fig. 4) (here fig. 4.38b). Figurine-makers also used ambiguities in the half-bear – half-human and half-bird – half-human figurines known in large numbers from the Vinča tell and other sites (Ignatović 2008, Kat., 86, 92, 102-3, 106 & 113).

But the figurine-makers from the two different Phases were conveying essentially similar messages about the centrality of relations between humans and animals to the household and the ways in which communities sought to incorporate the landscape and its creatures into a household-centred worldview. However, it is worth noting that the Hamangia communities who were so distinctive in their use of anthropomorphs did not make zoomorphic figurines. Among the increased diversity of Phase 4 images, Terziiska-Ignatova (2004) has shown that figurine-makers at the Late Chalcolithic Yunacite tell, South Bulgaria, made images of both standing and soaring birds, some with painted plumage. The illusion of flying through the air was made possible by suspension using a small perforation to produce a cruciate eagle in perfectly balanced flight[54]. The naturalistically rendered fox figurine from Pietrele shows close observation of animals in their natural settings (Dumitrescu V. 1968, Fig. 103).

Human – animal hybrids and cyborgs

Just as kin groups were burying their newly-dead in deviant ways (including part-human – part-animal combinations: see below, pp. 244-6), so the stone-carvers of Lepenski Vir and the figurine-makers of farming sites were drawn to the potential of hybrid images (Bánffy 2001). At Lepenski Vir, the hybridity of human-fish boulders created bridges between the world of the living and that of the dead, using the animal 'Other' in human bodies as a reference point for the annual cycles of anadramous fish (Borić 2005). At the Orlovo site in South-East Bulgaria, the formation of Neolithic / Chalcolithic personhood was a dynamic, complex and open process of integration of origin myths, changing social relations and shifting views of the outside world. If there are two specific features in the Orlovo figurine collection, they are the ambiguity and the hybridity of the images. Bánffy (2001, 61) discusses the idea that an ambiguous figurine – half human, half animal – had the power to mediate between the real and the imaginary spheres. The interwoven identities of anthropomorphic, zoomorphic and ornithomorphic images posed questions about the boundaries of the body and its permeability, as well as the origins of humanity and the relations between people and the outside world. This development went further than the incorporation of new members – viz., domestic animals – into the human community; it also went further than Mullan and Marvin's (1978, 3) observation that "in an important sense, animals are human constructions" (cf. also Bailey 2005). Instead, the figurine-makers at Orlovo created radically different ontological categories that have no basis in zoological facts – in 'real life' – but were clearly grounded in their own cultural experience of categorisation processes and their relationship to social power relations (Chapman 2010).

In her ground-breaking research on Celtic art, Miranda Aldhouse-Green (2001; 2004) has discussed the power of the unusual and atypical, contrasting the norms of single-sex, single-species representations with the transgressive subversion of ambiguous, ambivalent and hybrid images. Green (1997, 898-905) defines these terms as follows: while ambiguous images show the blurring of edges and a confusion of identity (an either/or identity, such as a youthful bearded face), ambivalent images stand for the duality of symbolic power (a both/and, as in hermaphrodites) and hybrids portray at once a multi-functional image separate from reality and a denial of harmony – in Green's telling phrase "the dissonance of equivalence". Each of these types of image provides space for thinking about the paradox of the similarities and differences between humans, animals and birds. There can be little doubt that many of these differences were context-driven, with different animal attributes associated with one and the same body in different places. Likewise, in a discussion of anthropomorphic vessels equally applicable to hybrid images, Alberti (2007) emphasizes the possibilities of movement between the two states rather than a static hybridity – movements of themselves generating ritual power and changing meanings.

While single-sex, single-species images are frequent at Orlovo, there are several examples of ambiguous and hybrid types (Chapman et al. 2010, 111; cf. Hamangia androgynes, see above, pp. 143-6). The most frequent ambiguous types present heads or vessel terminals that could be either (a) human or animal or (b) anthropomorphic or ornithomorphic. The absence of examples of human heads on zoomorphic or ornithomorphic bodies, or indeed a bird-head on a zoomorphic body, is largely a function of the high fragmentation rate of the assemblage. The incompleteness of many heads prevents an identification of hybridity, since the ambiguous heads had been broken from their body. But we cannot eliminate the possibility of the transformation through breakage of a hybrid 'monster' into two different parts: an ambiguous head and an unambiguous body(!). The power relations involved in such a transformation of a figurine's biography would have held considerable ritual and cognitive significance. These categories were transformed through performance, each new category carrying the memory of their previous form and with changes of meaning for objects through time.

Four kinds of hybrid images occur, portraying (1) zoomorphs with otherwise human coiffure; (2) typically anthropomorphic eye decoration on ornithomorphs; (3) the use of similar styles of decoration, including ornate, textile-based clothing, on anthropomorphic, zoomorphic, ornithomorphic and also on ambiguous figurines; and (4) the modelling of four- and six-toed feet on otherwise

54 Experiments with stylised cruciform figurines: Terziiska-Ignatova 2004.

human figurines (Fig. 4.39b – d & f) (cf. S. Chohadzhiev's (2004) study of three-fingered shamans in Balkan prehistory). These images from Orlovo transgressed as many categorical boundaries as had been created, opening up spaces for thinking about liminality and the permeability of boundaries. Moreover, the use of masks is well known in Balkan figurines (especially in the Vinča group (Gimbutas 1982, Chapter 4) (Fig. 4.27) as a means to transform identities in specific contexts of change or boundary-maintenance[55]. Figurines can show a surprising capacity for evoking dissonance and the transcendence of normally accepted categories.

Monsters in prehistory

David Wengrow's recent study of the origins of 'monsters', or 'composite figures' – the recombination of parts of diverse species into images of beings with no counterpart in the visible world (Wengrow 2014, 1) (here fig. 4.39a) – seeks to justify the link between the appearance of monsters and the origins of urban life in 4th millennium BC Eurasia, a period on which certain principles of integration implied by composites was dependent (2014, 59). However, the basis for such creations – the use of constitutive elements rather than organic creatures (2014, 26, 110), viz., parts rather than wholes or dividuality – has been well documented for the Balkan Neolithic and Chalcolithic (Chapman 2000a; Chapman & Gaydarska 2007) and many other societies.

Wengrow is careful to show how apparent composites from the Upper Palaeolithic, early farming sites in Western Asia and sites in Pre-Dynastic Egypt were not, in fact, true composites at all (2014, 33-49). But there is a very small number of true composites in Balkan prehistory. One of Balabina's (1998, Tab. 2) classes of zoomorphic figurines in the Phase 4-5 Trypillia-Cucuteni group is the 'fantastic' class: however, she provides no examples of this *hypothetical* type!

Bánffy (2019, 117-8) shows that the monumental fragment of the Szakmár-Kisülés figurine was an imaginary hybrid, combining realistic bovine elements: the horns, the cylindrical body and the relief depicting a vulva. However, to the extent that the combination of these realistic elements is not a new, completely imaginary species, Bánffy is surely correct in concluding that this is not a true *monster*.

By contrast, one of the few true composites is the Phase 3 (Tisza-group) example from Gorzsa (Horváth F. 1998, 290, 298-301, Plates II.5, III/11) (here fig. 4.39e). This is described as a standing animal, probably once attached to the inside of a dish, with a long, pointed equine skull, a humped back and a fish-tail, six legs and a sexual organ. There are no surviving parallels known for this fantastic creature in Old Europe.

The validation of examples of 'monsters' in Balkan prehistory using Wengrow's strict criteria means that it is not only urban societies which used composites. Instead, the emergence of composites was a consequence not only of urban ways of thinking and conceptualizing but rather of a dividual mindset, in which broken parts of a once-whole object were regularly re-utilised 'after the break' (Chapman 2000a; Chapman & Gaydarska 2007). The re-combination of human-bird, or human-bear, elements demonstrates the inter-penetration of elements of animality with human characteristics or the inter-dependence of humans and animals in complex lifeways. The creation of the Gorzsa fish-tailed horse composite takes this conceptual distinction to a new level, showing how imaginary creatures were also part of Old Europe's Neolithic zoo.

Summary of figurines

The high level of production of anthropomorphic figurines underlined the significance of the human body as a basic presence in the Neolithic world. These intimate biosocial images were often made in regional traditions, with the rare occurrence of site-based traditions structuring design choice. Figurine-makers could choose which of several genders to represent – most frequently female, then gender-free and lastly male and androgynous. There was a tension for figurine-makers between abstract and naturalistic designs. The former were more common and thought to cite ritual concepts, while the latter included signs of individualization such as portrait heads, bodily exaggerations, medical conditions, emotions and the use of sorcery and ritual signs. The choice of whether to depict the body as naked or clothed was also related to standardization, especially with clothing, and showed signs of dividual identities, with figurines citing a wide range of similar objects. The use of fired clay allowed the design of an enormous range of images even within the class of anthropomorphic figurines.

Through their biosocial creations in stone, clay, bone, shell and metal, figurine-makers showed their communities how to understand being human in all its diversity. Figurines have shown us a wide variety of performances, revealing how to give birth, how to be young or old, how to be male or female or androgynous, how to be a mother, how to be ill, how to show emotions, how to dress up, how to look sensual, how to display status, how to dance, how to participate in formal rituals, how to carry sacred information, how to change the impact of scale, how to inflict black magic on others, how to be prepared for burial, how to be dividual – to develop personhood, how to render ambiguity and hybridity, how to relate to birds and fish and animals and how to appreciate monsters. Although there are many aspects of life in the Neolithic and Chalcolithic

55 Cf. the recent discovery of a Phase 5 fired clay face-mask placed upside down in a de-sacralised state in a pit at Balatonőszöd, Western Hungary (Horváth, T. 2012).

Fig. 4.39. (a) An example of Wengrow's composite snake-lion 'monster' from the Narmer Palette: height x width – 64 x 42cm (source: Wengrow 2014, Fig. 4.6a: copyright – Cambridge University Press) (L. Woodard); (b – d & f) figurine foot fragments, showing four, five and six toes, Orlovo (source: B. Gaydarska); (e) 'Monster; from the Phase 3 tell of Gorzsa (source: Horváth, F. 1998).

which were not rendered in figurines, this long list gives a flavour of what is was like to be human in times long gone. It is hard to imagine another medium which could convey so many different performances – such a diversity of ways of being alive.

Chapter summary

At the outset of this chapter, we met the old lady of Tărtăria, the warrior group of Stubline and the house-person of Tumba Madžari and were provoked to consider what they meant for Neolithic personhood in Old Europe. Each image embodied striking tensions in Neolithic lifeways: a ritual healer who could not heal herself, a combat unit too puny to fight and an apparently solid object oscillating between the states of body and house. Snapshots of such performances can inform us about three facets of personhood in this period. The Tărtăria burial highlighted the tension between the lady's individuality and the dividual links between her extended body-artifacts and other people and places. The Stubline group portrayed the sublimation of individuality within the communal group. The Tumba Madžari body-house showed how, in dividual personhood, the objects related to the body are equal partners with the body in cultural creation. How did such relations between people and objects make persons in the Balkan Neolithic?

Growing up in a dispersed homestead, a tell village or a Trypillia mega-site produced contrasting experiences for children but there were, nonetheless, common threads. The relationships with parents and close kin, the child-care embracing socialization, the contributions to maintenance activities in the house, the attempts to make trial objects in imitation of adult artifacts, the close contact with domestic animals, especially kids, piglets and calves, helping with the harvest and gathering fruits and nuts in the forest – all of these events made childhood a shared experience for children in Old Europe. But the larger the community, the more other persons the child would have met and the greater the potential for different kinds of social and visual experiences. Persons in different households would have developed a diversity of skills, some available for a child to learn in the home, others through peer-based learning hardly possible on a homestead. Equally, the diversity of 'military' training on large 'flat' villages could never have been found in homesteads. Moreover, a wider range of raw materials would have been available in villages to make a larger assemblage of objects, while ritual life would have been more diverse and expressive, using an enlarged set of figurines and other ritual accoutrements. This would have applied as much to the ritual costumes of the domestic domain as to mortuary costumes. The scale of dwelling mattered to childhood experiences, in turn leading to different kinds of persons with different potential skill sets and varied aesthetic experience.

The personal skills that people developed to make objects co-emerged with aesthetic appreciation of their surroundings – not least their own household. The craft of building a house and its resultant, usually rectangular, form created a geometric appreciation based upon appropriate action, precision and symmetry. Many of the household objects – not least decorated pottery and brightly coloured ornaments – were created using the same principles, with a daily visual impact on children in the household. Socialisation into the making of such objects and, eventually, houses relied upon the understanding of material aesthetics as an individual skill that only some children were interested in, or capable of, grasping.

Another important issue for personhood concerned the relations between non-human animals and humans. While the making of animal and bird figurines showed the centrality of domestic animals to everyday life as well as the incorporation of wild species and their landscapes into the cultural realm, the relatively common occurrence of hybrid animal-human and bird-human figures, as well as the much rarer fashioning of Wengrovian 'monsters' showed that figurine-makers were active in patrolling the boundaries of humanity and animality. Zoomorphs and monsters opened up an ontological space for debate on the meaning of persons.

Accepting the broad similarities in childhood experiences mentioned above (p. 105), the kinds of persons emerging in the Balkan Neolithic and Chalcolithic also depended on the specific socio-cultural context of people's lives. The beliefs about age and gender shared by people living at Lepenski Vir or in Hamangia settlements would have contrasted strongly with those settled in Dolnoslav-type tells or Tiszapolgár-type dispersed homesteads. In the first, the placing of the richly costumed human-fish hybrid sculptures in houses grounded persons in the seasonal cycle of the river Danube. In the second, the 'essential' form of personhood meant that both genders were present throughout the life but one or other was given primacy during the middle years. The 'incremental' form of personhood in Phase 4 Dolnoslav or Tiszapolgár saw gender identities grow in the middle years and remain fixed into old age. These three ways of grounding age and gender in a broader ideology would have framed the worldviews of the different people, leading to major differences in the ways that relationships were understood.

The increasing complexity of relationships in large tell communities may have been one reason for the proliferation of aspects of living that were celebrated and performed by figurines in the East Balkan Late Copper Age. Conversely, the paucity of figurines in the Copper Age Carpathian Basin may well have been related to the simplification of lifeways and relational networks consequent upon the abandonment of the Late Neolithic tells and the reduction in the size of the settlement unit.

It is interesting that generally similar ways of creating personhood helped persons to cope with the very different social demands of tell and homestead living.

Another major cultural difference that had a big impact on personhood was the visibility of metals in tells and cemeteries. Sofaer Derevenski's (2000a) account of changes in the gendered life course over a period of almost two millennia in the Great Hungarian Plain shows the importance of copper objects as equal partners in the creation of personhood through mortuary-zone performances. Copper metallurgists in Phase 3 made a limited range of ornaments, enabling a division into age-stages but with little gender differentiation. In Phase 4, the much wider range of copper objects were instrumental in defining age-gender divisions for the male and female life courses – differentials which were narrowed almost to the point of abandonment in late Phase 5. The varying significance of copper objects in the Alföld of Phases 3 and 4 meant that people there were living very different lives, with mortuary events creating different forms of personhood based upon greater or lesser degrees of age and gender separation. The practice of defining the stages in a life course through the deposition of often metal grave goods may be termed the 'Tiszapolgár' approach to personhood, which can be seen as a variant on the Dolnoslav kind of personhood. Since the deposition of copper tools and ornaments in settlement contexts on the Dolnoslav tell could not so readily be linked to aged and gendered persons, there is currently no way of testing the notion that metal was important in Dolnoslav-type personhood, with its commitment to continuity in sexual identities matched by age-related changes.

One important implication of the development of copper melting, smelting and alloying concerned the potential for objects to be re-cycled to produce 'new' objects. Taylor (1999) has termed this re-cycling the 'envaluing' of copper alloys – a practice that complicates the estimation of the quantities of copper available. The re-cycling of copper objects creates a new form of inter-object enchainment, with enormous, and hitherto little discussed, implications for personhood.

The third example of cultural differentiation was the emergence of complex social networks characterized by increasing numbers of different individuals with varied skill sets. Categorical analysis of Bulgarian Neolithic and Chalcolithic ceramic assemblages (Chapman & Gaydarska 2007, Chapter 2) showed the replacement of more oppositional styles of pottery form and decoration in Phase 3 by cross-cutting contrasts in Phase 4, indicating the weakening significance of contrastive relations and the greater importance of integrating many different kinds of people. The increasing number of 'portrait heads' made in Phase 4 as compared to earlier periods suggests that the portrayal of individual identities co-emerged with increasingly different kinds of people – a trend found also in figurines with specific medical conditions and figurines showing emotions. Just as recognizable persons were more likely to be portrayed, so they were increasingly buried in 'individualised' mortuary costumes created for only one person. It is no wonder that the integration of such difference posed such important social issues that the only way to address them was through the communal, performative use of ever more elaborate mortuary objects, according to increasingly strict collective rules of appropriate action, as in Phase 4 Hungary and Bulgaria.

While the persons dressed in elaborate mortuary costumes demonstrated overt performances of 'individuality', the Varna narratives relating to the brightly flashing red carnelian beads, the highly polished green jadeite axes, the gold-painted dish and the polished white marble vessels made important points about the newly-dead's dividuality – their links to a widespread social network, their political power based on relations with distant dividuals and their relations with highly skilled craftspeople making such dramatic objects. In other words, individualising and relational personhood combined to produce the Varna chief, just as the objects in Grave No. 43 were equal partners in the creation of the cultural memory of the person buried there.

In this chapter, we have encountered abundant examples of three of the important forms of relations for persons in Balkan prehistory – the communal, the individual and the dividual. In the next chapter, it is time to move on to examine the principal context in which persons developed these three forms of relationship – the living house.

Chapter 5

Houses and households

> (The 'Edwardians') "have laid an enormous stress on the fabric of things. They have given us a house in the hope that we may be able to deduce the human beings who live there" (Virginia Woolf 1924, 16).
>
> "And then the ultimate mystery, the fact that a room has been constituted as it has by people whose lives are passed in them" (Josipovici 1986, 48).

Introduction: building an experimental 'Neolithic' house

In the third season of the 'Ukrainian Trypillia Megasites Project, Stuart Johnston, then a Durham University undergraduate, proposed the idea of building two experimental 'Neolithic' houses in the village near the Trypillia mega-site, with the idea of burning down the one- and two-storey houses to compare their traces after burning. In July 2014, the Project made a request to the Mayor to provide a place for building in the centre of the village. A large quantity of pine planks was delivered to the site and Stuart started to implement his designs, with a small team of village builders. The timber frames of the houses emerged after a week, at which point Stuart needed more 'local' resources – hazel rods for the wattle, reeds for the roof, water for the clay mix for the walls and ceilings, cereal chaff for the temper of the daub and organics for making paint. Villagers were paid to collect and deliver all of these resources, with two key implications. First, the house-building project brought the project and the villagers into a closer, more productive relationship than any other aspect of the project research (Gaydarska et al. 2020). Secondly, the fabric of the house comprised a summary statement of all of the different environmental zones around the village – the lakes providing reeds and water, the arable fields giving chaff for temper, clay sources further from the village provided the clay, specific zones of secondary woodland provided hazel rods while primary forests would have given timber for the frames (Fig. 5.1a-b).

A key part of the research design was the burning of both experimental houses in 2015, to coincide with the Project's international conference. However, village mayor Bobko had grown attached to the houses and wanted them to remain intact, as the main part of his plan for Nebelivka heritage tourism. After an intense debate involving many stakeholders, an Anglo-Ukrainian compromise was reached – one house would remain standing, while one house was to be burnt. After discussing the literature on house-burning experiments with other Project members, Stuart decided to fill the house with as much timber as possible to ensure combustion: almost all of the 30m^3 of wood as fuel was used. On the day of the burning (14th May 2015), there was a light South-Westerly breeze and very little rain. Many visitors arrived from the surrounding villages to join the villagers of Nebelivka and the conference delegates. Stuart lit the fire at 12.50pm and we watched as the timber gradually caught fire. After 36 minutes, the thatch roof caught fire and burnt away completely. Within 80 minutes, one outside wall fell outwards in a single

Figure 5.1. Nebelivka experimental programme: (a) – (b) house-building; (c) – (d) – house-burning; (e) – (f) excavation of burnt house remains (source: Nebelivka Project).

unit. The entire house – all walls, ceilings and roof - was burning splendidly by 2pm and, after 4 hours, there was only part of one wall standing. A massive cone of ash 1.50m high covered much of the interior but overnight this had almost all disappeared (Fig. 5.1c-d). The project excavated the remains of the burnt house in 2017 (Johnston et al. 2018) (Fig. 5.1e-f). Many of the details that the project had found in excavations of timber-framed burnt houses appeared during the experimental firing.

Everyone who came to see the burning agreed that it was one of the most spectacular events they had ever seen. It seems likely that the Nebelivka house-burning of 2015 will remain in the memory of not just the Nebelivka villagers but also visitors from other villages for many years; everyone will recall the exact spot where the house was burnt. Each member of the project team closely involved with the experiment was certainly touched by their experience and strongly enchained to all the other builders, even though no-one actually lived in the house. The unburnt house stands still as a trace of an Anglo-Ukrainian archaeological project of the 2010s.

Definitions and general issues

For excavators in Old Europe, the house is a major attraction – a hoped-for container of a massive wealth and diversity of objects and a key part of Neolithic and Chalcolithic lifeways. So while J. Thomas (2015, 1084) is correct to emphasise the elaborate treatment of the dead in the European Neolithic, this is more true of the North-West than of Old Europe, which was dominated by settlement archaeology and, above all, houses.

But what is a 'house' and a 'household'? Building on P. Wilson (1988) and Hodder (1990), Leach has defined 'domestication' as the acclimatization to life in a household and its surrounding open spaces (Leach 2003, 360). Ian Hodder (2012, 72) has aptly contrasted the duality of houses – their ideal purpose – the ways in which they were constructed – with their lived-in everydayness – the experiences of their members and the activities in which they participated. Souvatzi (2008, Chapter 4: 2012: 2014) emphasises the creative tensions between the reality of variable social practices of the household and the longer-term, more consistent community ideals expressed in communal ideologies. One way in which such ideologies were performed was through the making and using of house models (Gusev 1995; Marangou 1996; Mantu 2002; Shatilo 2005; Lazarovici, C.-M. & Lazarovici, Gh. 2010). The seemingly straightforward contrast between the two concepts – 'houses' were physical entities and 'households' were social entities (Foster & Parker 2012) – has been criticised by Sanjek (2002), who claims that a single, all-embracing definition of 'households' is impossible. Here, I shall simplify a complex debate by equating one household / domestic group with one house (cf. Doppler et al. 2013).

Souvatzi (2008: 2014) has defined the household as consisting of one or more individuals often forming a co-resident group, sharing the performance of practices such as production, distribution, consumption, transmission and social reproduction. But Hendon (2010, 59-60) observes that such a formulation overlooks the meaningfulness of the house and of co-residence itself. For Hendon, the focus of the household was the groups of co-resident persons providing an important source of identity and social memory, as indeed Souvatzi would accept (2017). The meanings of household practices derived as much from the place itself as from the exact practices and who performed them. Moreover, from a relational perspective, Hendon's (2010, 179) idea that all houses were embodied and contributed to the distribution of personhood among members is a key insight into the importance of houses.

There has been a long and vigorous debate about 'families' in prehistory, often based on discussions about kinship in social anthropology (for summary, see Souvatzi 2017). In preference to the two recurrent terms used about families in the Western literature on households – 'nuclear' and 'extended' families, I shall use Goody's (1976) more neutral term 'the domestic group'.

While both objects and houses inhabited and constructed places, the latter also structured space and created a geometrically ordered world. The question arises of the differentiation of public buildings, workshops and other specialized structures from houses. It is also important to note that the outside space surrounding a house – the plazas, paths, lanes and middens – forms an important zone for household practices (Robin & Rothschild 2001). Built space materialized invisible social relations and anchored people to particular places (Bailey 2000).

Houses also structured time, whether on the everyday level of maintenance activities, going out into the world in the morning and returning in the evening (Bailey 1997), or as a theatre of memory linking the past to the future. The temporality of houses has been at the heart of the "The Times of Their Lives" (henceforward 'TOTL') research project, in which Bayesian modelling has been used to estimate the lifespans of houses at five sites at between 15 and 80 years respectively (Whittle 2018). We cannot readily generalize the TOTL results to other sites but they suggest the most probable use-life of a house was between 25 and 50 years, equivalent to two – four human generations.

House size

The very 'personality' of the house and its domestic group was closely related to house size (Tringham 1991; Whittle 2003). The variability Souvatzi (2008) found in Greek Neolithic houses also occurred in the coeval houses of Old Europe. The desired size of a house was one of its primary characteristics, directly influencing its location in a settlement and the exterior space surrounding it, its visual prominence or lack of it, the resources required for construction and therefore the co-operative labour required, as well as the size of the domestic group and their range of potential practices.

A variety of algorithms has been developed for the calculation of the number of residents from the interior floor area of a house (Naroll 1962; Brown, B. M. 1987; Porčić 2010: 2012: 2012a). The use of the simplest algorithm (Casselberry 1974) allows the definition of three house size ranges for Old Europe: Class I houses – up to 45m^2, for 6-8 persons; Class II houses – 46-100m^2, for 10-12 persons; and Class III houses – over 101m^2, for 13-20 persons. The normative implications for the residents in the framework of the short 15-year generation (see above, p. 44) could be summarised as follows. The Class I house was typically the home for a two-generational family, with grown children building their own house. The small-scale food requirements of such a domestic group, with c. 2,000 litres of grain *per annum* (see above, p. 84), meant modest labour inputs for cultivation. The time needed for the complete operational chain of making clothes, from field to fitting (see above, pp. 119-121), hindered the growth of specialized textile producers. Class I households would also have been likely to pool their stock with other households for animal-keeping as well as ploughing. The killing of a Class I house's sheep or bull would have supplied feasts for many other two-generational houses, if not the whole community. Equally, the constrained skill-set found in a Class I house meant more generalists than specialists and the need for importing skills from outside the household, even for building. Links between each member of a Class I household and wider lineage groupings were fundamental for the long-term viability of the two-generational family. Dividual identities were inescapable in small Neolithic households.

The growth of the domestic group beyond a certain point would have led to the construction of Class II houses. While Class II houses theoretically permitted the emergence of three-generational families, the acceptance of the 15-year generational model implies a larger number of children rather than the routine survivorhood of grandparents to enrich household networks. It became less likely that the larger grain requirements of this enlarged family (c. 4,000 litres *per annum*) could have been satisfied by garden cultivation alone. Equally, economies of scale meant full-time animal-keepers within the house. The increased range of personal skills in a larger household provided opportunities for specialization, although vertical transmission was still limited by the rarity of grandparental elders. In other words, relations between household and lineage were still vital in social reproduction.

All of these size-dependent trends were exaggerated for those living in a Class III house, where the role of the household leader in the extended family became even more significant. Food storage became vital, with increased grain consumption of perhaps 6,000 litres of grain *per annum*. The higher potential for specialized production, whether for local consumption or exchange, meant that the Class III house may have developed independent accumulation of wealth improbable in a Class I household.

The evidence for houses

There are three principal forms of evidence for Mesolithic, Neolithic and Chalcolithic houses in our study region: data on house-construction and -abandonment, household practices and miniature images of houses. In addition to many detailed excavation reports on house remains and accounts of experimental house-building (for the latter, see Johnston et al. 2018: 2019), there are two excellent summaries of Neolithic and Chalcolithic houses, providing a picture of the formal diversity of houses (Lichter 1993; Lazarovici, C.-M. & Gh. 2006: 2007). The contents of what excavators have found in houses are, however, more problematic for making inferences about household lifeways.

The production of house models, together with oven models and detachable miniature figures and furniture, underlined the social and political significance of houses (Bailey 2005, 170-1) and their links to ancestral lineages (Shatilo 2005). House models were found in all Phases of the Neolithic and Copper Age in Old Europe, showing enormous regional and temporal diversity, which included a concentration of hybrid body-houses in North Macedonia, a focus on house models fashioned in the shape of handles in Bulgaria and the creation of 'tower-houses' at the North Bulgarian Polyanitsa tell. Such diversity can be discussed as a result of three contrasts. Contrasts in size, shape and elaboration posed the question of whether the simpler, smaller models represented houses rather than the 'shrines' portrayed in the more elaborate cases (e.g., Fig. 5.16). The contrast between the dominant one-storey and the rare two-storey models has been used in the debate over the interpretation of full-sized houses, with the debate rehearsed over realistic representations or artistic license (Shatilo 2005).

The third contrast is by far the most interesting – the open form vs. the closed form. Three explanations have been offered for the shift from a predominance of closed models in the Thessalian Middle Neolithic to the use of open models in the Late Neolithic: (1) Bailey's (2005) notion of the shift from the shared perception of a generic building to the more specific concept of a particular building with associated persons; (2) Nanoglou's (2001) proposal of a shift from a physical, built structure to the persons using that structure; and (3) Bailey's (2005) further idea of a shift from stable, fixed closed representations to open images allowing later alteration and manipulation. These explanations will be considered in the Phase-by-Phase discussions of house models since there is a parallel shift from closed to open models North of Thessaly.

A Balkan prehistoric issue that simply will not go away and die concerns the continuing calls for 'pit-houses' on Neolithic and Chalcolithic sites (Lazarovici, C.-M. & Lazarovici, Gh. 2006: 2007; Tolevski 2009; Bailey 2000; Jongsma & Greenfield 2001: Greenfield & Jongsma 2008, 115-7)[56]. The notion that people lived in pits when they were patently capable of building spacious, comfortable above-ground dwellings has been criticized on several grounds, notably the contrast between the irregularity of the pit forms and the geometric design of the houses (Chapman 2000b; Bánffy 2013). Thus, it seems highly

56 The most heated debate at an otherwise orderly March 2019 conference in Tübingen concerned the possible existence of 'pit-houses'.

improbable that one of the varied practices conducted in pits was dwelling. A good counter-example comes from the Starčevo phase at Alsónyék, where large quantities of daub presenced the missing surface houses (Osztás et al. 2016, 12-13). A more interesting approach to pits has been developed by Bailey (2018, 1-41), where he emphasises that the place for digging a pit was a significant locale within a settlement, with the primary act of digging a pit as important as its (secondary) contents.

Taphonomic issues and house-burning

A more important issue than 'pit-houses' concerns what everyday activities went on in the house and the structuring of the dwelling space. Most prehistorians accept the 'reflectionist' view of apparently *in situ* household assemblages – namely that material remains can be viewed as a direct reflection of past social conditions (Childe 1956, 1; Sherratt 1984). It is but a short step to seek activity areas through the discovery of patterning in house assemblages (for critique, Chapman & Gaydarska 2007, Chapter 4). The spatial analysis of house floors and the search for 'primary refuse' has occupied many archaeologists, none more than Susan Kent (1984: 1987: 1991). More recently, the technological analysis of sherds assumed to derive from the houses where they were found extends this reflectionist view, which ignores the possibility of other households contributing *their* pottery to a house 'death assemblage' (e.g., Kreiter et al. 2017).

However, the 'reflectionist' view of house assemblages has been criticized from a taphonomic viewpoint. In their study of refuse disposal in the Maya Highlands, Hayden & Cannon (1983, 118) observed that "Artifact distributions in sedentary contexts provide the least reliable, most ambiguous indicators of specific activity areas, but are nevertheless the indicators most widely used." Similarly, Hally (1983, 179) summarises the implications of Murray's (1980) research on discard thus: "These findings imply that the distribution of trash on a site may bear little relationship to the distribution of activities that produced it". These lessons have been largely ignored in Old European settlement archaeology, where reflectionist thinking continues more or less unchecked.

The principal alternative to reflectionist assumptions is that assemblages in abandoned houses were created as part of the social practice of deliberate abandonment, with objects derived both from inside the house-to-die as well as brought in from other households as 'grave goods'. While unburnt houses were also common in Old Europe (given appropriate recovery techniques: e.g., Popovici & Randoin 1996), house-burning was so common in Balkan prehistory (Tringham, n.d.) that Stevanović (1997) was able to claim that it was ubiquitous on Vinča settlements (cf. Kruts 2003 for Trypillia burnt houses). Seven explanations of burnt houses have been advanced: (1) accidental lightning strikes; (2) the traditional invasion hypothesis, usually involving long-range North Pontic arsonists (Gimbutas 1977) but also aggressive local groups; (3) accidental fires arising from cooking, baking or other pyrotechnical activities (McPherron & Christopher 1988, 477-480); (4) burning the house during building to strengthen the walls (Krichevskii 1940; Korvin-Piotrovskiy et al. 2012); (5) the firing of an old house facilitates the re-use of fired clay in other constructions (Shaffer 1993); (6) firing aids fumigation and the destruction of animal or insect pests; and (7) the deliberate destruction of a house by fire to complete the life-cycle of the house and its contents (*pro*: Raczky 1983; Tringham & Krstić 1990: 584; Stevanović 1997: 2002; Chapman 1999a; Tringham 2005; Kaltsogianni 2011; *contra*: Schier 2006; Tasić, Nenad et al., 2015).

There is no doubt that there are rare examples of attacks resulting in the burning of houses (e.g., Tell Yunacite: see above, p. 129). Stevanović' key finding is that successful house-burning cannot be completed using the materials of the house itself but requires the addition of extra fuel (Bankoff & Winter 1979; Stevanović 1997) – a view recently confirmed by the Nebelivka house-burning experiment (Johnston et al., 2018: 2019) (Fig. 5.1c-d). This conclusion makes deliberate action the most probable reason for most burnt houses. Moreover, there are several instances of structured deposition of animals or objects which make sense only as deliberate acts before the burning of the house (Chapman 1999a). Let us examine one case of a burnt house assemblage from the Phase 4 tell of Pietrele, in the lower Danube Basin (Hansen & Toderaş 2010: 2012).

The fully excavated East House at Pietrele is dated to the final phase of the tell's occupation, c. 4250 BC (Reingruber 2010). In this multi-area, communal house (Figs. 3.12b & 5.2), measuring over 12.5m x 10m, each area had the same combination of fired clay installations (oven and hearth), grinding equipment and storage vessels and spouted troughs, although pottery decoration was very different in each area. Reingruber (2010, 117) identified the existence of similar 'functional pot units' in each room, comprising large-volume, medium-volume and small vessels, spouted vessels and drinking cups/beakers. From these observations, Reingruber inferred that the East House was not a private dwelling but a communal house, perhaps for processing and storing grain. But how can we explain the vast number of 249 pots in this burnt house (2010, Abb. 11) (Fig. 5.2)?

Reingruber dismisses Bem's resevations over whether the 100 vessels found in a house at Bucşani were more than a normal house inventory (Bem et al. 2002) by stating that Bem has nowhere defined what is 'too many' or 'enough' vessels for a house inventory. However, Reingruber fails to appreciate the simple physical fact that, if over 100 vessels were placed end to end in an area of 125m^2 already packed with internal fittings, there would simply be no room to

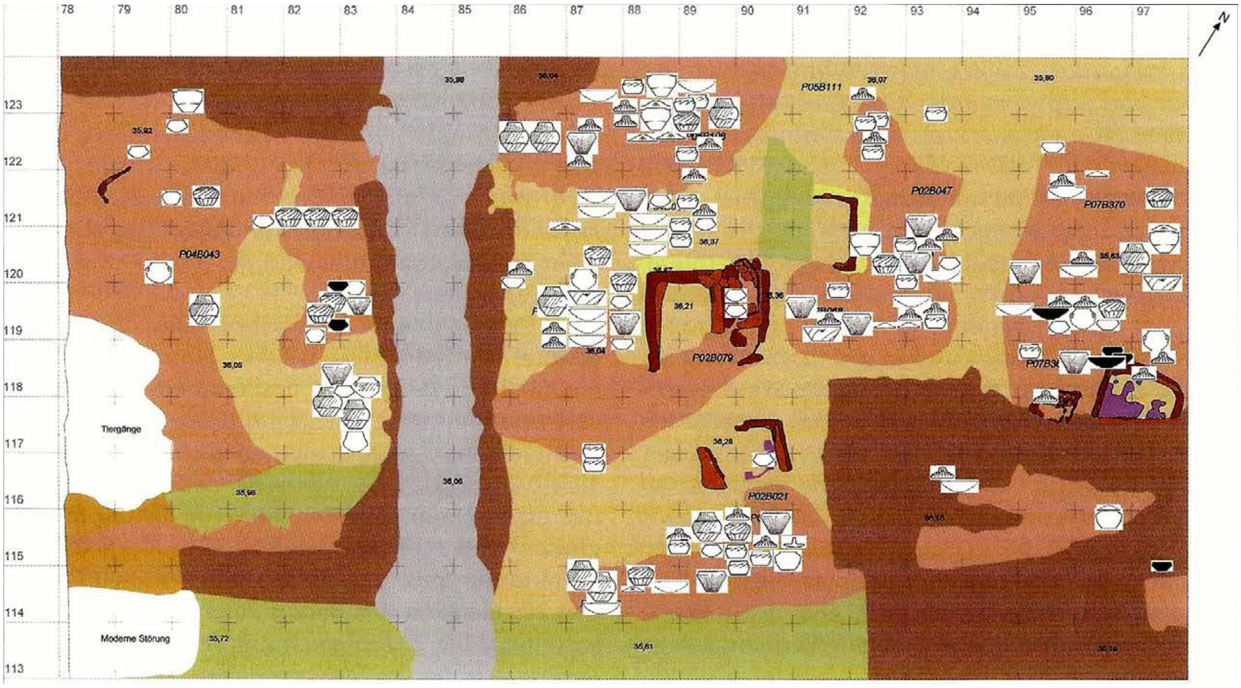


Figure 5.2. Pietrele East House: plan and pottery (Reingruber 2010, Abb. 14: copyright – Deutsches Archäologisches Institut).

move around on the floor. An alternative narrative of the assemblage as grave goods starts from the observation that most of the pottery had been deposited as fragments rather than as whole vessels, enchaining the burnt house to donor households. Each donor household provided pottery with their own, different decoration in the five areas. The great size of this house assemblage would indicate the high esteem in which the household and the dead leader had been held.

There is plentiful ethnographic evidence for the size of household ceramic assemblages. Varien & Mills (1997) show that the mean number of vessels is coeval use in ethnographic households was 25 +/- 27 pots (cf. also Mills 1989; Hill, J. D. 1995, 129-130; Garrow 2015, 737). These data show that the Pietrele East House assemblage is much larger than even the largest ethnographic household assemblages, suggesting that we seek an alternative to Reingruber's interpretation of accidental burning. The first stage of the house-burning ritual consisted of offerings of complete vessels and sherds from different houses; then, the house was burnt down with elaborate ritual and stunning visual effects. Such events formed key rituals in the tell's calendar, creating vivid timemarks for the future. A contrasting *châine opératoire* occurred at the Csőszhalom tell, where the large assemblage of unburnt sherds in burnt House 11 showed that the sherds were placed in the house after the fire had died down (Raczky & Sebők 2014).

But there is another type of burnt house assemblage – the set of up to 50 vessels which was consistent with the ethnographic data on household assemblages. Porčić (2012a) has considered the pottery assemblages of completely excavated Vinča houses (e.g., Houses 13-17 at Divostin: see below, pp. 171 & 177), concluding that none of them was large enough to require the addition of vessels before house burning to explain the assemblage size. The mean number of vessels in the Vinča assemblages was 28 pots, with a standard deviation of 10 pots – well within the ethnographic range. While Porčić (2012a) accepts that deliberate house burning was probable in Vinča settlements, he also accepts that his analysis does not prove that Vinča assemblages were systemic assemblages *sensu* Schiffer (1976). This result suggests that house-burning rituals at Divostin did not rely so heavily on inter-household engagement as in the Pietrele case.

It should also not be forgotten that there are many houses on Balkan Neolithic and Chalcolithic sites which were abandoned after weak burning or without any burning. Investigation techniques were often unsuited to the recognition of unburnt / weakly burnt houses, whether from remote sensing[57] or from excavation[58]. The implication is that there has been a severe under-estimation of the number of unburnt houses in Old Europe. In Phase 3 Uivar, only 5% of the excavated buildings had been burnt (Schier 2006).

57 Unburnt houses were not recognized in the first 40 years of geophysical prospection of Trypillian sites, until high-precision magentometers were used (e.g., Hale et al. 2010). At the mega-site of Nebelivka, c. 1/3 of houses have not been burnt or have been weakly burnt (Chapman et al. 2014).

58 The frequency of unburnt houses has been under-estimated for taphonomic reasons and because of excavation techniques. In Romanian prehistory, the first finding of an unburnt house on a tell (tell Hârşova, 1995 season) occurred when trowels and brushes rather than picks and shovels were used in the joint French-Romanian excavations (Popovici & Radoin 1996).

Moreover, both at Uivar and at Vinča – Belo Brdo, there were long periods during which house-burning did not take place (Schier et al., in press; Tasić, Nenad et al., 2016). Equally, there was a strong contrast between the burnt houses on the Phase 3 Csőszhalom tell and the absence of burnt houses on the adjoining flat site (Raczky and Anders 2010). The most likely reasons for not burning houses at the end of their lives are alternative rituals of house abandonment (Chapman 2015; see below, p. 183). However, 'unburnt' houses may in fact constitute the remains of houses fired at insufficiently high temperatures, with too little fuel to ensure complete combustion (Johnston et al., 2018: 2019).

The Pietrele and Divostin examples show us that the reflectionist interpretation of burnt house assemblages can lead to misinterpretations, which we can avoid only through careful taphonomic analysis. This question has all but been ignored in interpretations of Balkan Mesolithic, Neolithic and Chalcolithic houses. Following taphonomic analysis, the question arises of how to characterize the range of household practices in each house. Reliance on internal features and fittings will be prioritized over artifact distributions (unless built *in situ*) to characterize household practices. In addition, we should consider the meaning of variability of house design and practices in different classes of sites (open, enclosed, tells and homesteads), as well as over time and space. And, finally, to what extent did households become autonomous and, if so, were autonomous households, inequalities between houses and sedentary life in long-lasting houses causally related?

Building forager houses in Phases 1 (7000-6300 BC) and 2 (6300-5300 BC)

In this section, I consider all of the forager houses together because the chronology of the houses covers parts of both Phases 1 and 2. There is a well-documented contrast between forager houses outside the Iron Gates gorge and those within it. Outside the gorge, three circular huts of varying sizes are known from Hungary – Szödliget, Jásztelek I (the largest, with a floor area of 19m^2) and Regöly (Bánffy 2013). Within the gorge, foragers started to build trapezoidal huts with reddish limestone floors as early as 7000 BC (Fig. 2.5c) but the practice faded in the 7th millennium, returning only for a period of c. three centuries contemporary with the emergence of farming in the central Balkans (6200-5900 BC) (Bonsall et al. 2008). The imitation in dwelling form of the trapezoidal Treskavac mountain opposite Lepenski Vir (Nandris 1968a) (Fig. 2.5a) may have been the foragers' response to the farmers' building ideology, represented outside the gorge by rectangular timber-framed houses (Borić 2008).

Trapezoidal houses have been found at only three right-bank sites – Lepenski Vir, Vlasac and Padina. The most important site, Lepenski Vir, on the right bank of the Danube, was also the site with the largest and best-preserved set of trapezoidal houses, often dug into the slope of the hill and symmetrically planned with a red mortar floor, a central long axis marked by a stone-built rectangular hearth, a short rear end supported by a drystone wall, two straight side walls of the same dimensions formed by boulders and a curved front wall (Srejović 1972, Fig. 8). The famous monumental stone sculptures were usually placed on the long axis of the houses (Srejović & Babović 1983) (Fig. 4.37). Foundation sacrifices of one to five infants were made under 19 houses (Borić & Stefanović 2004, Table 1). The Lepenski Vir houses varied in size from storerooms of 1.7m^2 or 3.7m^2, through the typical size range of 5-15m^2 for small domestic groups, to House 54, whose floor area of 30m^2 suggests a possible public building – perhaps a congregation space? The restriction of trapezoidal houses to only three of the IGM sites and large sculpted boulders to only one site suggests inter-site ritual differentiation as well as intra-site social variations based upon the mediation of access to the ancestors through the powerful sculptures (Borić 2005). The absence of production debris in the Lepenski Vir houses suggests the probability of outdoor flint-knapping and bone- and stone-working, while carp and sturgeon fillets could have been roasted in the stone hearths in the houses after being stunned with the elaborately decorated stone clubs.

Phase 2 houses

There was a long heritage of rectangular and round houses in Anatolia and Greece on which early European farmers could draw for their own structures (Brami 2014; Souvatzi 2008), as well as the trapezoidal shape found in the Iron Gates gorge. The overwhelming conclusion is that the rectangular form was the only prototype for the design of houses all over Old Europe. At least four building techniques were tried – unknown upper walls set on stone foundations, mud-brick walls, pisé walls and timber-framed, wattle-and-daub walls. The emerging consensus saw the creation of a timber-framed style which carries on until today in rural areas.

House size

One of the greatest contrasts between the Iron Gates trapezoidal houses and the rectangular houses of early farming communities lay in the latters' potential for expanding floor area (Fig. 5.3). All three house size Classes were found on the tells and flat sites of the Southern Balkans as well as on flat sites in the Struma valley. In the Central Balkans and North Bulgaria, one-roomed Class I houses were more common (e.g., Divostin (Bogdanović 1988) and Ovcharovo – Gorata (Krauß 2014)) (Fig. 5.3), although a small number of Class II houses is known from Bosnia (e.g., Obre I: Benac 1973). The only Class III house known in Phase 2 was built at Ostrovul Golu, with an area of 102m^2 (Lazarovici, C.-M. & Gh. 2006). In the flat site zone of the Carpathian Basin, the range of house sizes matched those South of the

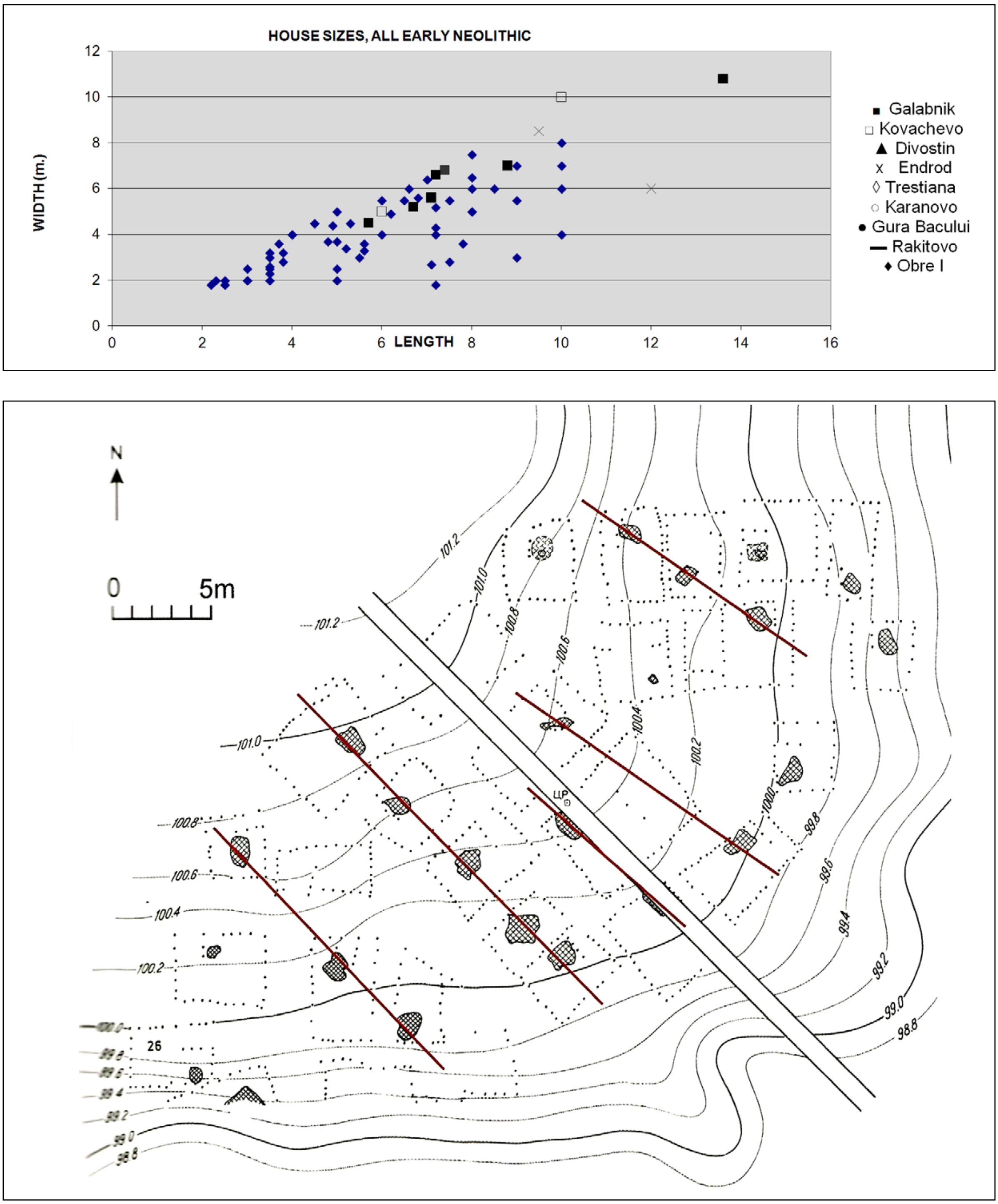


Figure 5.3. (top) House dimensions, Phase 2 farming sites (source: author); (bottom) House plans, Phase 2 site of Ovcharovo – Gorata level I (source: Krauß 2014, Abb. 28).

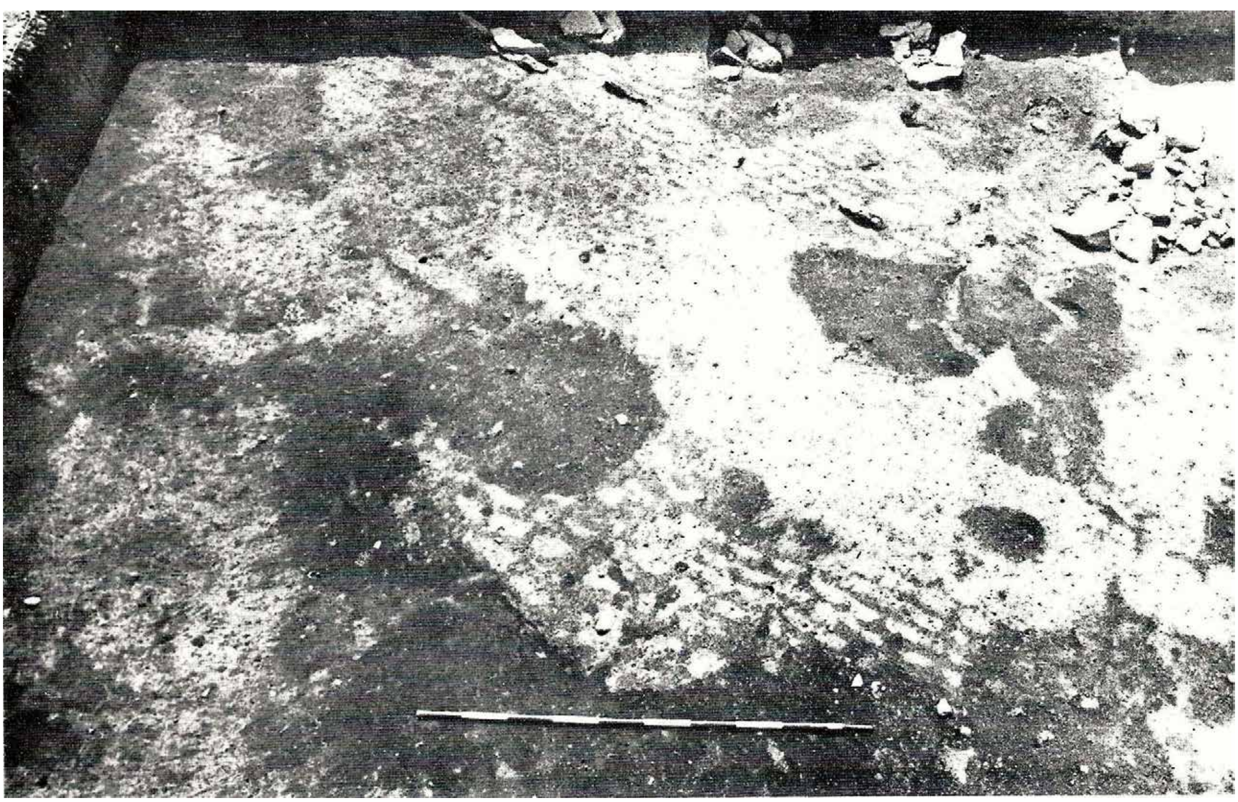


Figure 5.4. (top) Reconstruction of Phase 2 long-houses, Pityerdomb (source: Oross & Bánffy 2012, Fig. 2); (bottom) Fallen mud-brick wall, Phase 1a, multi-period site of Anza (source: Gimbutas 1976, Plate 2/1: copyright – Cotsen Institute of Archaeology, Los Angeles).

Danube, except for the absence of Class III houses (e.g., Trestiana: Popuşoi 2005) (Fig. 5.3). The size range of 1.7m^2 to 8.5m^2 (a mean of 4.8m^2) at Gura Baciului is the only farming site with house sizes comparable to those of Lepenski Vir (Lazarovici, Gh. & Maxim 1995). The first long-houses emerged at the end of Phase 2 in the Carpathian Basin, at the start of a Linearbandkeramik tradition established at sites such as Pityerdomb (Bánffy 2013) (Fig. 5.4).

Building techniques

Most early farming communities in Old Europe lived in a 'world of clay'[59] sustained by their houses and material culture. An important part of dwelling in temperate European environments was the refinement of the timber-framed building tradition, in which the timber framework was supported by clay[60] (Fig. 5.4).

While smaller houses used a light timber-and-reed framework (e.g., Ecsegfalva 23: Matieciuková & Carneiro 2007) or slender posts set in low clay wall-foundations (e.g., tell Karanovo Phases I – II: Hiller & Nikolov 1997), larger houses relied on vertical load-bearing wall-posts, sometimes supported by internal posts (e.g., Tumba Madžari: Fig. 4.3). At least three variant traditions were found in North Macedonia and the Struma valley:- mud-brick walls, typical for Northern Greece and North-West Turkey, were rare, best exemplified by a fallen mud-brick wall at Anza Phase Ia (Gimbutas 1976: Plate 2/1) (here Fig. 5.4)[61]; dry-stone walls, found at a single house at Kovachevo (Chohadzhiev, S. 2007); and a Bulgarian variant on '*pisé*' called '*glinobitna*' in Bulgarian, found only at Galabovo (Pernicheva et al. 2011). Only the third technique became a regional building tradition, lasting into Phase 4.

Bánffy's (2013, 124) summary of Phase 2 houses in the North Balkans as 'surface-level, timber-framed, daub-walled, rectangular houses with a pitched roof' is only part of the story. The experimentation with building styles found in the Struma – Vardar areas is not reproduced in the Carpathian Basin, suggesting that the timber-framed tradition was established there by the late 6th millennium BC. However, there were differences in the solidity and permanence of houses – rather greater at sites such as Ostrovul Golu and Trestiana, rather less at Verbiţa, Ecsegfalva 23 and Gornea.

59 Or, as Bánffy (2019) terms it, 'clayscapes'.

60 The timber-framed building tradition began in the 7th millennium BC in Western Anatolia as one of the two contemporary building traditions of mud-brick architecture and timber-framed building (Brami & Heyd 2011).

61 NB the mud-brick wall technique was found only in the first occupation level at Anza.

House models

Very few house models have been found outside North Macedonia in Phase 2 – an open house model at Sofia-Slatina (Nikolov, V. 1992), a closed model from Gradeshnitsa-Lukanovo Drvo (Pernicheva 1978) and a closed model from Röszke-Ludvár (Trogmayer 1966). The North Macedonian hybrid body-houses formed a regionally specific group with anthropomorphic features, often replete with human decoration (Sanev 2006; Naumov 2013; see the account of the Tumba Madžari body-house, pp. 102-3 and Fig. 4.3). These striking persons were sometimes fragmented into an anthropomorphic cylinder (?phallic chimney) and the house model (e.g., Sredselo).

Interior features and fittings

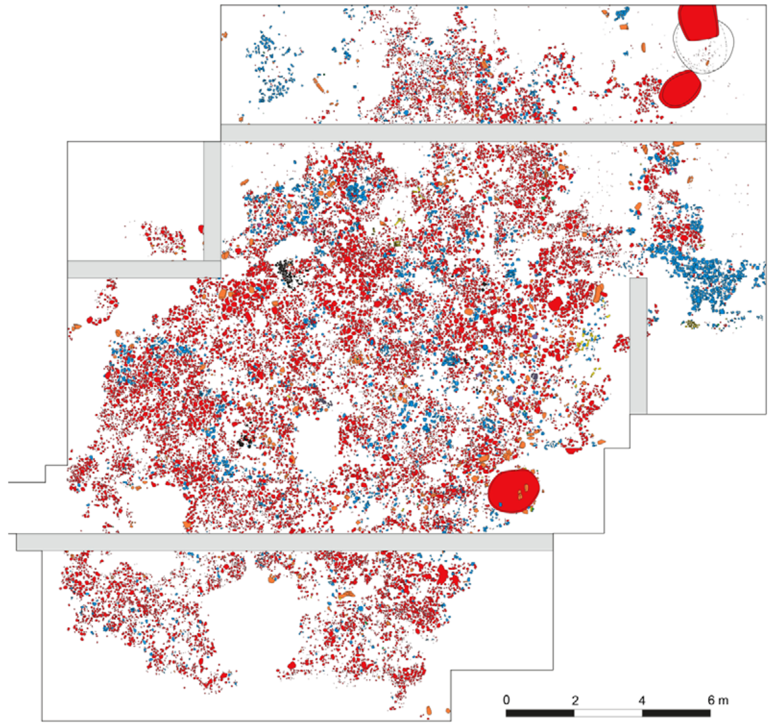
There is a contrast between houses in the Northern and Southern parts of Old Europe – the latter replete with interior fittings and creature comforts of a kind rare in the North Balkans. There was a tendency, especially in the South Balkans, for a more elaborate set of interior fittings – especially ovens and hearths (see above, p. 112) – in the larger houses. A good example of a complex interior was found in House 1 at Tumba Madžari- the source of the body-house discussed above (pp. 102-3 & Fig. 4.3). One of the two rooms was divided into two by a low partition (Sanev 1988, Pl. II). Fired clay tables ('altars') were placed in the NW and the NE rooms, the latter also including a pile of loom-weights (suggesting a horizontal loom). The South room was almost devoid of interior fittings, with many vessels, including the complete body-house, along the South wall but few tools. Sanev (1988) has interpreted this ensemble not as a 'house' but a 'shrine' (supported by Bánffy 2017, 718). However, it would be unwise to prioritize special ritual practices over profane everyday activities (weaving, grinding, food storage).

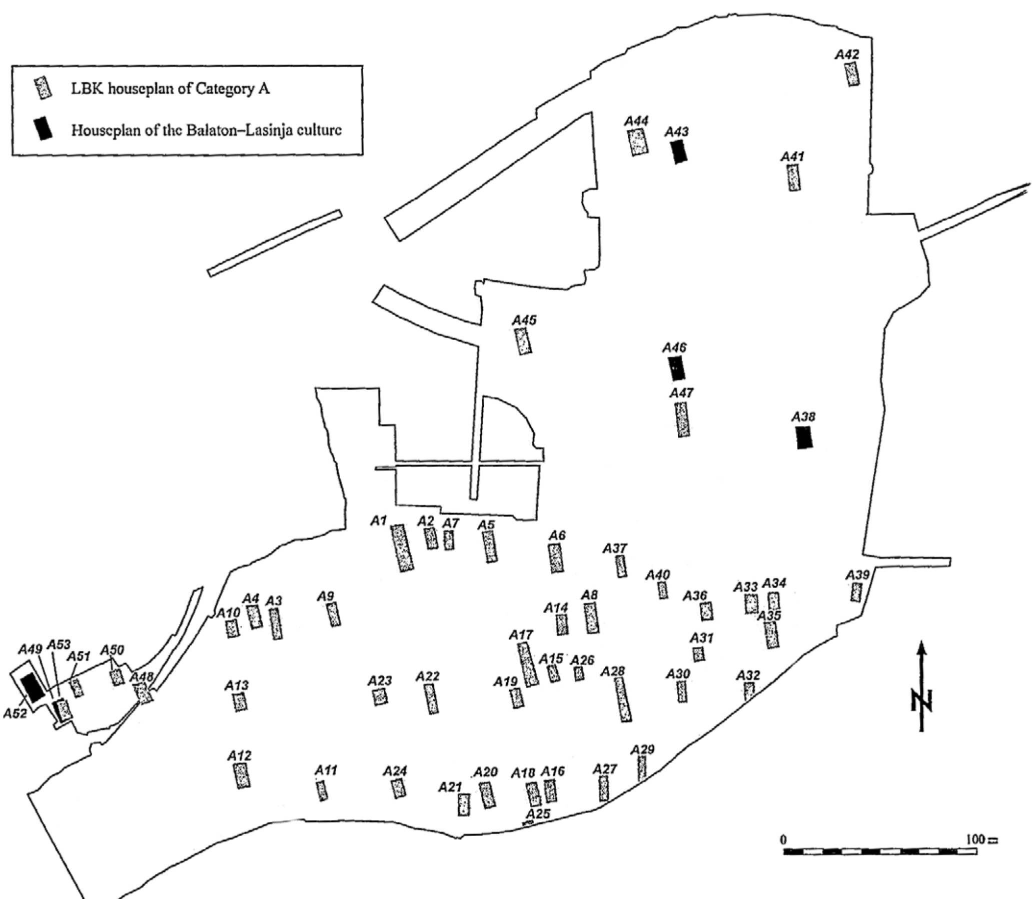
Such houses stood in contrast to houses in the North Balkans, with fewer interior features (but NB the one or two hearths in every house at Ovcharovo – Gorata, in North Bulgaria (Krauß 2014) (Fig. 5.3). Foundation deposits are known from Trestiana and Endrőd 39 (Makkay 2007a) but the most intriguing is the insertion of a still visible human skull from an ancestral time (dated by AMS to the Mesolithic) into the clay platform of an early farming house at Bač – Topola (Whittle et al. 2002).

Summary of Phase 2 houses

In summary, there was a wide range of house sizes both on a single site and across sites within regions in Phase 2, indicating varied sizes of households. The short-lived experimentation in house-building techniques in the SW Balkans and their absence further North suggests that

Figure 5.5. (top) Plan of Pre-Cucuteni house at Baia – În Muchie: key: red – burnt clay; blue – pottery; yellow – bone; light-brown – stone; black – internal features (fireplaces and bins) (source: Ursu & Ţerna 2015, Fig. 2); (bottom) Plan of *Linearbandkeramik* long-houses, Balatonszárszó (source: Oross 2013, Fig. 1).





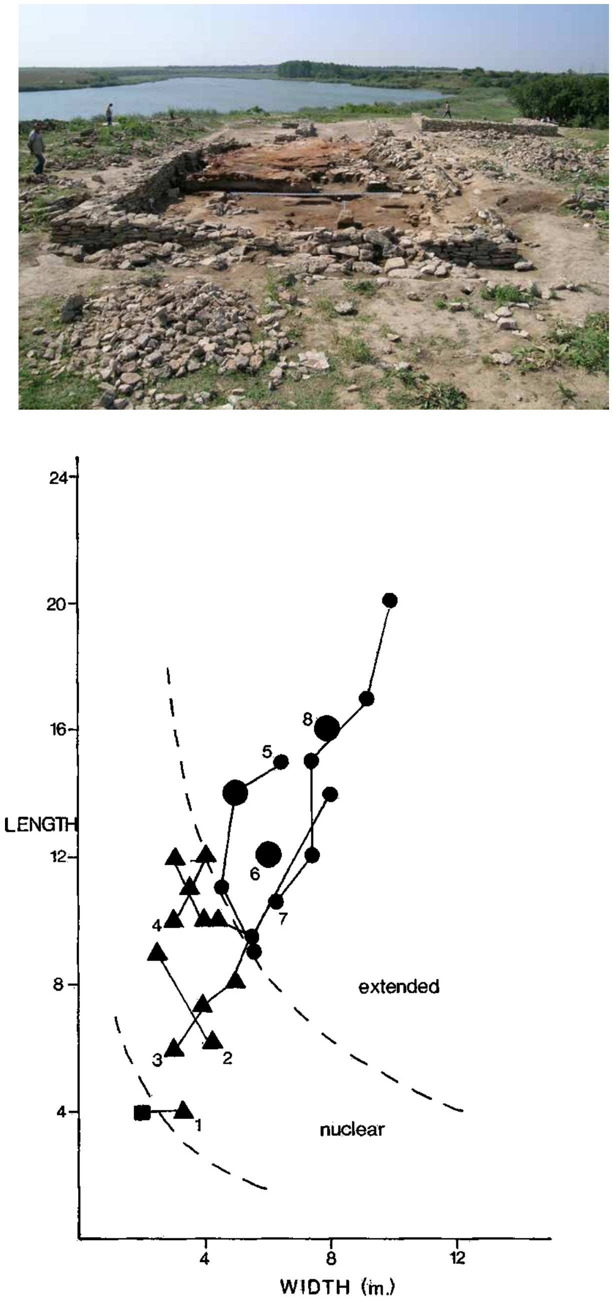


Figure 5.6. (top) Phase 3 dry-stone walled house 8-VII from North, Durankulak Big Island (source: author's photo); (bottom) House sizes, Vinča group (source: author).

the tradition of timber-framed building was consolidated through time. Although South Balkan houses tended to have a wider range of more solid interior fittings and features, perhaps consistent with longer-term house occupancy, these traits were occasionally evident in the North Balkans, where large houses of over 100m² were sometimes also built. There would appear to be no difference between houses built on tells and on flat sites at this stage of the Neolithic. However, the difference emerging in Phase II between tell houses and houses on flat sites was the greater flexibility of outside space on the latter, with the potential for a much wider range of practices than on the more densely-packed tells (for a full discussion, see below, pp. 189-194). House models were an important part of Phase 2 material culture in North Macedonia, with little impact elsewhere.

Phase 3 houses

A large sample of completely excavated Phase 3 houses in each part of Old Europe is available for building practices and daily lifeways. The principal architectural contrast between Phases 2 and 3 is the higher proportion of solidly-built houses with much more clay in Phase 3.

House size

The analysis of house sizes shows that the overall picture remains as before, with few Class III houses in any areas except LBK sites in Western Hungary (Oross 2013; Ilon 2013) and the Early – Middle Copper Age tell of Durankulak, on the Black Sea coast (Todorova 1997). However, the largest houses have become bigger still, with multi-room structures of over 200m² for the first time (e.g., Idjoš – Gradište, Vojvodina; the Durankulak tell).

Recent motorway rescue excavations have revealed sites with large numbers of timber-framed long-houses typical of the wider Central European Linearbandkeramik (or 'LBK') distribution (e.g., Balatonszárszó and Torony – Nagyrét – dűlő) (Fig. 5.5). The use of LBK-style long-houses by households making several styles of pottery, including Vinča, has now been demonstrated at Versend and Szederkény (Jakucs et al. 2016), while similar long-houses continued to be used in the Phase 3 Lengyel group in Western Hungary (e.g., Alsónyék: Márton & Orosz 2012). The Durankulak community built some of the only stone-built houses in the Balkans from the start of the Big Island occupation (Todorova 1997) (Fig. 5.6); the size and construction of these houses stood in marked contrast to the Class I buildings of other Hamangia sites (Haşotti 1997).

Equally, the co-existence of smaller and very large houses in the same settlement indicates household differentiation and the development of complex domestic group structures, as in the mixture of Class I and II houses on most sites (e.g., the Vinča group: Fig. 5.6), with differing size preferences by site rather than cultural group. On Middle Danubian tells, there was a strong preference for Class I houses at Parţa (levels 7a – c & 5), the Butmir houses at Obre II and Okolište and in Transylvania and Moldavia (e.g., at Hăbăşeşti: Dumitrescu, V. et al. 1954). By contrast, Class I and II houses were equally frequent in both phases of the South Bulgarian tell of Drama-Merdzumekja

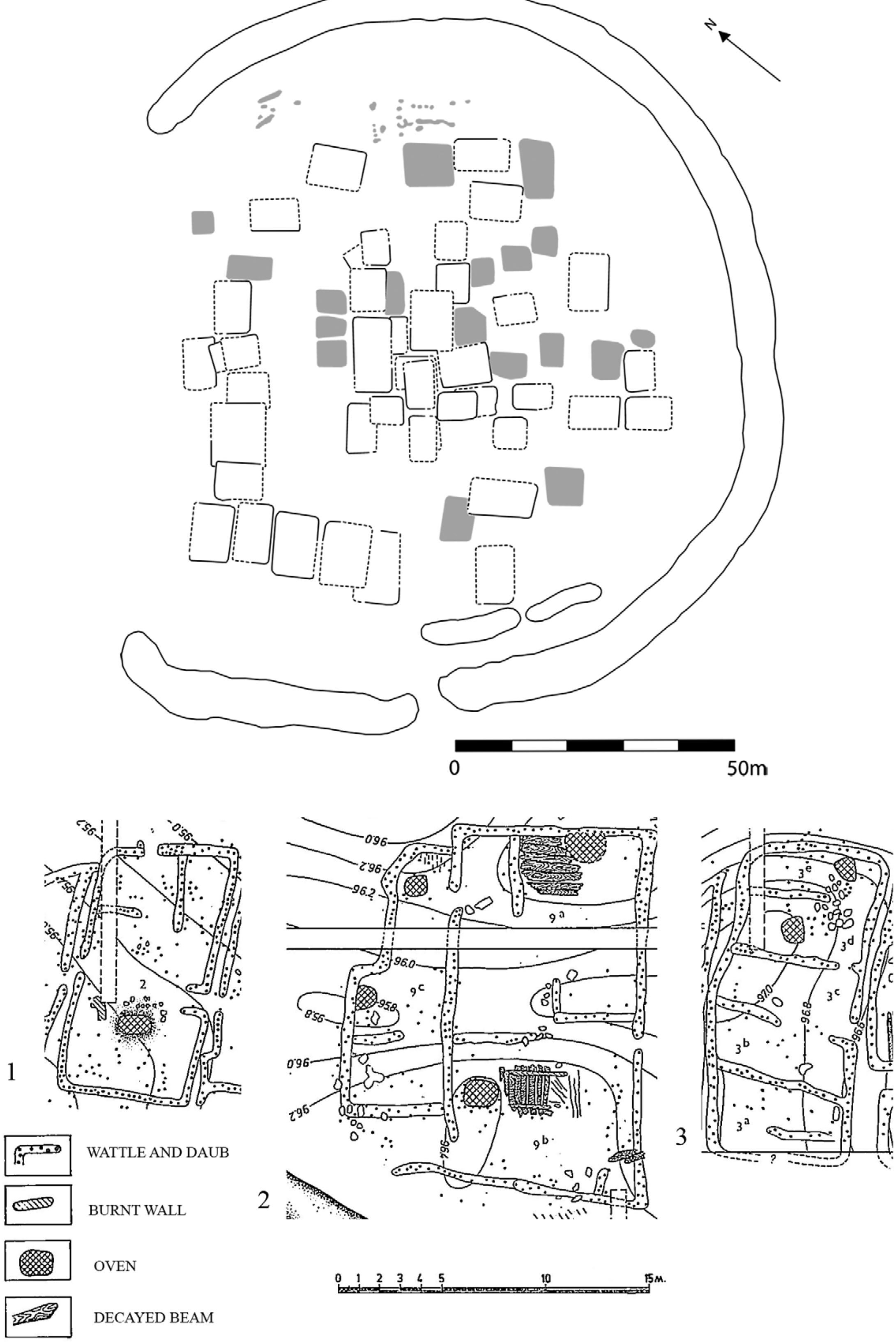


Figure 5.7. (top) Settlement plan of Phase 2 tell of Drama-Merdzumekja (source: Lichardus et al. 2000, Fig. 31); (bottom) Class III houses, Phase 3 levels at tell Ovcharovo (source: Todorova 1983, Tablo 17, 19-22: copyright – Ivo Vajsov).

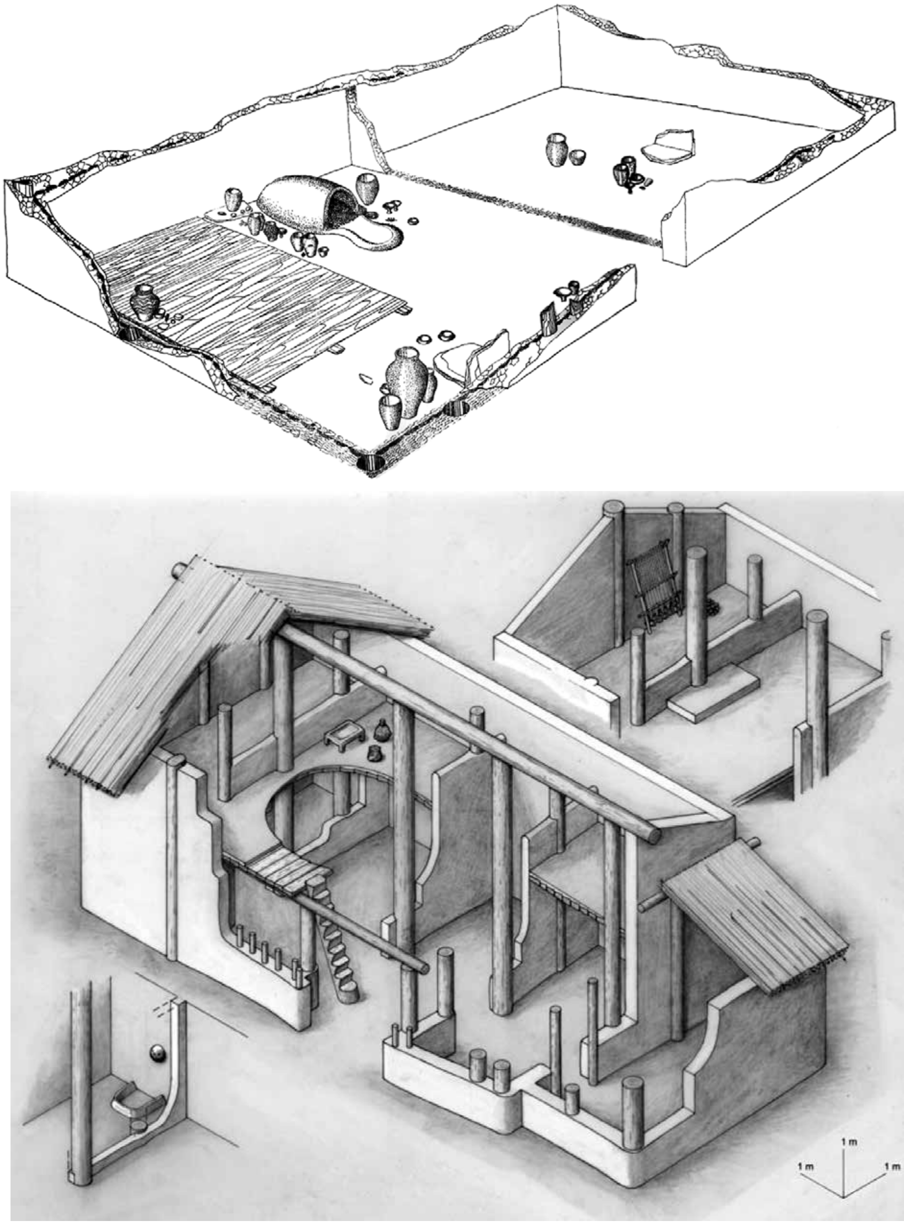


Figure 5.8. (top) Reconstruction of Phase 3 House 13, Obre II: length x width – 8.6 x 4.2m (source: Benac 1973, Plan 13: copyright – Zemaljski Muzej Sarajevo) (L.Woodard); (bottom) Off-tell house XV/2245 at Uivar: length x width – 12 x 5m (source: Draşovean et al. 2017, Fig. 4).

(Lichardus et al. 2000, Figs. 19 & 31)[62] (Fig. 5.7), while Class II houses were preferred in the Struma valley sites in Western Bulgaria (Chohadzhiev, S. 2007). The Phase 3 layers of the six completely excavated tells of North-East Bulgaria and the Black Sea zone[63] show both intra- and inter-regional variation. There was a majority of Class I houses at Vinitsa near the Black Sea coastal sites but more Class II than Class I houses inland and at Goljamo Delchevo. However, inland house sizes also differed between sites, with the inhabitants of Ovcharovo alone building more Class III houses than at any other site (Fig. 5.7).

Building techniques

With the exceptions of a small number of sites on the West and East coasts of the Balkan Peninsula, where houses were built using dry-stone-walling (e.g., the Dalmatian site of Pokrovnik), the dominant tradition of timber-framed building established in the later part of Phase 2 continued at most other sites (e.g., Obre II: Benac 1973) (Fig. 5.8) and Uivar (Draşovean & Schier 2010) (Fig. 5.8). The '*glinobitna*'

62 There has been confusion over the chronological attribution of the two Copper Age levels at tell Drama – Merdzumekja (Lichardus et al. 2000, Fig. 60). The pottery of the lower level, termed 'Karanovo V' by the excavators, would normally be classed as 'Karanovo IV' (or Late Neolithic, while the pottery of the upper level, termed 'Karanovo VI' by the excavators, is a standard Karanovo V assemblage for other scholars.

63 The lower levels of the following tells can be dated to Phase 3: Ovcharovo (Phases II – VIII), Targovishte (Phases I – III), Poljanitsa (Phases I – IV), Radingrad (Phases I – III), Goljamo Delchevo (Phases III – IV) and Vinitsa (Phase I) (Todorova 1975a: 1982; Raduntcheva 1976).

technique (cf. *pisé*), however, spread from the Struma valley in Phase 2 to much of Bulgaria in Phase 3 (Todorova & Vajsov 1993, 174).

There were significant changes towards buildings of greater solidity in Phase 3, as at Banjica (Tripković 2007) and at Selevac, where a small increase in the use of clay in Class I houses was succeeded by a major increase in the use of structural clay in Class III houses (Tringham & Stevanović 1990, 107-112). This signifies a choice of more enduring houses that were often larger and generally more comfortable, with a wider range of interior fittings – in short, a stronger commitment to sedentary lifeways (Tringham & Krstić 1990a).

Number of rooms and number of storeys

Two design aspects of the tendency to greater sedentism produced strong contrasts across the study region but also within certain sites. First, the increase in multi-roomed houses in all areas of Old Europe suggests increasing differentiation of the domestic group and their social practices, despite the constraints of the short 15-year generation. The shift to the provision of a separate space for each practice led to a quantum increase in the individualisation of household space. Outside North-East Bulgaria and Hungary, relatively few 3-room houses were built. A striking example is the six-room House 2/Level 10 at the Tisza-group tell of Gorzsa, interpreted as the house of a leading tell family (Horváth, F. 2005: 1987, Fig. 6) (here Fig. 5.9). Even more unusual was House 15 at Divostin II, which began life as a 2-roomed house but was transformed by the addition of one room, and then another, to finish life as a 4-roomed burnt house[64].

The four North-East Bulgarian tells present a picture of intra- and inter-site contrasts, with 1- or 2-roomed houses normal at Targovishte, up to 3 rooms at Radingrad, up to six rooms in Ovcharovo V – VIII, and two extraordinary 10-room houses in Polyanitsa Level III (Todorova 1982; for access diagrams, see Chapman 1990a) (Fig. 5.9). The Polyanitsa 10-room houses embodies the peak of internal differentiation of household space, with entrances created between what had probably started off as two separate houses, suggesting the amalgamation of two dwellings into a single larger entity with possible varied functions such as special cooking and food storage areas, entertainment areas, ritual areas and different production locales. These developments on the tells of North-East Bulgaria hint at social differentiation and individualisation of household space not echoed elsewhere in Old Europe in Phase 3.

In parallel with the Polyanitsa houses, there was a trend towards individualisation in the design of much smaller houses. This is well illustrated in the Banat culture levels at the Parţa tell, with no fewer than 20 shapes of 1-roomed houses, six variants on 2-roomed houses and a single 3-roomed house plan (Fig. 5.10). The Parţa plans show myriad decisions on how to organize household space according to the size, composition and skill-sets of the family members. These decisions created an individualized house, materializing different kinds of more individual persons in houses often different from all other coeval houses. This development marked a strong resistance to the ancestral ideology of tell-dwelling – an initiative not continued in later levels (see below, p. 175).

A second, dramatic change of house design, which continues to raise methodological issues[65], was the decision to create two-storey houses. This was an innovation with multi-scalar social and spatial implications: the household scale, with greatly extended living space; the settlement scale, where new social contrasts were established; and the landscape scale, where two-storey houses could be seen from further away. This innovation can be considered as part of the commitment to greater sedentism in Phase 3, apparently being restricted to a small number of tell settlements. The best-documented example remains the tell of Herpály (Kalicz et al. 2011) (Fig. 5.10 and below). Claims have also been made for two-storey houses at Parţa (Lazarovici, C.-M. & Lazarovici, Gh. 2006), Uivar (Schier 2008, 58 & Fig. 5), Karanovo and Kapitan Dimitrievo (Nikolov, V. 2001), Provadia (Nikolov, V. 2008), Ovcharovo (Level III/ House 6), Drama (House 244) and Okolište (Müller et al. 2013). The visual attractions of a two-storied house on top of a mound already raised above the general surface level would have been complemented by the additional, individualised space for larger domestic groups or more diversified practices.

House models

There is a surprising contrast between the expansion of the domestic domain in Phase 3 and the rarity of house models. The hybrid body-house tradition fades away in North Macedonia, while there were few examples in the Vinča group or in the Great Hungarian Plain. Two exceptions concern the expansion of house models in the form of vessel handles in the Struma Valley (Chokadzhiev,

64 See Souvatzi (2012, 26-29) for a wide variety of reasons for the re-organisation of house interiors.

65 The chain of reasoning necessary to identify a two-storied house from burnt daub during field excavations has perhaps been best explained by Marchevici (1981), who pinpointed the discovery of 'double' floors with the thinner, collapsed upper floor above objects deposited on the thicker, lower floor, which also supported heavier features such as ovens.

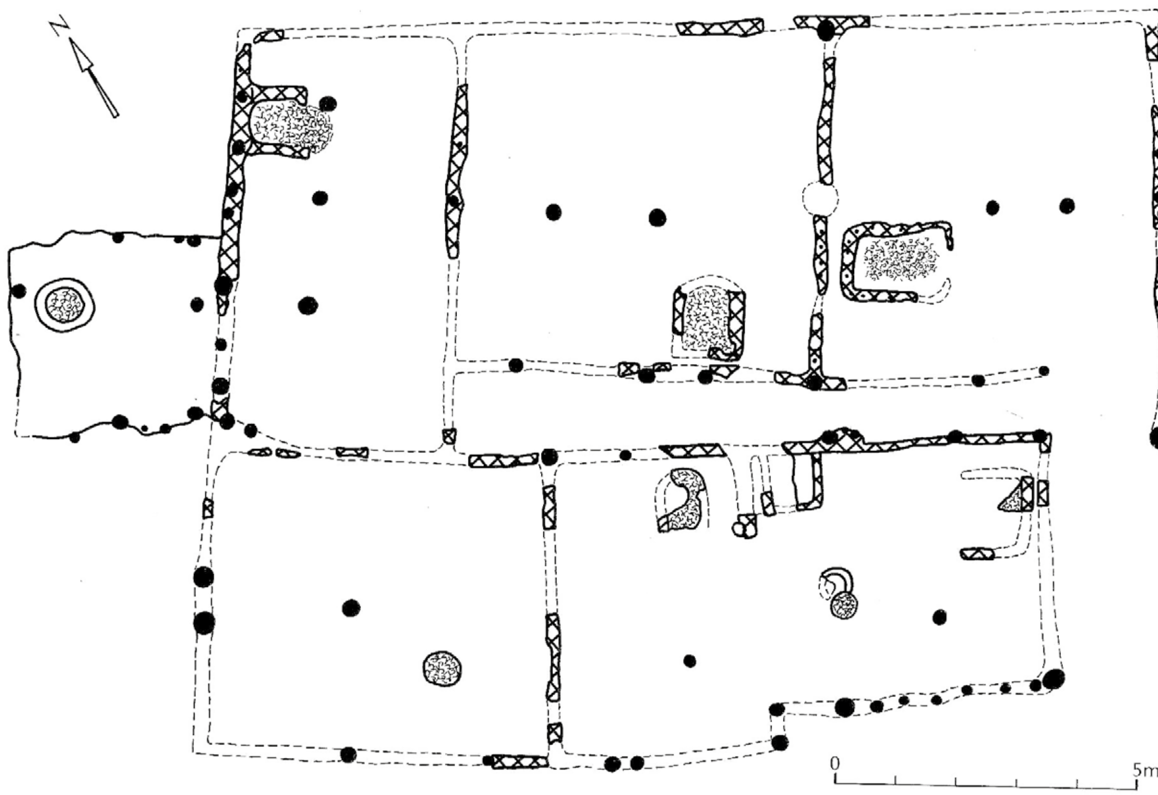
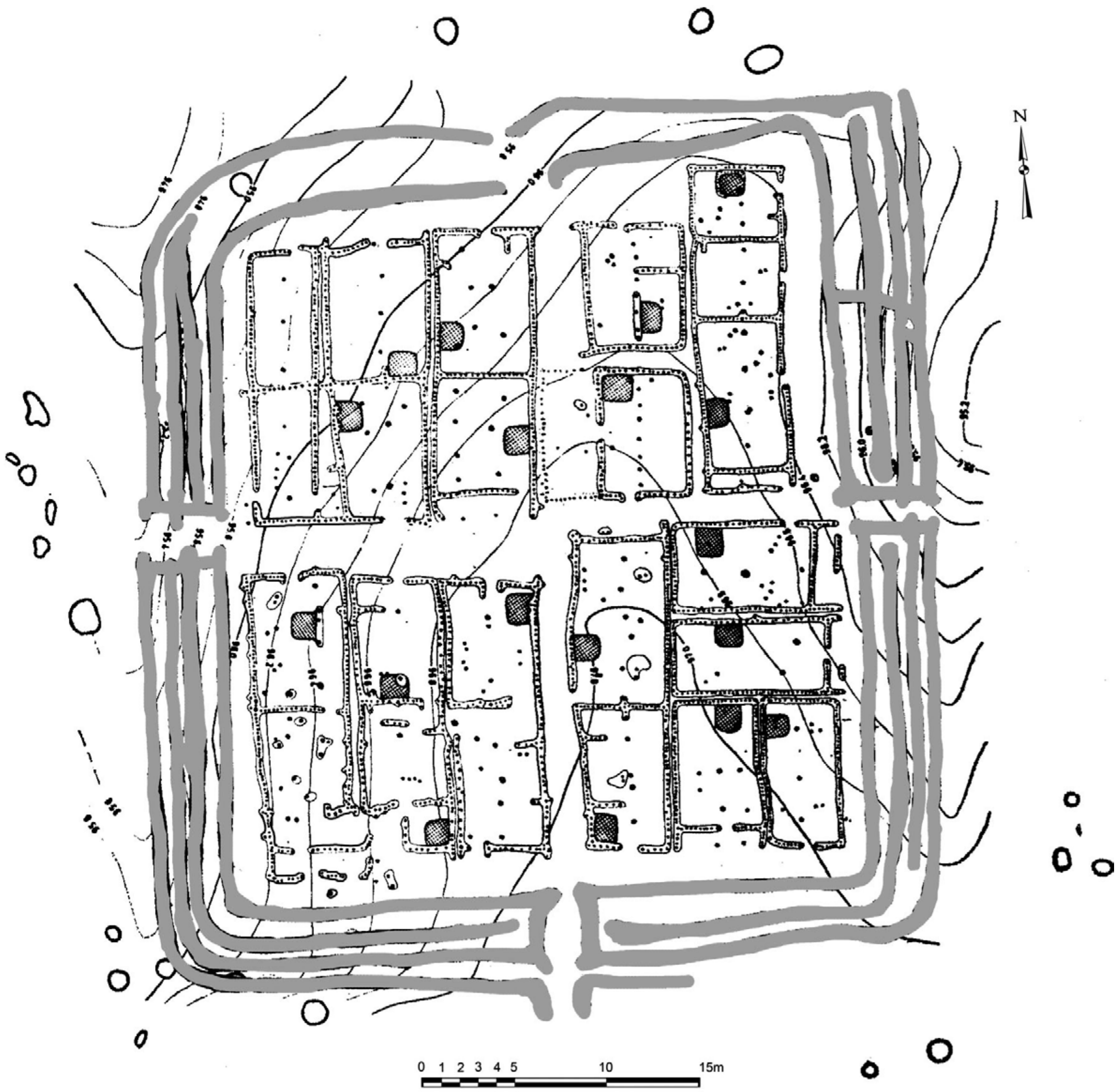


Figure 5.9. (top) House 4 at the Phase 3 tell of Gorzsa (source: Horváth, F. 1987, Fig. 6); (left) Tower house model, Polyanitsa: height – 23cm (source: Todorova 1976, colour plate 22: copyright – Ivo Vajsov); (right page) Plan of Early Copper Age level I at Polyanitsa (source: Todorova & Vajsov 1986, Obr. 2).

S. 2007) and the creation of multi-level 'tower houses' at the tell of Polyanitsa (Fig. 5.9) – models which may well have incorporated some artistic license.

Interior features and fittings

There was overall continuity in interior features between houses in Phases 2 and 3, showing the relative self-sufficiency of Neolithic houses and their central role in production and consumption (Souvatzi 2008). What changed was the greater solidity of many of the fittings and the increased diversity of features, perhaps relating to greater intensity of production but also indubitably a function of exceptional preservation in burnt house horizons at sites such as tell Herpály (Kalicz et al. 2011), the Butmir tell of Okolište (Müller et al. 2013) and the Late Butmir multi-levelled flat site of Obre II (Benac 1973). The absence of surviving interior features in unburnt timber-framed houses at Zau



de Cîmpie or the Hamangia coastal sites should not be taken to imply that house interiors in unburnt or weakly burnt houses were bare and uncomfortable.

The widest range of interior features yet found in the Carpathian Basin comes from four two-storey, three-roomed houses in levels 7-8 at Herpály (Kalicz et al. 2011). The ground floor rooms of House 7 (Fig. 5.10) were carpeted with reeds and two of the three ground floor rooms had built-in features: a large amphora full of grain dug into the floor of the South room and an oval basin recessed into the floor of the middle room. On the Upper floor, three parts of the single undivided space had built-in features: a clay table in the Northern part, a rimmed hearth set inside a low clay wall in the central part, with grindstones lying nearby, and a rimmed basin in the South part. A total of 14 vessels was found on the upper floor, while 57 vessels were found on the ground floor. In House 9, no interior features were located on the upper floor but two of the ground floor rooms were packed with finds, comprising 40 pots, six polished stone axes and six querns. In the Eastern room, a clay platform had been re-shaped several times, ending its life as a round structure. In the Central room, there was an oven, a raised table and an oval raised platform, while a grinding area was located in the West room. The ground floor of House 11 contained the greatest number of features: two ovens (one of each side of the partition wall between the East and middle rooms), two oval hearths (East and middle room) and three clay platforms – one in each room. One storage-jar full of wheat was placed near the main oven; the largest number of vessels in any Herpály house was found in House 11 – a total of 90 vessels. On the upper floor, a pyramidal oven was found in the East room, with a four-lobed platform, a rounded clay table and a rounded clay platform with a conical interior in the middle space. The final burnt house – House 12 –

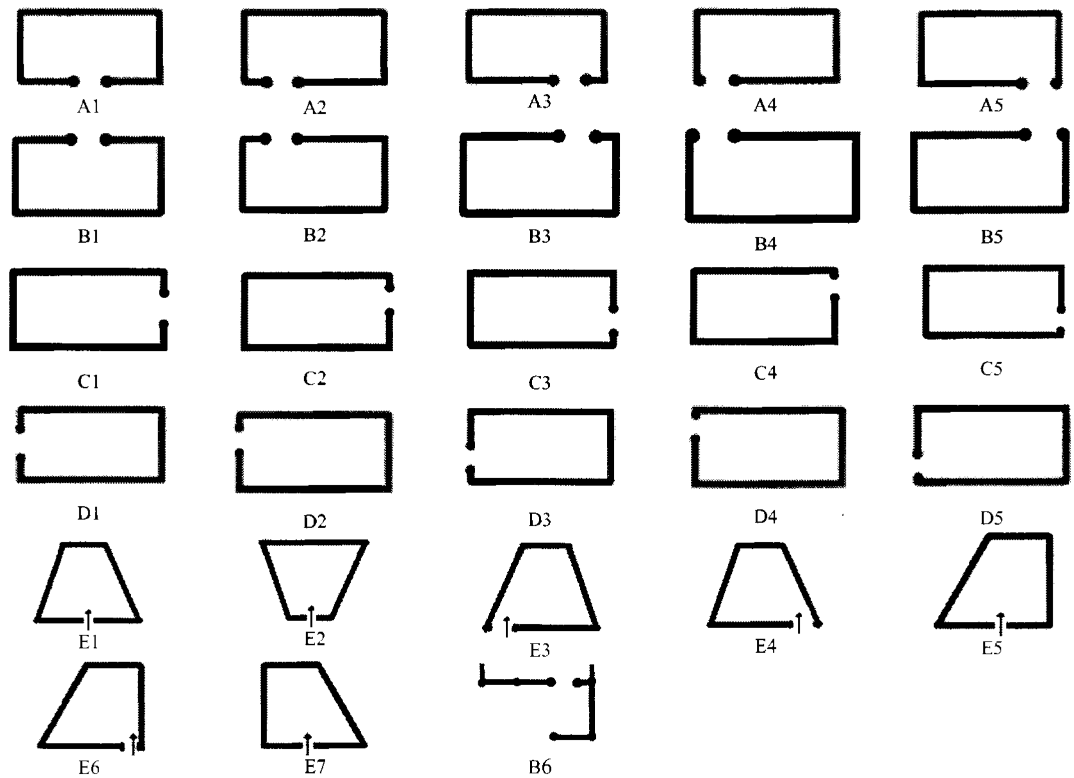


Figure 5.10. (top) House-plans, Banat culture levels of the Phase 3 tell of Parţa I: various scales (source: Lazarovici & Lazarovici 2006, Fig. IIIb.15-16); (bottom) remains of two-storied House 7, Phase 3 tell of Herpály (source: Kalicz et al. 2011, photo p. 25).

contained fittings in each ground floor and upper floor room. In the ground floor, a rimmed platform was built into the floor, while an oval platform was placed in the middle room. In the East room, there was a small round basin, a round platform, a round storage-bin and a pair of aurochs horns near the bin. Apart from this case, few vessels were said to be in their original positions because they were distant from the main interior features. On the upper floor, sets of storage-jars were placed near a raised clay table and a pyramidal oven.

The Herpály houses embody the fanatical Late Neolithic devotion to their world of clay, with ovens and hearths to keep warm, bake bread and cook food; bins, storage-jars and amphorae to store grain and pulses; grinding stones for the preparation of flour; platforms for the display of fine vessels; and tables for the serving of meals in fine ware cups, plates and dishes. The most obvious absence in these houses was the equipment for spinning and weaving – both essential daily maintenance activities. There may have been other houses specializing in textile production outside the excavated area. Two arguments can be advanced for the Herpály house assemblages being 'death assemblages' rather than 'living assemblages'. First, the excavators' own admission that few vessels were said to be in their original positions in House 12 – suggesting a re-arrangement for the final house fire. Secondly, the large numbers of vessels in the houses – from 90 in House 11 to 71 in House 7 – clearly exceeding the ethnographic range of household assemblages (Varien & Mills 1997). Moreover, the re-duplication of vessel types in each house suggests that the house assemblage did not comprise a functional set in itself – rather, vessels were brought into the houses as parts of functional sets from other houses in the settlement.

Public buildings?

It is one thing to claim that specific areas of a house were used for particular practices, quite another to interpret the structure as a public building. And did the community need such a building? Thus on the Parta tell, the houses P40 – P43 in a single row showed internal activity differentiation but no sign of a public building (Draşovean & Schier 2010, 185). There are also many examples of flint-knapping workshops on other sites, attested by the large quantities of lithic *débitage* or the complete *chaîne opératoire* of flint knapping (e.g., the chipped stone working area in a Vinča-C house at Gomolava: Voytek 2001, 292). But did such task differentiation require a public building rather than a craft corner in a house?

The notion of public buildings in the Balkan Neolithic and Chalcolithic was strongly supported by Gimbutas (1980), with recent advocacy from C.-M. and Gh. Lazarovici (2006: 2007), but has been sharply criticized by Lichter (2014). The Lazarovicis enlists the presence of decorated ovens, larger-than-usual figurines, furniture such as seats and benches and the use of the sacred Old European script (Merlini 2013; see below, Chapter 9) to argue for 'shrines', despite the fact that all of these features could be explained as part of a domestic ritual widespread in Old Europe. Indeed, the whole Gimbutassian edifice rests on an unsustainable separation between 'sacred' and 'profane'. This is disputed by Bradley (2005), who argues that there are two ways of considering ritual: (a) the expression of fundamental propositions about the world (beliefs); and (b) the materialisation of the outward characteristics of rituals through performance (formal messages). To their credit, Gimbutas and the Lazarovicis emphasise both religious beliefs and performance but they have failed to appreciate the significance of the everyday ritualisation of household maintenance activities. It is important that all of the claimed shrines contained discard from everyday maintenance practices, including sherds, animal bones and lithic *débitage*. What differentiates 'shrines' from houses is the key element of ritualized interior features and fittings.

There are only a few sites where public shrines have been claimed in Phase 3, including a Late Neolithic level at tell Vésztő (Hegedüs & Makkay 1987); the two-storey burnt building H2b-11 at Uivar (Schier 2006; Draşovean & Schier 2010; three sites in North Macedonia – Tumba Madžari (Sanev 1988), Vrbjanska Čuka (Mitkoski 2005) and Suniver (Jovčevska 2006); and the central buildings in the Boian phases of the sites of Căscioarele and Gălătui – Movila Berzei (Lazarovici, C.-M. & Lazarovici, Gh. 2007).

The most famous is the tell of Parţa, with a 'Sanctuary' and the 'House of the Tribe', both re-built in second phases (Lazarovici, C.-M. & Lazarovici, Gh. 2006, 301-337). There are no features of the earlier Phase of the Parţa 'Sanctuary' (Phase 7b) (2006, Fig. 165) which lie outside the range of 'domestic' fittings on the Herpály tell (see above, pp. 173-5). However, the Phase 2 'Sanctuary' (level 7c) contained not only a larger number of 'altars' and receptacles, but also two special features as the foci for ritual practices: a monumental sculpture of two figures – a 'Great Mother Goddess' and a 'Bull-God' – built on a high clay podium (2006, Fig. 180) and an area of the North wall where Sun and Moon worship has been posited. The monumental sculpture is unusual, even if the details of the remains do not support the interpretation of a male – female pair[66] (Fig. 5.11); the fragmentary remains of a sun and moon cult remain

66 For example, the basis of M. & Gh. Lazarovici's (2006) claim for a double monumental sculpture consists of a fragment of a column with a bull's head attached and a second bull's head with an *in situ* horn, as well as a figurine with a broken socle. However, similar bull's head fragments found in House 136 were interpreted as signifying 'a home-altar' rather than a 'sanctuary' (2006, 367).

Figure 5.11. (a) – (c) Museum reconstruction of Parţa 'Sanctuary'; (d) museum reconstruction of house interior, Târpeşti (source: author's photos).

highly speculative; and the discard of animal bones and flint blades does not necessarily mean sacrifices of ritually butchered beasts. In summary, the failure to convince readers that Parţa was a Balkan Çatalhöyük does not necessarily mean that the second Sanctuary was not one of the most elaborate domestic shrines known from the West Balkans.

Summary of Phase 3 houses

Many Phase 3 houses showed a growing commitment to sedentary lifeways. While large, well-furnished houses were known from Phase 2, the increasing popularity and wider distribution of such houses supports Tringham's model of sedentarization (Tringham & Krstić 1990a). Three areas showed the growth of more solid houses in late Phase 3 (viz., the early 5th millennium BC) – Central Serbia, upland Bosnia and the Lower Danube Basin. This trend also matches the emergence of a wider range of interior features in the early 5th millennium BC, if not earlier.

Most communities in most areas in Phase 3 built Class I houses more often than Class II, and very rarely Class III, houses. There was a consistent preference for Class II over Class I houses in the Struma valley of Western Bulgaria, as well as in Wallachia and in inland NE Bulgaria, in contrast to some West Pontic coastal settlers. The construction of Class III houses in North-East Bulgaria was not so much a regional preference as the choice of the Ovcharovo community to differentiate itself from other coeval tells. However, the choice to build multi-roomed houses was a NE Bulgarian anomaly, probably related to a distinctive kinship organization as much as the drive towards individualised household space. An additional coastal – inland contrast came in the coastal preference for building foundations in dry-stone, both on the West and the East coast and in the Aegean (e.g., at Dimini: Souvatzi 2008). The development of larger houses in the early 5th millennium BC was accompanied by the construction of a wider range of interior features and fittings in the lowland zone, with far fewer fittings in the Bosnian uplands. The current picture shows the use of foundation deposits more in the East than in the West Balkans, with the converse seen in the greater ritualisation of dwelling houses.

While the stronger preference for Class II houses and more solid houses was found on all site classes alike, in other ways there were marked differences between houses built on tells and on flat sites. The creation of multi-room houses and two-storied houses was characteristic of many tells but was very rare on flat sites. These signs of household variability marked some tells out as special places, with greater potential for social differentiation and spatial individualisation. The strongest contrast between dry-stone-walled Class III houses in tell villages and Class I timber-framed houses in open hamlets was found on the West Pontic coast, where the Durankulak complex of tell and large cemetery indicated a regional 'central place'. There is a strange discrepancy between the overall increased importance of houses and the modest significance of house models in this Phase.

Phase 4 houses

Regional differentiation in house-building is expected in relation to the varied settlement patterns of the three areas: the East Balkans, with its continued tell settlement; Romania – Moldova – Ukraine, with the occupation of often large flat sites; and the Central and West Balkans, where few tells were still occupied and settlement dispersion was the norm.

House size

In the tell zone of the East Balkans, there is a predominance of Class II houses, as in the North-East Bulgarian tells and Căscioarele. The principal exceptions concern the frequent Class 1 houses at Vinitsa and the many Class III houses at Polyanitsa. In the Cucuteni-Trypillia group, the commonest houses were small Class II dwellings (Fig. 5.12), although Class I houses were just as common as Class II at Târpeşti. Occasional Class III houses occurred, as at the 180m² Pre-Cucuteni house at Baia-În Muchie, Moldavia (Ursu & Ţerna 2015)[67] (Fig. 5.5), as well as on several Cucuteni sites (e.g., the 216m² Hăbăşeşti public building). Most of the houses in Phase 4 in Serbia are dated to the latest phase of the Vinča group (e.g., the Class III houses at Divostin II: Bogdanović 1988). In the Tiszapolgár group, there is a chronological trend from early 'long-houses' (e.g., Class II long-houses at Vésztő-Bikeri and Okány-Futás (Fig. 5.13)) to smaller houses often no larger than 25-30m² (Parkinson et al. 2010). The largest-known Tiszapolgár house was built at Tibava, in Slovakia[68]. These data show that house sizes in Phase 4 were not closely related to differences in settlement patterns, as they had been in Phase 3.

Building techniques

The main contrast in Phase 4 building was between timber-framed and dry-stone-walling, with the *glinobitna* technique continuing in use in Bulgaria and rarely in the Tiszapolgár group. Timber-framed houses often had floors made of clay-plastered wooden platforms but there was great variation in the use of complete or partial (sleeping) platforms on Cucuteni flat sites. Timber platforms were rarely constructed for houses in homesteads.

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67 This house is comparable to House 2 at the Trypillia AIII settlement of Aleksandrovka, in which each of two floors provided an area of 200m², producing a combined living space of 400m² (Videiko 2004; p.c., A. Diachenko).

68 Opinions vary as to the size of Structure C at Tibava: Lazarovici & Lazarovici (2007) quote 120m², while the usually more conservative Bognár-Kutzián cites 55m² (1972).

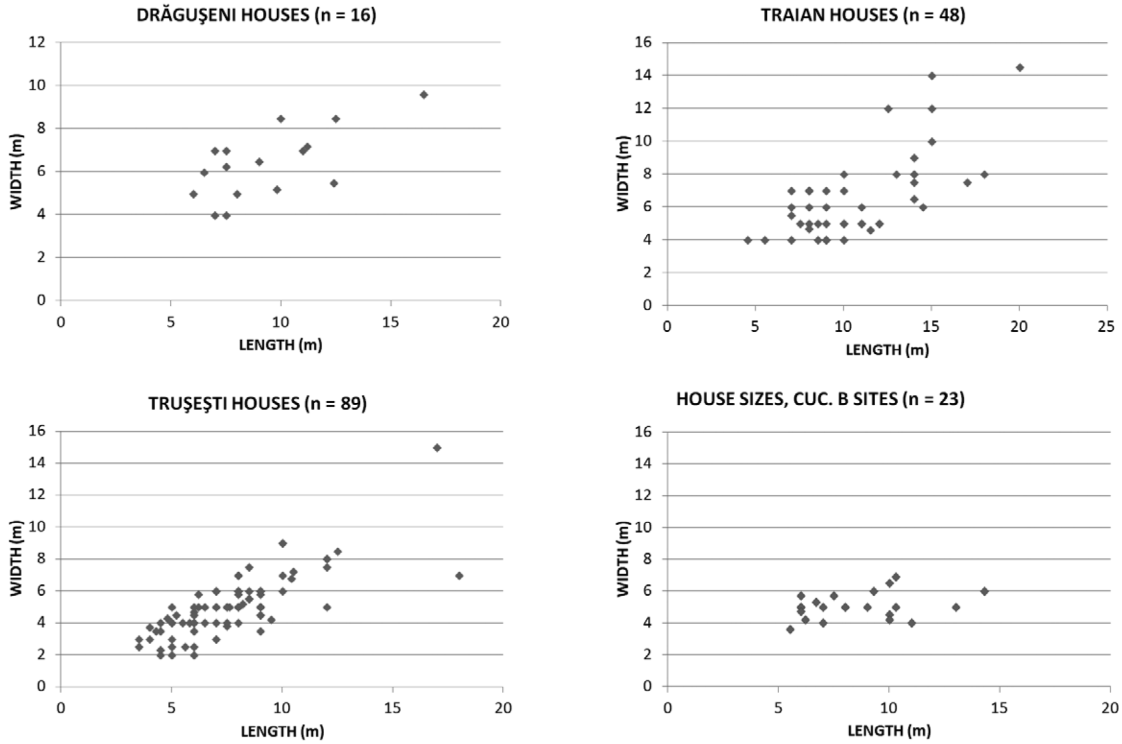


Figure 5.12. (top) House size, Cucuteni group by periods (source: author); (bottom) Stone-walled house, Sedlare: length x width – 11 x 5.5m (source: author's photo).

The technique of building in dry-stone further expanded in the East Balkans in this Phase, as seen on the Big Island at Durankulak level IVb, in the East Rhodopes at the Sedlare tell (Raduntcheva 2003) (here Fig. 5.12) and on the flat site of Suvorovo, near Varna (Slavchev et al. 2018). Intra-site differentiation is seen in the building of single stone-walled houses amidst timber-framed structures on Lower Danube valley tells. Individual stone elements of construction, such as paving and platforms, were now more common in flat Cucuteni sites. However, no such construction material was used in the homesteads of the Carpathian Basin.

Number of rooms, house shape and number of storeys

Contrasts in house design between North-East Bulgarian tells indicate as much variation within the 'tell' category as between tells and flat sites. While one- and two-roomed houses are found at Targovishte and Radingrad, the residents of Ovcharovo and Polyanitsa created more complex layouts – four rooms at the former and six rooms at the latter (Chapman 1990a). By contrast, there was a preponderance of one-roomed houses on

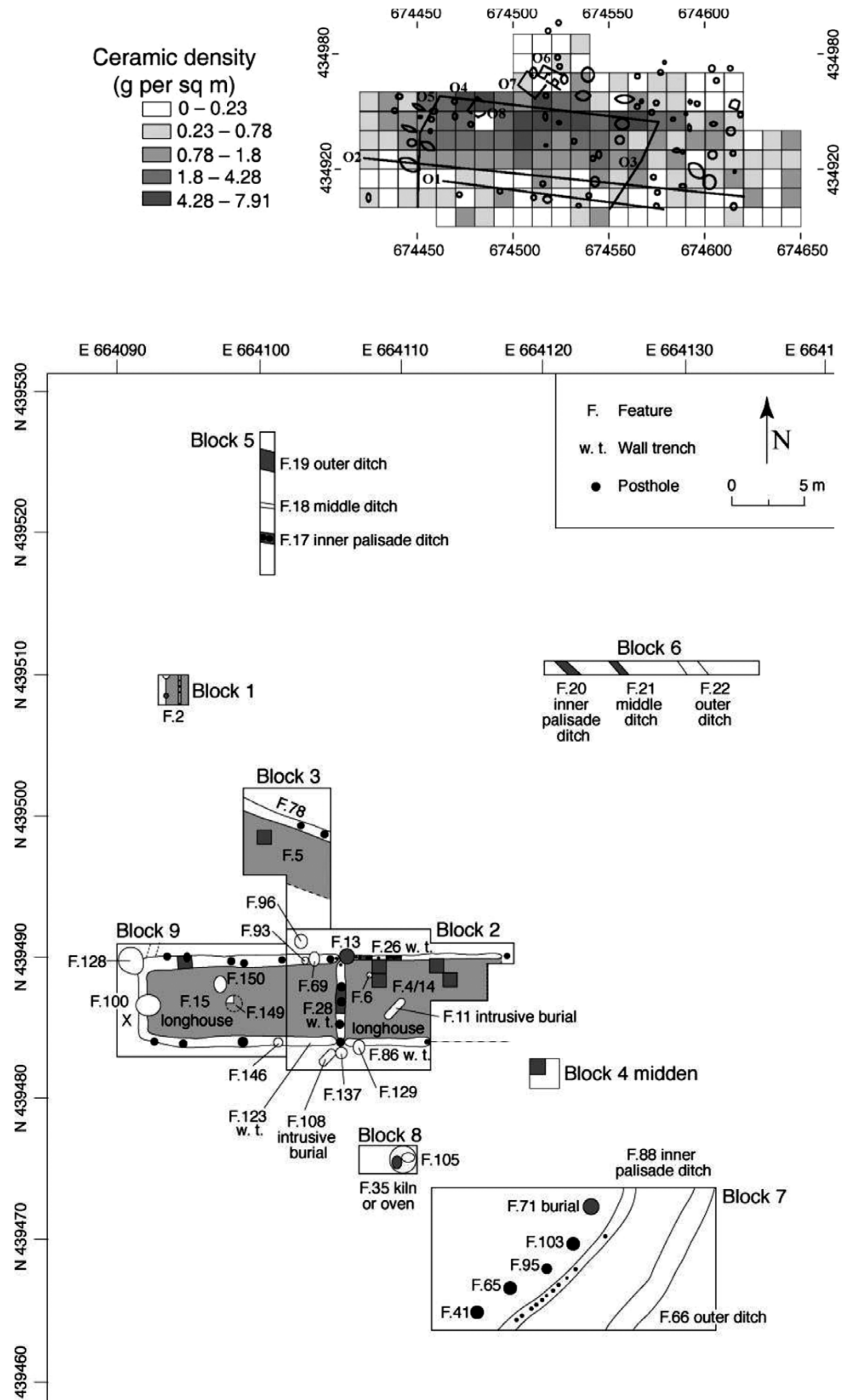


Figure 5.13 . Phase 4 (Early Copper Age) 'long-houses': (top) Vésztő-Bikeri (Fig. 8); (bottom) Okány-Futás (L. Woodard redrawn from Parkinson et al. 2010, Figs. 6a & 8).

Cucuteni – Trypillia and Tiszapolgár flat sites[69], with some two-roomed houses in the latest Vinča sites. These data suggest variations in kinship and domestic group arrangements between sites and regions.

The vast majority of houses in Phase 4, and in all types of site, were rectangular in form, with very rare round houses on upland, seasonal Cucuteni sites (Burdo et al. 2014). The normal rectangular shape was occasionally subverted to a slightly trapezoidal shape on both tells and flat homesteads.

Two-storied houses were not common in Phase 4 – absent in Cucuteni and Tiszapolgár flat sites but found on North-East Bulgarian tells (e.g., Ovcharovo) and a few of the latest Vinča sites (e.g., Stubline).

House models

House models became much more common than in Phase 3, with a concomitant expansion in variations of form. Open and closed house models became widespread in certain regions (e.g., far more common in South and East Bulgaria than in the North and West), with elaborate models interpreted as 'shrine' models as well as two-storeyed models, one with rectangular windows on the second floor (Ruseşti Noi (Trypillia Phase BI: Shatilo 2005). Regional variations can be found in the ratio of closed: open house models: only closed models in the Gumelniţa group and more closed than open models in the Karanovo VI and Kodzhadermen groups and in Trypillia Phases A – BI. Bailey found that house models were used to emphasise continuity between successive occupation horizons on tell Ovcharovo in this Phase (Bailey 1993).

Interior features and fittings

In contrast to the almost complete absence of house interior features in dispersed settlements, the excellent preservation of the interiors of a number of Phase 4 houses on nucleated tells and flat sites provides a wealth of information about the maintenance activities of households in this period. This was a clear function of preservation on mounds, with house remains often ploughed out on flat sites. Two examples are presented here – Late Copper Age levels of two completely excavated North-East Bulgarian tells (Levels IX – XIII at Ovcharovo (Todorova 1982: 1983) and Levels II – III at Vinitsa (Raduntcheva 1976)). It is worth noting the excavators' contrasting research and publication strategies on the tells, with a stronger emphasis on inter-disciplinary studies in Todorova's research, and Raduntcheva's publication of each household assemblage, contrasting with Todorova's more generalizing approach.

A comparison between the two tells of Vinitsa and Ovcharovo shows how dangerous generalizations about site types can be. While most of the Ovcharovo houses had multiple interior features and were burnt down packed with deposited objects, the Vinitsa houses had hardly any features except ovens and even those were rare (Fig. 5.14). This striking absence means that, unless most of the cooking for the village was carried out off-tell, dwelling at Horizon II at the Vinitsa tell would have been a short-term affair, as suggested by the low level of storage capacity and the paucity of grinding equipment. Another intriguing absence from Level II was the lack of *débitage* from craft production. In contrast to the wide range of anthropomorphic and zoomorphic figurines, the small numbers of complete or restorable vessels suggests that, rather than adding extra vessels to houses-to-be-burnt, the householders had removed much of their 'living assemblage' before the conflagration.

In strong contrast to Vinitsa, the houses from the Ovcharovo Levels IX, X and XII showed as wide a range of interior features as the houses at Herpály discussed above (pp. 173-5). The obvious differences between Ovcharovo and Vinitsa concerned the impressive two-storey construction of the houses (Fig. 5.15), the diversity of interior features, the large-scale storage capacity in bins, clay-lined baskets, grain-pits and storage-jars, the extensive grinding equipment, sometimes in fixed facilities, and the scale of communal operations at the former, hardly any of which were found at the latter. It could be maintained that the large number of vessels in the upper floors of Houses IX/10 and X/1 were brought in from other households to contribute to the houses' 'grave goods' but the fixed fittings confirm the intensity of daily maintenance activities at Ovcharovo, despite the rarity of production discard. Taking the data at face value, there is less evidence for craft production on thirteen dwelling horizons on this tell than in one single-phase Cucuteni site at Drăguşeni. However, we should beware a reflectionist rendering of spatial data into household activities.

The use or absence of interior features underlines the contrasts between sites rather than site types, except for the absence of fittings on dispersed homesteads. Some tells, such as Vinitsa, have small household assemblages and very few interior features (Fig. 5.14); other households, such as those at Ovcharovo, reveled in a plethora of fired clay paraphernalia and fittings, mostly related to food storage and preparation. Despite the sophistication of its household architecture, there were very few internal features and remarkably small pottery assemblages at Polyanitsa[70],

69 One exception is the four-roomed house of 144m² excavated at Soloncheni II (Sorochin 2002).

70 Anecdotally, the reason why the excavator never published Poljanitsa in full, as she did for most of her other tell excavations, was the paucity of pottery in the household assemblages and in the culture level (p.c., H. Todorova).

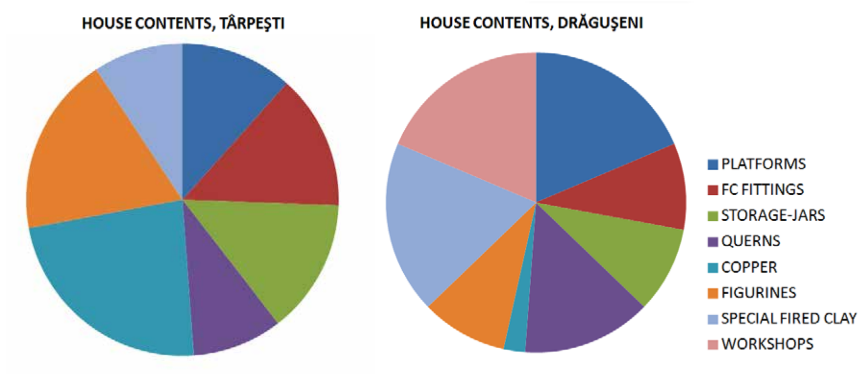
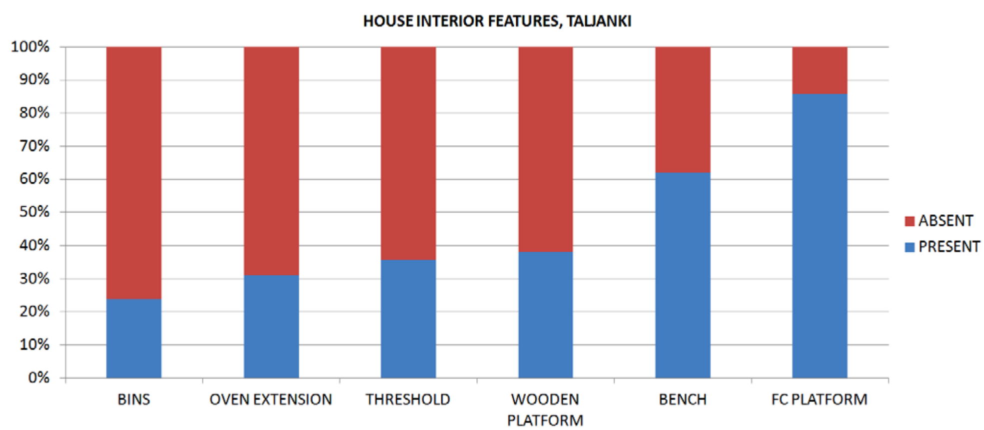
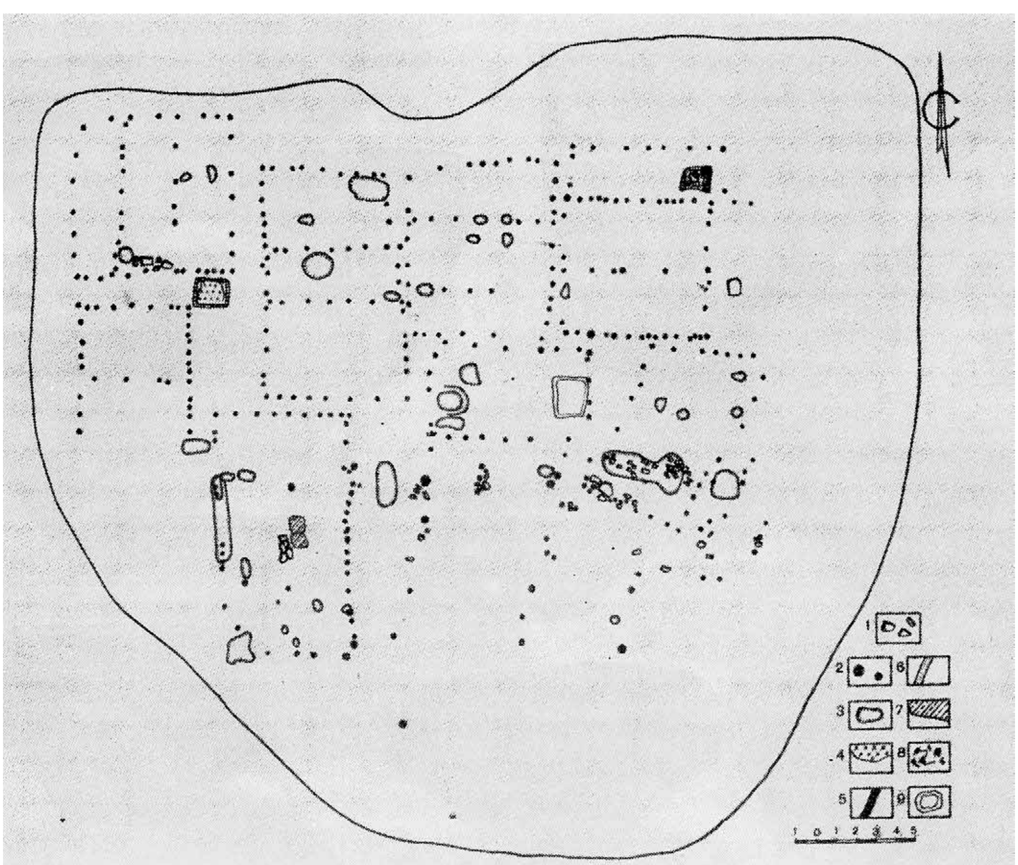


Figure 5.14. Interior fittings and furnishings, Cucuteni-Trypillia sites: (top) Phase 4 Târpeşti and Drăguşeni; (middle) Phase 5 Taljanki (source: author); (bottom) Plan of Level II (Phase 4) houses, tell of Vinitsa (source: Raduntcheva 1976, Obr. 21).





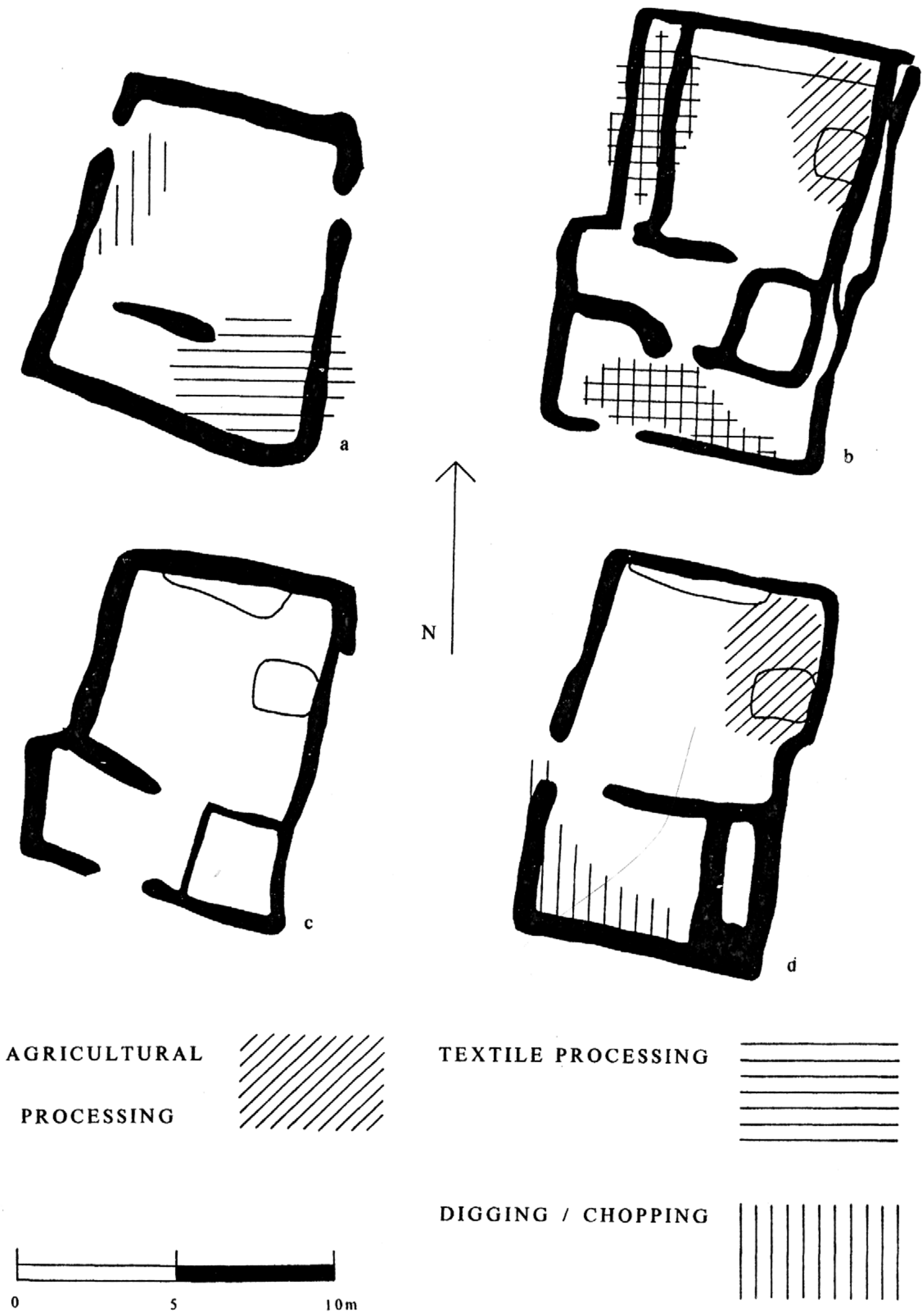


Figure 5.15. The four phases of House 55, Ovcharovo tell (source: Bailey, D. 1996, Fig. 10.2).

suggesting that domestic groups removed their vessels at the time of house/site abandonment. The same contrasts were found at Cucuteni flat sites, where interior fittings were generally rare but household assemblages were variable in size and diversity (Fig. 5.14).

Craft corners and workshops

The proportion of buildings with specialised, non-domestic uses increases in Phase 4, whether for workshops or shrines. One level of differentiation is the use of craft corners in Cucuteni dwelling-houses such as Drăguşeni. The more intensive notion of a 'house-workshop' was introduced for two-roomed structures otherwise looking like houses but devoted to craft production (Maxim-Alaiba 1987). House-workshops for lithic production are widely known from sites near Prut-Dniester sources (e.g., Bernishivka: Zbenovich 1980; Polivanov Yar XV, Pekari II and Bodaki: Tsvek & Rassamakin 2005). Pottery workshops are well known in the Cucuteni – Trypillia group, as at Dumeşti, Truşeşti and Vesely Kut (Tsvek 1994; Lazarovici, C.-M. & Lazarovici, Gh. 2007, 193-196) and occasionally elsewhere[71]. Linda Ellis (1984) changed the terms of the debate by postulating the emergence of a higher scale of pottery production in the Cucuteni A phase, with particular villages engaged in ceramic production for surrounding settlements; however, recent settlement evidence has not supported this interpretation.

Claims have been made for the special ritual functions of single buildings, although containing discard from routine maintenance activities. At the late Vinča settlement of Jakovo-Kormadin, near Belgrade, in Srem (Jovanović, B. & Glišić 1960), both Houses 1 and 2 were interpreted as 'shrines' on the basis of interior wall decorations, supports for bull's heads and the attachment of bucrania to exterior joists, despite plentiful lithics, sherds and animal bones. Unusually large Cucuteni – Trypillia figurine assemblages have formed the core of claims for household sanctuaries at sites such as Scânteia, Dumeşti and Sabatinivka I, where a 70m^2 house with a stone-paved area in front of a small ante-room was furnished with an oven and a fired clay chair (aka 'throne') near a large fired clay bench (Gimbutas 1982, 75 & Fig. 25) (here Fig. 5.16). The Sabatinivka house is one of the few examples where a group of figurines was displayed on a typical fired clay bench.

Summary of Phase 4 houses

The question was posed whether or not differences in houses depended mainly upon the site type. Apart from the most basic shared elements of a rectangular timber-framed structure often of Class II size, there were differences between dispersed homesteads and tells / flat sites in almost all other respects of dwellings. Two-roomed houses were very rare on homesteads, while they were common on most flat sites and all tells. The use of stone as a construction element has yet to be found in homesteads, with incorporation into prestige buildings on some tells and some flat sites. The general absence of interior fittings, domestic ritual or craft production at homesteads contrasts strongly with many agglomerated flat sites and tells.

What is more significant is the intra-site type variability for tells and flat sites. One distinction concerned the building of two-storied houses almost exclusively on tells; a second concerned the strong preponderance of house model deposition on tells. However, multi-roomed houses and drystone walling were present on only a few tell or flat site communities. Equally, the intensity of domestic ritual varied between tells and flat site houses. The other obvious difference in survivorhood was the practice of burning houses (e.g., well-preserved Cucuteni houses in Moldavia) or not burning houses (e.g., poorly-preserved houses in the Carpathian Basin and Bosnia).

Finally, large multi-roomed houses occurred in the Late Copper Age on North-East Bulgarian tells, albeit rarely. This implies household differentiation, with the likelihood of large domestic groups of over a dozen people – mostly sub-adults who were also beginning their own families. This could mean the continuation of the lineage households proposed for Phase 3 at Ovcharovo, with the prospect of leading houses with greater potential for accumulation and ritual specialism than in smaller households.

Phase 5 houses

Just as there was a strong contrast between the houses built on dispersed homesteads and on tells and large flat sites in Phase 4, so house construction tended to vary between nucleated flat sites (especially in the Trypillia BII and CI phases of the Ukraine and Moldova), enclosed nucleated sites and tells in the Carpathian Basin and dispersed flat sites in much of the Balkans. The important feature to emphasise about the late Cucuteni – Trypillia period (Cucuteni B / Trypillia BII, CI and CII) was the centrality of the house in the 4th millennium BC cultural practices and landscapes of Eastern Europe – more so than in any other region.

House size

The size range of Cucuteni B houses declined in comparison with earlier dwellings, with occasional long-houses alongside the Class I house norm (Fig. 5.12). Further East, considerable standardization of Trypillia house-building occurred, especially on the mega-sites. At Taljanki, 90% of all house widths fell between 4m and 5m with 45-60 m^2 Class II houses predominant (Korvin-Piotrovskiy et al. 2012; Chernovol 2012, Table 1) (Fig. 5.17). At Majdanetske (Müller & Videiko 2016;

71 A Varna-group pottery workshop has been claimed at Kozareva mogila (Georgieva 2010) (here, Fig. 4.18d).

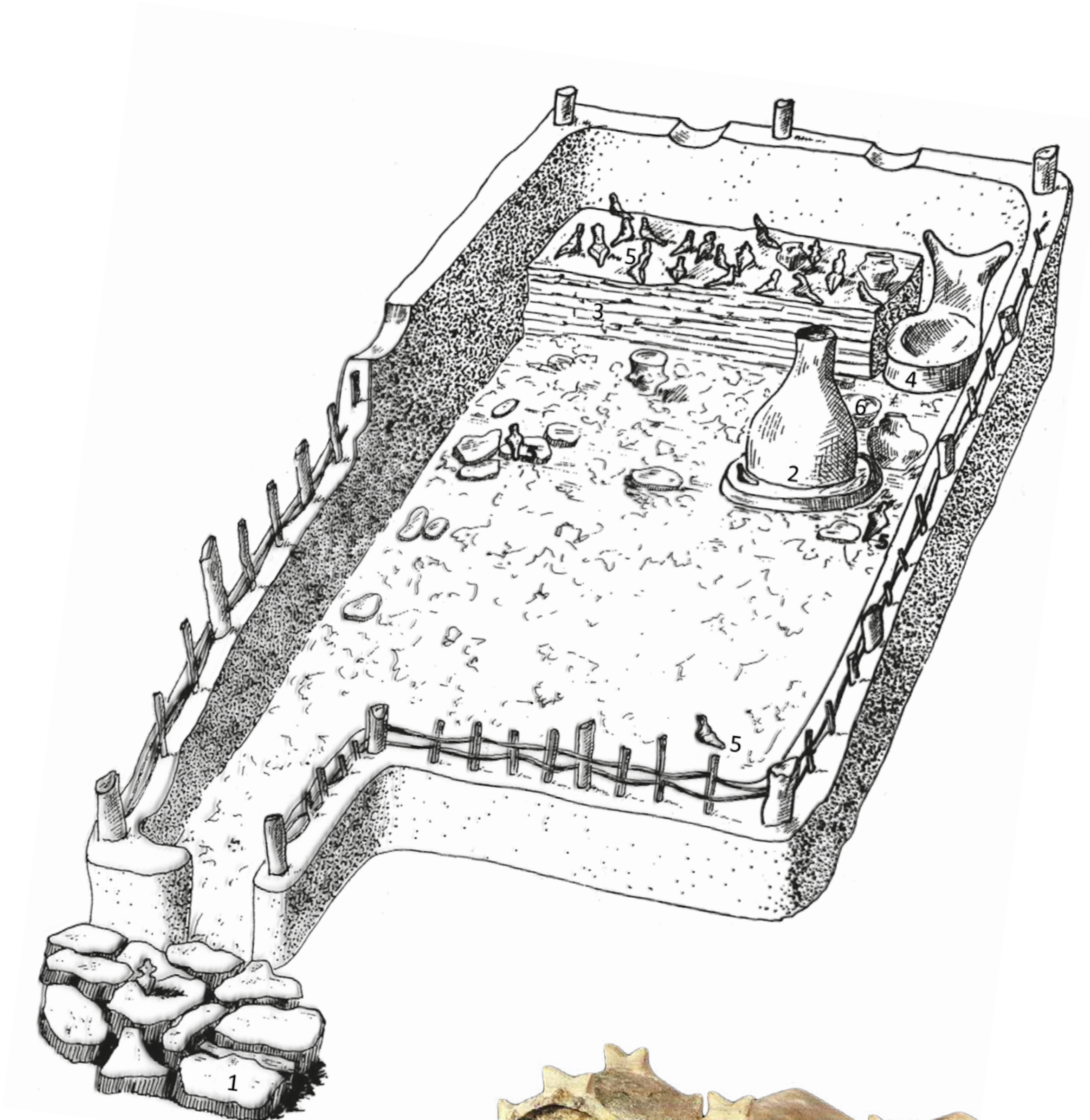


Figure 5.16. (top) The Phase 4 Trypillia house at Sabatynivka II, with figurines: 10m x 7m (source: Monah 2016, Fig. 3/1) (L. Woodard); (bottom) Architectural model, Phase 4 site of Căscioarele (source: Chapman 2010, p. 74).

Müller et al. 2016), Class II houses were far commoner than Class I houses and the only Class III 'houses' were the public buildings termed 'Assembly Houses', so far found principally on Trypillia megasites (Chapman et al. 2014a; Hofmann et al. 2019; see below, pp. 187-9). The largest Assembly House at Nebelivka has been termed the 'mega-structure' (Chapman et al. 2014b) (here, Fig. 5.18). The Nebelivka dwelling-house sizes peaked at 56-65m^2, indicating a small Class II house, with proportional increases in length and width (Fig. 5.17).

Outside of the tell zone, the predominance of Class I houses suggests small household sizes, with household differentiation shown by a single Class II house on sites such as Olteniţa-Renie I, Câlnic and Floreşti – Polus Center. The high proportion of high-altitude seasonal Coţofeni settlements (Popa 2012) led to the use of light, short-duration structures.

Complete houses have rarely been uncovered in North Macedonian settlements, with an impressive sequence of Class III houses coming from Stari Grad – Kale (Jovčevska 2008). Class I houses are known from the Bubanj Hum tell (Tasić, Nikola 1995, 30), while a Class II house was found at the Kostolac site of Pivnica, in upland Bosnia (Nikolić 1996).

The Carpathian Basin shows enormous variability in house sizes. One of the largest houses in the entire Copper Age (30m x 12m) was found at the Lasinja settlement of Beketinci – Bentež (Minichreiter & Marković 2009), while Class I houses dominated the Kostolac horizons on the Gomolava tell (Petrović & Jovanović 2002) (Fig. 5.19a -c). In the North Alföld Plain, over 30 houses have been excavated at the enclosed site of Tiszalúc (Hunyadi halom group), with a size peak at 61-70m^2 – bigger than those of the Trypillia megasites (Fig. 5.19d – f) – and a strong preference for Class II houses (Patay 2005). The type-site of the Vučedol group, overlooking the Danube, shows two Class II apsidal houses in the Kostolac period (Fig. 5.20a) and two rectangular houses (one Class III) in the later, Vučedol phase (Schmidt 1945; Nikolić 1996). The excavator interpreted all of these houses as chiefly residences dominating the remainder of the site.

Building techniques

The Phase 4 tradition of large, comfortable timber-framed houses fragmented into regional variants in Phase 5. The timber-framed tradition persisted longest in the late Cucuteni – Trypillia settlements. The few 4th millennium BC sites with dry-stone walled houses were located in the uplands (e.g., Lopatica – Golemi kamen: Temelkoski and Mitkoski 2008; Pădureni: Maxim 1996). A rare alternative to timber-framed houses was the fired clay slab technique (cf. the Bulgarian *glinobitna*) used in a Baden house at Sitagroi Level IV (Renfrew, C. 1986, 177).

Number of rooms, house shape and number of storeys

The 4th millennium BC trend towards smaller rectangular houses inevitably led to a higher proportion of one-roomed houses in the study region. It was very rare to find three-roomed houses, even on Trypillia megasites (e.g., Majdanetske: Shmaglij & Videiko 2002-3)[72]. In the Tiszalúc enclosure, two-roomed houses predominated over one-roomed structures. In contrast to the norm of rectangular houses, apsidal houses were found at sites such as Cernavoda I, Vučedol, perhaps Sarvaš and Stari Grad – Kale, with a Kostolac-period round house at Franjevac, Eastern Croatia (Balen 2008). At Vučedol, round timber-framed buildings on a hill overlooking the Danube were interpreted as defensive 'towers' (Schmidt 1945).

The most acrid controversy over house construction in this period concerns the Trypillian debate over one- or two-storied houses (Markevic, 1981: 1990). One of the greatest problems for two-storey houses is the claim that friable clay constructions such as ovens and platforms[73] could have survived a fall of at least 2m after the collapse of the upper floor to survive in good condition under the mass of burnt house daub (Chernovol 2012). This dilemma has led to a possible solution – that intact, *in situ* platform daub indicates a one-storey house while fragmented platform daub attests to the fall of a platform from an upper floor (Gaydarska 2020). The Nebelivka results indicate a ratio of 5:1 for two-storey over one-storey houses.

House models

The East – West Phase 5 division was reified on nucleated sites with house models and dispersed sites with no house models. A great diversity of house models was found in Trypillia Phases BII and CI (Shatilo 2005). Fired clay representations, often with painted decoration or construction features, of two-storied houses are well-known in the Trypillia zone, as at Voroshylivka (Fig. 5.20c). However, the shift in emphasis from closed to open house models, found in the Thessalian Neolithic (see above, p. 160), is found between Phases BI and BII. Of the three explanations advanced for the Thessalian case, the best fit for the Trypillia case concerns the emphasis on specific buildings with their own personality and membership.

Interior features and fittings

The discrepancy between Trypillia houses and all other houses continued with interior features. Eneolithic

72 However, there were three rooms in the large Lasinja house at Beketinci – Bentež and some 3-roomed Coţofeni houses at Floreşti – Polus Center.

73 The use of the term 'platform' in a specific Trypillia context refers not to the mass of burnt daub forming the remains of a burnt house but a small, raised area on a house floor.

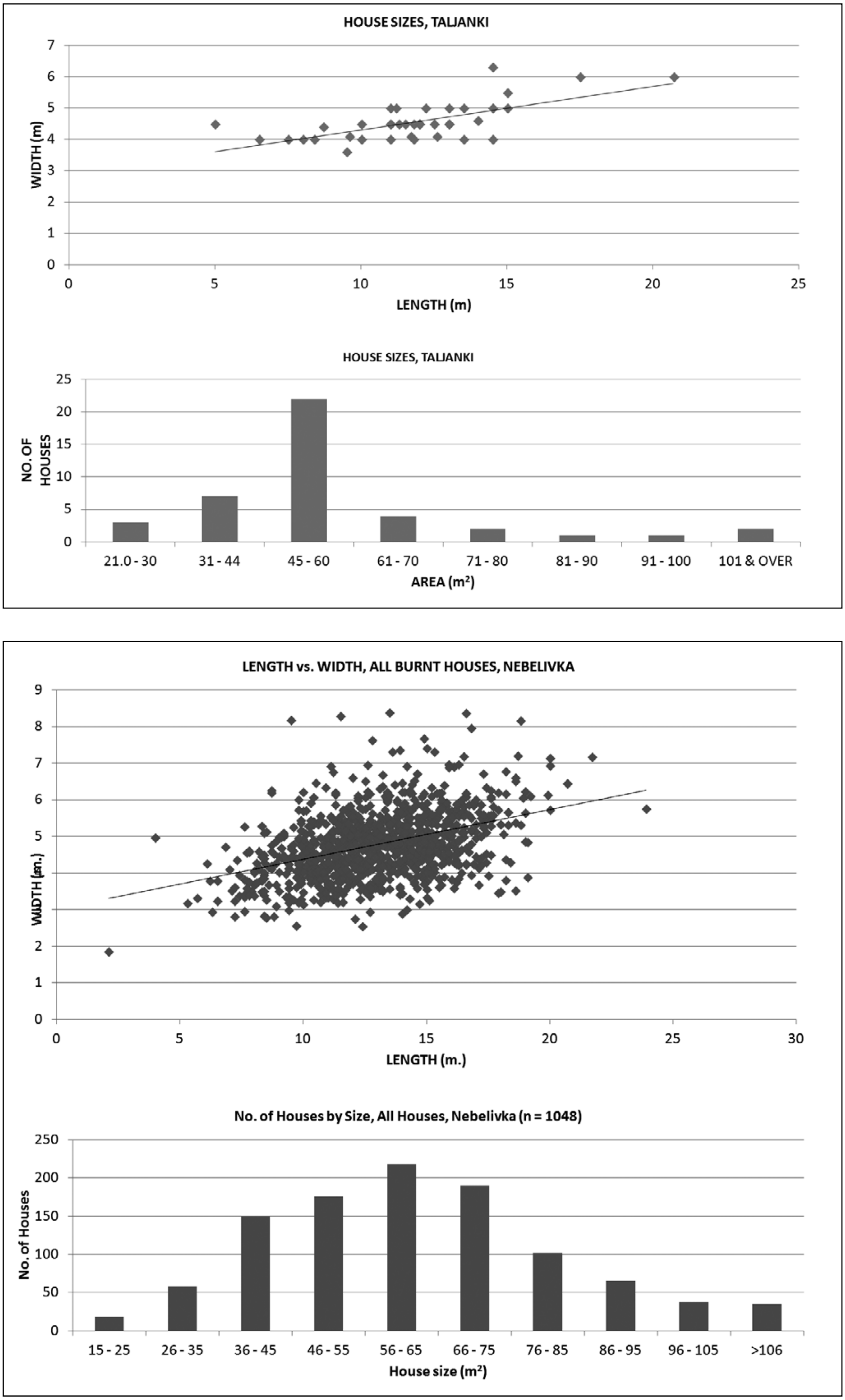


Figure 5.17. House sizes, Phase 5 Trypillia mega-sites: (top) Taljanki (source: author based on data in Chernovol 2012): (bottom) Nebelivka (Gaydarska 2020, Fig. 4.15a).

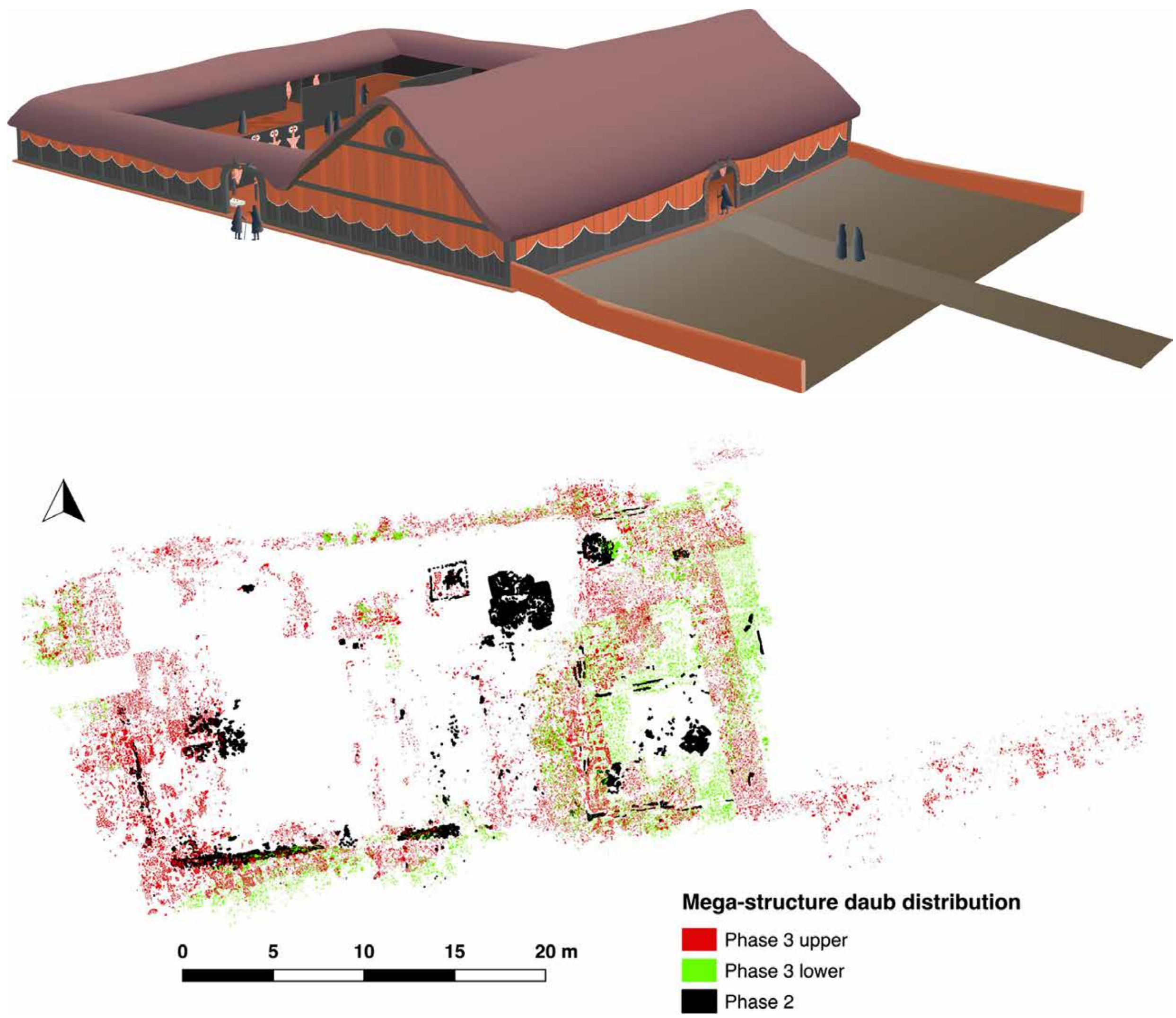


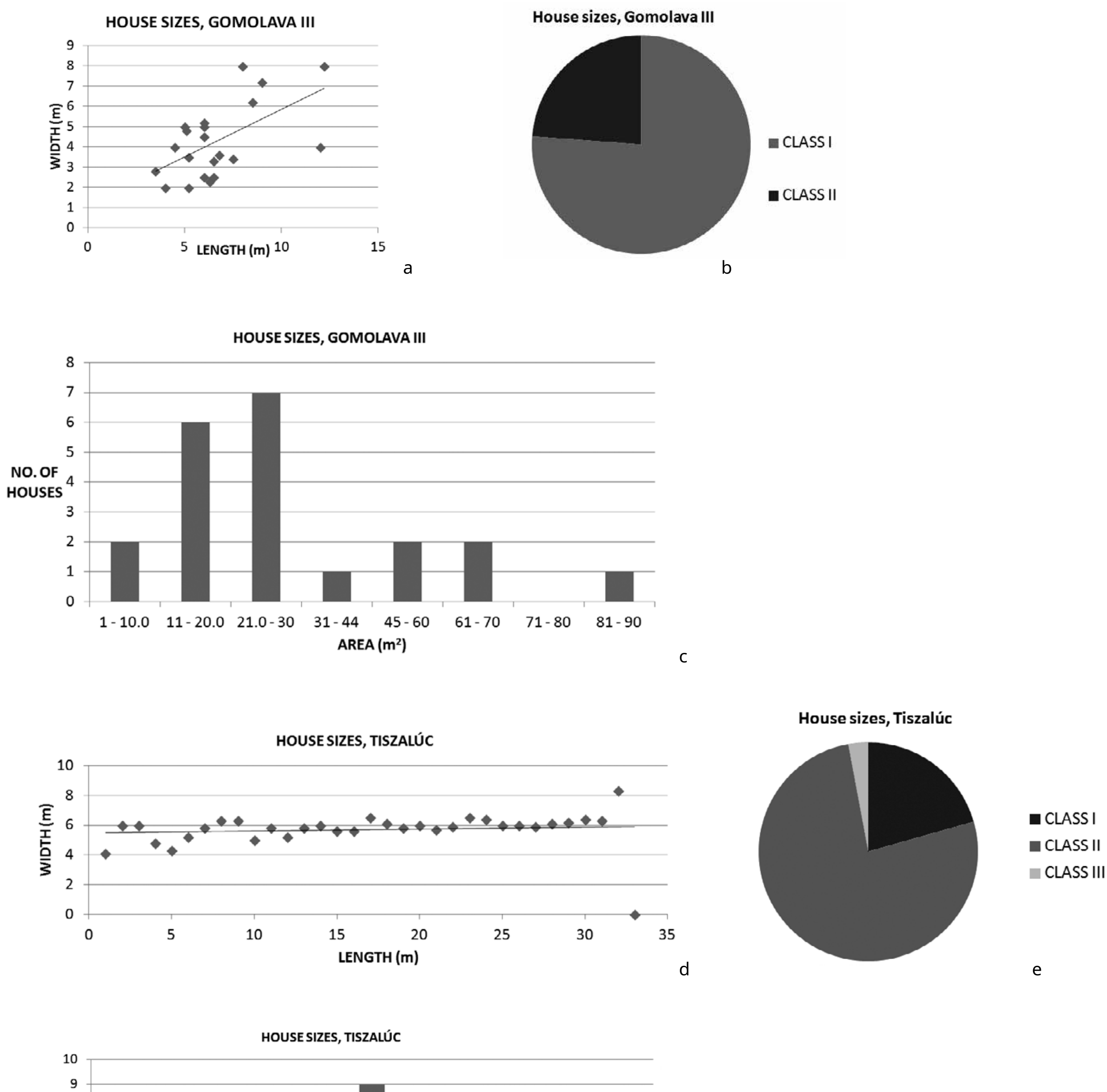
Figure 5.18. Nebelivka mega-structure: (top) Durham side's reconstruction; (bottom) plan (Gaydarska 2020, Figs. 3.34 & 4.38/upper).

houses in North Macedonia and North Greece had a narrow range of fittings, rarely duplicated in different houses (e.g., Čaniste – Treštena stena and Sitagroi IV). The Kostolac houses at tell Gomolava showed greater regularity, with ovens or hearths in half of the houses and exterior cooking installations reversing the marked Phase 3-4 trend in interior food preparation.

Interior features was highly standardised in the Late Trypillia group, with six basic fired clay fittings claimed for the Tomashevska sub-group (the oven, the bench, bins, partial wooden platforms, platforms and thresholds), arranged in only four variant layouts (Chernovol 2012, Fig. 8.8) (here Fig. 5.21). These carefully controlled spaces would have created a strong daily performative framework for moving round the house. However, details of interior features at Taljanki (Chernovol 2012, Table 8.1) suggest greater variety in house layouts, with benches in three-quarters, and fired clay bins in only one-quarter, of the houses. Nonetheless, the homogeneity of Trypillia household layouts is reminiscent of the marked standardization in Late Cucuteni – Trypillia anthropomorphic figurines (Monah, D. 2016; see above, p. 135). This standardization would have led to a different kind of person, much more dividually rooted in communal practices than those persons living in settlements with more varied architecture.

Public buildings?

The evidence for craft workshops and public buildings shows a chasm between Trypillia – Cucuteni and other 4th millennium BC sites. Craft workshops were rare outside the former, with an antler workshop at Sărata Monteoru,



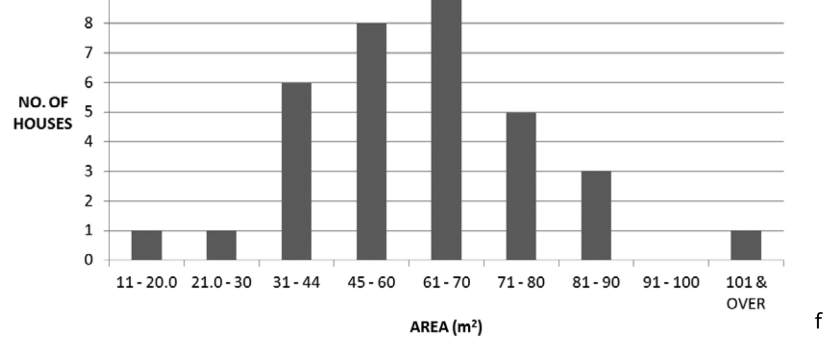


Figure 5.19. Comparison of house sizes, Phase 5: (a-c) Gomolava tell (source: author, based on data in Petrović, J. & Jovanović 2002) and (d-f) Tiszalúc enclosed site (source: author based on Patay 2005).

pottery workshops at Câlnic, a probable lithic workshop at Şincai and a metallurgical workshop at Vučedol-Gradac (Durman 1988). The best candidate for a public building is the large 3-roomed Lasinja-group house at Beketinci – Bentež. None of the 45 houses at Tiszalúc stood out from the others by size as a public building.

In the Trypillia – Cucuteni zone, pottery house-workshops with kilns, forming and drying areas have been recognized at Vărvăreuca sites VIII and XV (Markevich 1964), as well as at Brânzeni III. The discovery of two slow wheels in House 9 at Ghelăieşti suggests a potter's workshop.

What has revolutionized the study of public buildings in the 4th millennium BC has been the discovery of buildings much larger than the 'usual' domestic dwelling at the Trypillia megasites of Nebelivka, Majdanetske[74] and a wide range of other sites (Chapman et al. 2014: 2014a; Gaydarska 2020; Rassmann et al. 2016: 2016a; Hofmann, R. et al. 2019). The 23 larger-than-usual buildings at Nebelivka have been termed 'Assembly Houses' for public meetings (Nebbia et al. 2018) (here Fig. 5.22). The assembly houses were located around the outer and inner house circuits, often in pairs and of variable floor size (120m^2 to 1,120m^2). Excavation of the largest structure on the site has revealed a bipartite 'mega-structure' covering 1,120m^2 (Chapman et al. 2014b) (Fig. 5.18), making it currently the largest structure in the Trypillia – Cucuteni group, if not in prehistoric Europe. This bipartite structure comprised an enclosed courtyard or garden (320m^2) where people could congregate and a partly roofed building with an open meeting space in the centre (800m^2). The interior fittings of the building were mega-versions of those usually found in Trypillia houses. The assembly house death assemblage also resembled those of usual dwelling houses, with only one metal find – a gold hair-ornament – and one special find – a group of 22 miniature vessels, some with graphite-painted motifs comparable to those on Gumelniţa vessels (Lazăr & Ignat 2020) – the first case of graphite-painted pottery in the entire Trypillia distribution. While the mega-structure is clearly a public building, there was no materialization of social difference in its death assemblage – rather, a massive version of a house, with scaled-up interior fittings. The initial interpretation is that the dominant ideology of the household has been mapped onto the Assembly Houses as a way of 'naturalising' these new and socially challenging structures.

Summary of Phase 5 houses

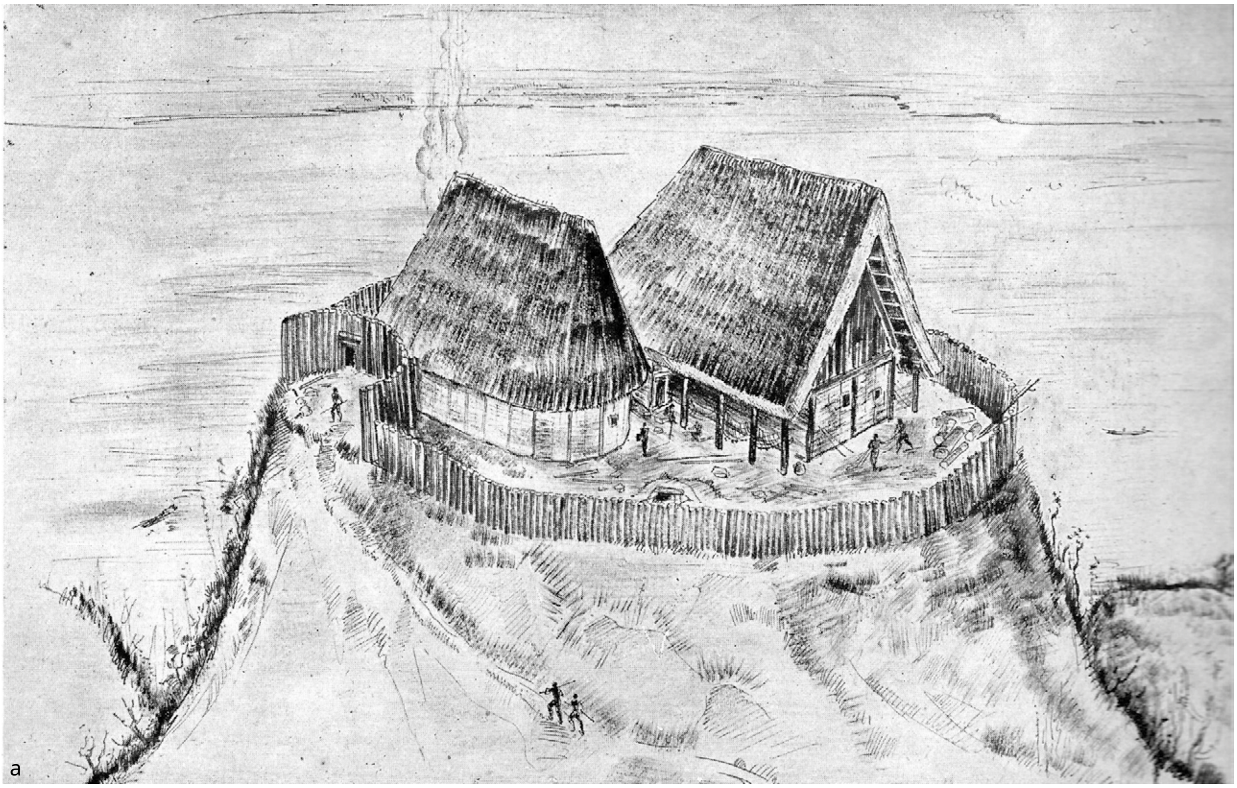
The leitmotif of this Phase has been the differences between Trypillia – Cucuteni structures and those of all the other groups. Although house-building in the Trypillia – Cucuteni group was much more homogenous than in the other groups, there was also considerable variability between the many claimed Trypillia – Cucuteni sub-groups. Such variability was also found in the design of the many house models in Phase 5. Moreover, the differences between small Taljanki households living in one-roomed houses and larger families at Majdanetske living in two- or even three-roomed houses would have had profound implications for the structuring of the two megasites. But this contrast could also be drawn between Carpathian Basin sites – the one-roomed Kostolac houses on the Gomolava tell and the two-roomed houses at the Tiszalúc enclosure. While there was no parallel for the size of the Nebelivka mega-structure anywhere else in the study region, other assembly houses at Nebelivka were hardly larger than the biggest houses at Tiszalúc or Vučedol and over 2/3rds were smaller than the 360-m^2 Lasinja house at Beketinci – Bentež. Class III dwelling houses with large families were rare in Phase 5 in Old Europe, even on Trypillia mega-sites. There are important implications for social structure and the organization of maintenance activities in the variations in domestic group size found both within as well as between cultural groups.

The same is true for the interior layouts of houses. However many variations can be documented on the idealized layouts of Trypillia houses, there was no other 4th millennium BC group for which such idealized plans could have been produced in the first place! This suggests that maintenance practices would have been much more standardized, and their spatial realizations much more tightly choreographed, in Trypillia groups than in the other groups. The change in emphasis from closed to open house models shows the way in which individual houses and their personalities became of greater significance in the later Trypillia period. Such contrasts were also notable in craft production. While 'craft corners' could be documented in a wide range of 4th millennium sites outside the Trypillia – Cucuteni group, it was only in the latter that we can document the change in scale of production from craft corners to separate potters' and flint-workers' workshops. It is not surprising that the scale of nucleation seen at the Trypillia mega-sites resulted in the phenomenon of assembly houses, which are rare in the Balkans in this period.

Chapter summary

In most sites in Old Europe, the house was the core of everyday life – the place where men, women and children lived, performed maintenance activities, played, made love and slept. Whether people lived in a one-roomed, 15m^2 trapezoidal space, a 10-roomed house on a tell or a 200m^2 multi-roomed house on a nucleated flat site, the house they built embodied the essence of prehistoric dwelling in Old

74 But, interestingly, NOT at Taljanki – the largest of the megasites at 320ha (Ohlrau 2015).



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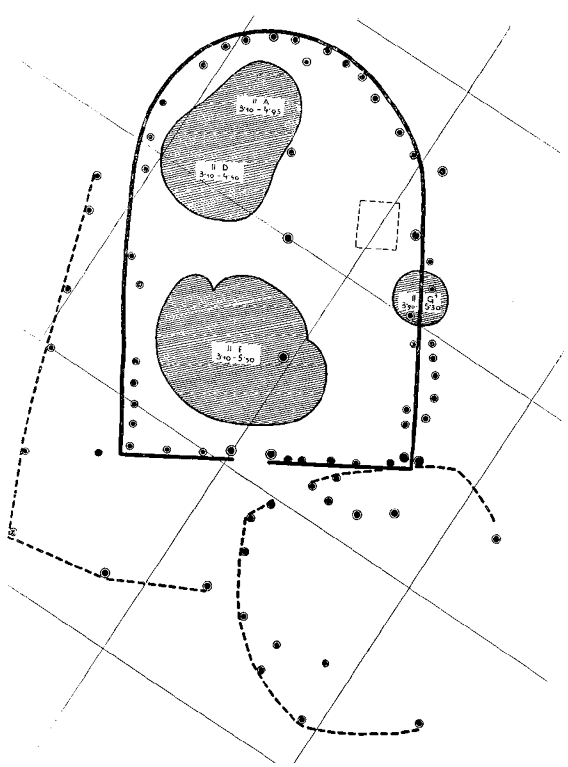

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Figure 5.20. (a – b) apsidal houses on the Gradac hill at Vučedol: (b) length x width – 9.95 x 6.5m (source: Schmidt 1945, Textbild 7 & 8: copyright – Archaeological Museum, Zagreb) (L. Woodard); (c) Fired clay house-model, Phase 5 site of Voroshylivka: height – 39cm (source: Ciuk 2008a, photo, p. 179: copyright – Royal Ontario Museum, Toronto).

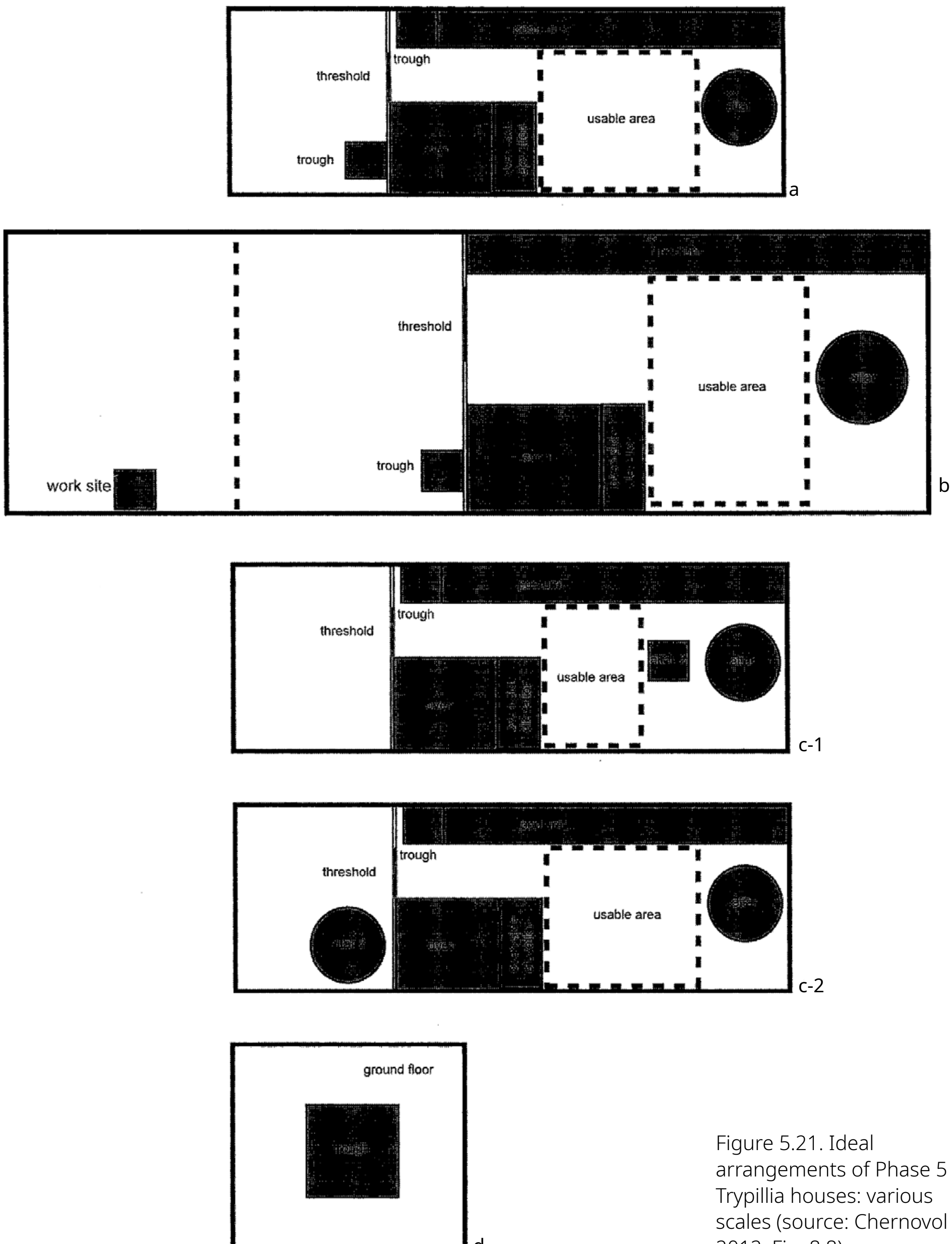


Figure 5.21. Ideal arrangements of Phase 5 Trypillia houses: various scales (source: Chernovol 2012, Fig. 8.8).

Europe. The more differentiated the domestic space inside a house, the more likely it was for individualisation of domestic practices. Constraints on what were appropriate practices would have created a consistent mode of behavior in the house learned by family members. Just as persons built aspects of themselves and their domestic groups into their house, so the house's identity reflexively created the people who lived there. How did these processes work out in practice in Old Europe? Since the analysis of house size has been a primary referent, this is where we begin.

The trapezoidal houses constructed by Iron Gates Mesolithic builders were a remarkable achievement. Although their limited size created dwellings for small, two-generational domestic groups, those groups of four or five people grew craftspersons capable of making the first monumental sculptures in prehistoric Europe, as well as a wide range of ground and polished stonework and bone and antler tools and ornaments (Srejović 1969).

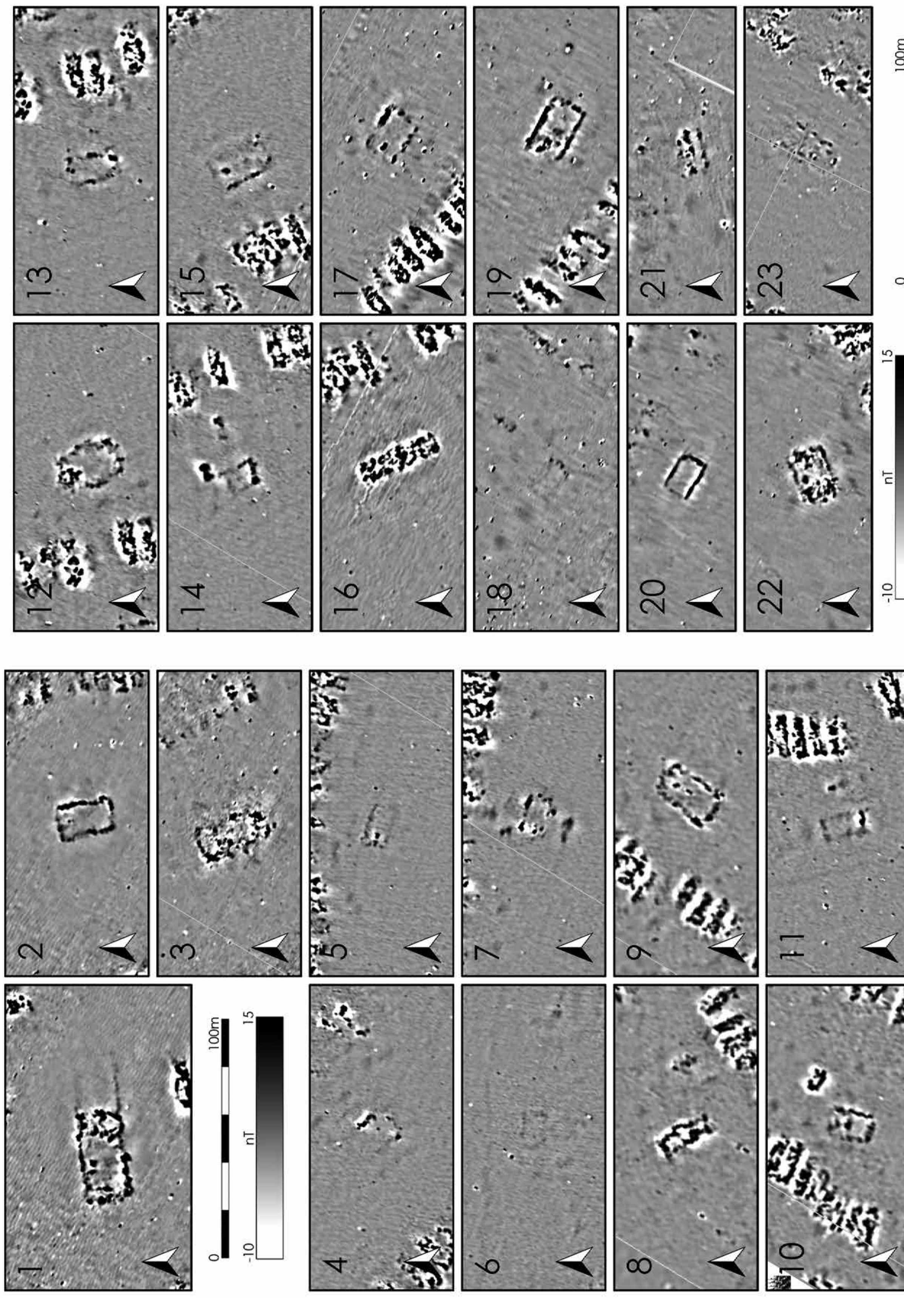
It is important to note that the Lepenski Vir foragers' trapezoidal houses were smaller than the houses of all but one early farming community – the settlement of Gura Baciului. The development of a rectangular building tradition provided the potential for the growth not only of the house itself (Flannery 2002) but also of the domestic group living there, as well as for the range of household practices and the combination of personal skills on which they were based. The preponderance of Class I houses in most areas shows that the two-generational household was an important element in the construction of Phase 2 communities. But the regular discovery of Class II houses, together with the rare Class III houses in and South of the Danube valley, confirms that larger households dominated by more sub-adults were also frequent in Phase 2. In Phase 3, the increasing importance of larger households is shown by the higher proportion of Class II houses and the occasional tell with a preponderance of Class III houses. Perhaps surprisingly, it is in the late 6[th] and early 5[th] millennia bc that we encountered the first houses covering an area of more than 200m^2 in the Linearbandkeramik long-house tradition. On the basis of size of house and household, these houses showed a trend towards autonomous households with the potential for social and craft differentiation, with subadults perhaps starting their own families. Most people in Phase 4 lived in Class II houses, with larger Class II houses on most Balkan tells, smaller Class II houses on Cucuteni-Trypillia settlements and the occasional Class III house, as at the Early Trypillian site of Aleksandrovka and the Pre-Cucuteni site of Baia-În-Muchie. In Phase 5, the size of people's houses was much more varied than before, with domestic groups living in Class I houses on some tells, most flat settlements and most late Cucuteni-Trypillia regional groups, while other residents lived in Class II houses on some Trypillia mega-sites and some Carpathian enclosed sites.

The relationship between house size and the number of rooms was also complex. Most Phase 2 farmers lived in one-roomed houses, carrying out all practices around the hearths and the sleeping area. With the increased construction of Class II houses, Phase 3 farmers were more likely to design two-roomed houses but one-roomed houses were still common, not forgetting the extraordinary development of a 10-roomed house on the NE Bulgarian tell of Polyanitsa – still unique in European prehistory and a sign of a strong drive towards individualised domestic space. People continued to live in one-roomed houses in Phases 4 and 5. Even though few people lived in two-storied houses at any time except Phase 5, the innovation of two-storied houses led to an increase in the amount of household space from Phase 3 onwards. The extraordinary house models from Polyanitsa, showing three-storey towers, probably relied on artistic license. The debate over whether the vast majority of Trypillia people lived in one- or two-storied houses may remain unsettled but what was clear was the visual impact, across the landscape as much as in the settlement, of 'monumental' two-storey houses on sites with many one-storey dwellings.

House-builders would have intuitively recognized the relationship between the size of a house and its solidity, based on the size of timbers needed to support heavier roof and second-storey members. But they also realized that factors such as the solidity of the floor were not necessarily functionally related to house size. In all periods, people built a mix of houses with and without clay-plastered wooden floors on the same site, suggesting that family members and their house-builders made local decisions about the level of comfort and solidity. However, people preferred to live not only in Class II houses from Phase 3 onwards but also in more solid houses built using much more clay than earlier. Increasingly sedentary households tended to construct a wider range of interior fittings, with regional contrasts in Phase 2 (South vs. North Balkans) and between different tells in Phases 3 and 4. In Phases 4 and 5, people living on dispersed homesteads built houses with few fittings, in marked contrast to the Vučedol high-status households living in comfortable buildings on the hilltop at Gradac or many standardised Trypillia households. The shift from closed to more open house models in the late Trypillia group emphasised the importance of individuality in houses, each with their distinctive interior fittings.

Builders used the same techniques for dwelling-houses as for buildings with more specialized functions: the house was the template for the workshop, the shrine and the assembly house, just as more elaborate 'house' models have been

Figure 5.22 (right page). Magnetic anomalies interpreted as Assembly Houses, Nebelivka (source: Gaydarska 2020, Figs. 4.8-4.9: drawn by J. Watson).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interpreted as 'shrine' models. The notion of a 'craft corner' in a dwelling-house was echoed in 'ritual corners' in other houses; there was no clear separation between domestic and specialized production, or between sacred and profane. Few craftspeople made objects in the typically small Class I houses of Phase 2, instead preferring working pits. Residents created craft corners in the larger Phase 3 houses but it was not until Phases 4 and 5 in the East Balkans that craftspeople developed a higher level of pottery and lithic production in house-workshops, especially in Cucuteni – Trypillia settlements.

Most Phase 2 households practiced domestic rituals of varying complexity, with House 4 at Tumba Madžari having a wider range of ritual features and House 1 at Balgarchevo having a less varied ritual assemblage. While domestic rituals continued in later Phases, ritual specialists in Phase 3 operated in large public buildings such as at Căscioarele and Gălătui or in highly ritualized households such as at Parţa. These examples suggest the differential development of ritual power in a few communities, in which broader communal groups transcended the dominant context of ritual – the home – to create foci of public ritual. However, both public shrines and highly ritualized households continued to be rare in Phase 4 and invisible in Phase 5. Sedentary communities started to use assembly houses in Phase 3, with a peak in Trypillia mega-sites in Phase 5.

Thus, communities from Phase 3 onwards created public buildings with specialized functions but, until the Trypillia mega-sites, such structures were rare and their more sophisticated practices were not generalized into wider cultural strategies. Most people continued to value the traditional strong links between their home, household production, domestic ritual and local decision-making, as supported through the construction of house models. All of these household links made the household stronger, creating more tension between household ideologies and wider, communal values. But it is another question whether or not household members in the study region struggled for greater autonomy in opposition to communal ideologies and in competition with other households. I have already suggested (see above, p. 75) that joint increases in house size and domestic group size may have offered the potential for greater household autonomy, not least through an increase in the total range of personal skills deployed in the household but also through the expansion of household production. Changes in the scale of farming and animal-keeping would also have been consistent with greater household autonomy (see above, pp. 83-4). There is a logic in the proposition that those successful families who accumulated more food and objects in larger houses than their neighbours would have benefitted from greater autonomy in decision-making and control over resources, despite the higher dispute rates within larger households.

This argument has been played out over the Late Neolithic of Central Greece (cf. Halstead 1999 with Souvatzi 2008: 2012; Chapman et al. 2011). In addition to other aspects of personhood, the key issue concerned the tensions between the individuality and the dividuality of the residents in relation to the type of site. In foregrounding individuality, Halstead emphasized the competitive element of social relations, incorrectly positing the importance of the competitive potlatching of *Spondylus* shell bracelets (see critique of Halstead in Chapman et al. 2011). By contrast, Souvatzi prioritized the communal values shared by all households who participated in the open exchange networks for elaborately painted pottery and their uniform consumption within sites, as well as the continuing emphasis on communal, outdoor spaces for cooking, ritual, work areas, gatherings and large-scale construction. Any argument invoking shared values based upon material culture relies on the dividuality of the members of the exchange network, with their enchained relations extending through the network. This would have been the same with members of a household, in which their social identity was created by the relationships they had built up with people from other households and lineages through material culture. The alternative to an increasingly autonomous (read 'individual') household with more members, greater economic and ritual power, a wider range of combined personal skills and a larger stock of accumulated prestige goods would be a household increasingly integrated into local and regional networks (read 'dividual') whose identity was created by a denser mesh of material links to other households and settlements.

This debate cannot yet be settled, since the primary focus of this chapter has been households. The discussion on the relative autonomy of houses within a communal setting of the complete settlement will be extended into the next two chapters, which deal with those key nodes of Balkan Mesolithic, Neolithic and Copper Age archaeology – settlements (Chapter 6) and cemeteries (Chapter 7).

Chapter 6

Settlement planning

"What time is this place?" (Yi-Fu Tuan 1978).

Introduction

The settlements in Old Europe ranged in size from 0.2ha (e.g., Ovcharovo tell) to 320ha (the Trypillia megasite of Taljanki: Kruts 1990). The experience of living on, or visiting, sites of such contrasting sizes constituted a major part of Neolithic and Chalcolithic lifeways. In order to give a flavour of a visit to a megasite, I begin this chapter with the imagined viewpoint of a visitor from a small settlement to the massive site of Nebelivka[75].

> "As a mother of three, I live in a typical small Trypillia farming settlement of 200 or so people, where we live in 30 houses and meet with relatives and affines from two or three other similar communities a few times each year. Talking to my parents and their grandparents, this is how life was when they were growing up. As long as the fertile soil delivered its promise of a good harvest, there were few stresses in our lives, while births, marriages, serious illnesses and deaths provided the surprises and the peaks of excitement, enjoyment or sorrow of our lives. Perhaps the greatest moment in community life was a house-burning; everybody in the community helped to gather the fuel for a successful burning, which provided a spectacular event for the day.
>
> So when news filtered through from the next community of the building of a huge new Assembly site only 40km from our settlement, there was a palpable sense of anticipation for new experiences, especially meeting new people and maybe seeing new kinds of objects made by skilled people of the kind that we did not have in our midst. The offer of my grandparents to look after the children released me to go with our community group of 30 people to make our community's first visit to the assembly site and report back. We were aware that our contribution to the new centre was to build a series of four new houses in our month's visit, so we took our own tools as well as food and drink, two cows and gifts to the residents of Nebelivka.
>
> The first surprise on our two-day journey was the number of other people following the stream-side tracks Southwards to Nebelivka (Fig. 6.1). Even if no-one from our group had known the whereabouts of the promontory (in fact, we did have one such person), we could not possibly have got lost – we just needed to follow the crowd. It did not take long to find friends who had visited our settlement in the past – people whom

75 This story is one of 10 imaginary tales told by various people connected to the Nebelivka megasite (Gaydarska (ed.) 2020, Chapter 11)

we could co-operate with on the megasite and whose presence removed any sense of fear or apprehension about whom we may find at the assembly.

Our arrival at Nebelivka was preceded by views of the site from the Northern side, which showed us the full width of the promontory site, with its dominant circuit of 70 or 80 new houses, often two-storied, and including some houses of a size I had never seen before. The Nebelivka folk were seemingly well-prepared for so many visitors, for there were people to guide us round the Northern house circuit towards the West entrance. We were sent to a big triangular area near a stream with a source seemingly in the centre of the megasite and asked to settle down and conduct our own ceremonies of arrival until the time for an evening meal. This triangular area was many times larger than our settlement, yet it made up only one small part of the assembly site. It was the place where our group, and those from nearby settlements, would live and build their houses."

Settlement form

The Nebelivka story shows us that the form and size of a settlement represents a spatial order which is more than simply a reflection of the social order of its community. Lefort (1986: 189) states that "any society, in order to exist as such, has to constitute an image of its own unity, and this is a symbolic process." Settlement form was one way to constitute a social group's image, helping to create and regulate the social relations which were integral to social life itself (cf. Raczky & Anders 2008). Another way was the creation of distinct spatial areas for the ancestors (see Chapter 7).

We can generalize Gheorghiu's (2008, 170) comment that tells were created through the mixing of natural materials drawn from different parts of the landscape to include all sites, and indeed each house, in the idea of landscape assemblage. All settlements and all houses attracted materials from the surrounding landscape and became an assemblage of the materiality of the landscape. The late John Evans (2005, 117) reminded us that annual plastering and house renewal maintained those links between sites and landscape; Mlekuž (2016) emphasises those same links for gardens.

To study settlement form, it will be useful to identify components of human settlements which are not culture-specific, yet not so abstract as to convert the analysis of social space into a formal geometric project (Chapman 1989). A useful terminology is presented by Doxiadis (1968), for whom any village settlement[76] comprises: a homogenous part (the fields), a central part (the built-up area), a circulatory part (network of roads or paths) and a special part (e.g., an assembly house or a cemetery) (Fig. 6.2a). Let us examine these terms more closely to see whether they are identifiable in the prehistoric landscape.

The homogenous part is not so clearly identifiable before the use of field-systems in Europe (Bradley 1978) or trackways in Western Asia (Wilkinson 2003) but site territorial analysis has been used to reconstruct arable or pasture land close to the village (e.g., Zadubravlje: Minichreiter 1992) (here, Fig. 6.2b); (2) The central area of a prehistoric village varied enormously in size, layout and homogeneity (e.g., Crkvine – Stubline: Crnobrnja 2012) (Fig. 6.2d). A basic distinction between tells and flat sites has been blurred by the incorporation of tells into larger, horizontal settlements (e.g., Csőszhalom: Raczky & Anders 2010, Figs. 2-3). The visual impact of the built-up parts co-varied with their concentration/dispersal. On non-tell sites, large parts of the central area were often gardens or courtyards; (3) The circulatory part can be readily diagnosed on tells, with their narrow lanes between houses (Todorova 1982) (Fig. 5.9b), but networks of paths have been identified at open sites also (e.g., Crkvine – Stubline: Crnobrnja 2012) (Fig. 6.2d); and (4) The special part of a settlement can relate to places of community focus – e.g., workshops of specialist craftspeople (e.g., Hârşova: Popovici 2009), shrines (e.g., Căscioarele: Dumitrescu H. 1968), assembly houses, communal meeting places or cemeteries (e.g., Sultana – Malu Roşu: Andreescu & Lazăr 2008) (Fig. 6.2c). The interpretation of such places has to be argued on a case-by-case basis.

Another basic distinction in settlement form contrasts common land, where rights of passage, grazing and gathering are recognized, with private land and buildings (Gudeman 2001, 282; see below, p. 282). It is assumed here that the individual houses in Balkan villages were not communal property but did in fact belong to the residents, although other models of tenure were possible. It would, however, be premature to assume the status of networks of pathways or farming land as falling under private or communal ownership. Crnobrnja (2012) has suggested that, since each family had to cross the 'communal' areas of several other families to reach 'their' arable land, open spaces were truly communal spaces (Fig. 6.2a – b). He has also argued that the existence of myriad small 'family-owned' parcels of land would have been an inefficient way to organize Neolithic farming (Crnobrnja 2012; cf. Chapman 1989, Figs. 13-14), although this was a good way to maintain egalitarian access to land.

Another principle of great importance in settlement planning is that of dimensional order. Fletcher (1977) has contended that, just as humans use consistent interpersonal spacing in their everyday behaviour, so humans can be expected to arrange their material spatial context in a similarly ordered way. Fletcher views settlement remains

76 For the definition of the term 'village' and other settlement terms, see above, p. 45.

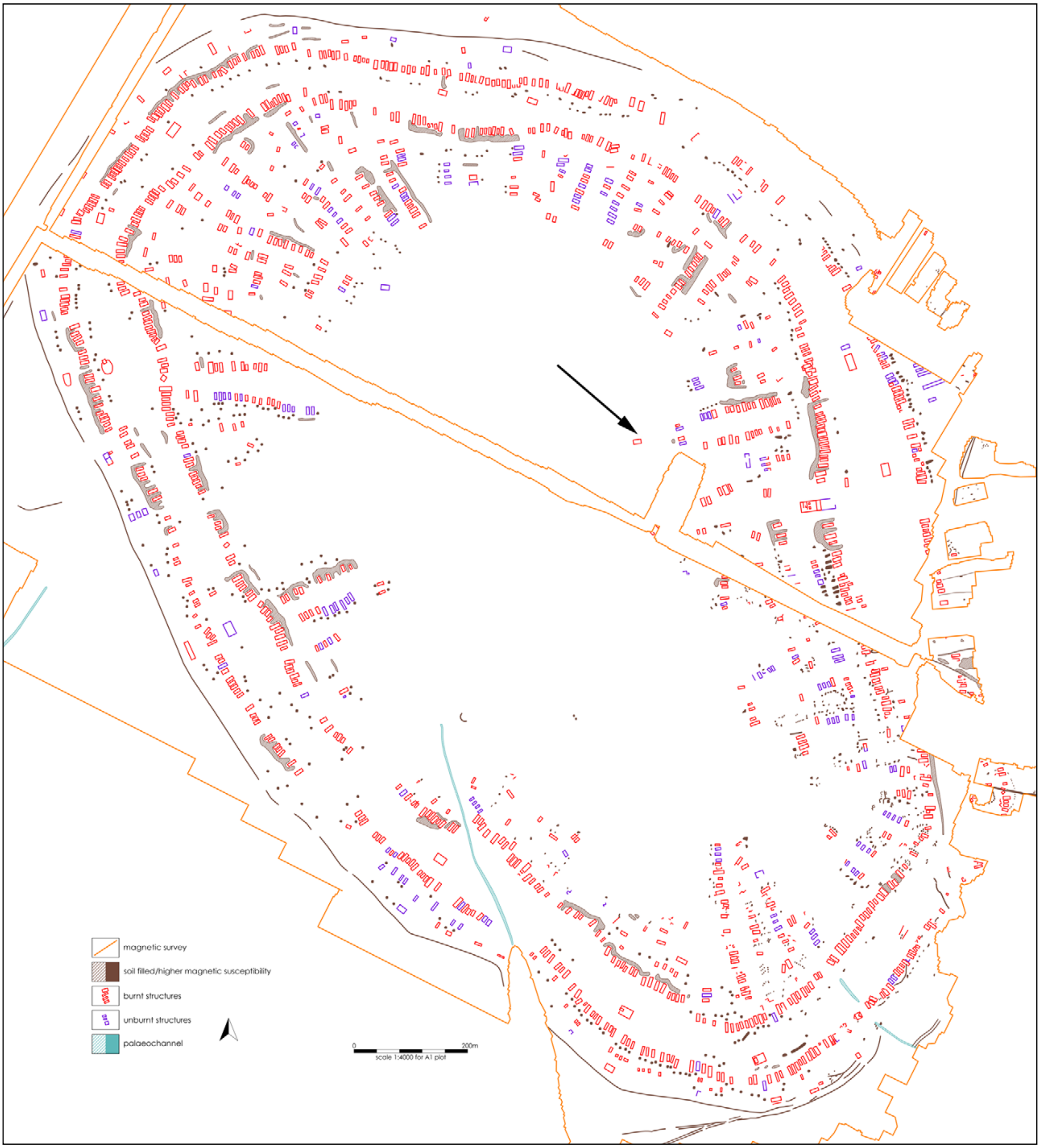


Fig. 6.1. Geophysical plan of Phase 5 Trypillia megasite of Nebelivka; arrow shows position of possible birthing-hut (source: Hale, D., Nebelivka Project).

in the context of information theory, with the structures in a settlement acting as communication devices transmitting messages about the organisation of space (Fletcher 1977), akin to Merkyte & Albek's (2012, 176) notion of a site plan as a consciously organized web of communication. However, the costs of maintaining such spatial order, especially through a multiplicity of rules and constraints, meant that this could have been counter-productive rather than a strong reinforcement of cultural beliefs (cf. Fletcher 1977 with Fletcher 1984).

A significant element of dimensional order was the relationship between built and unbuilt settlement space. The Built to Unbuilt space (BUB) ratio can be calculated if the settlement is bounded and completely investigated,

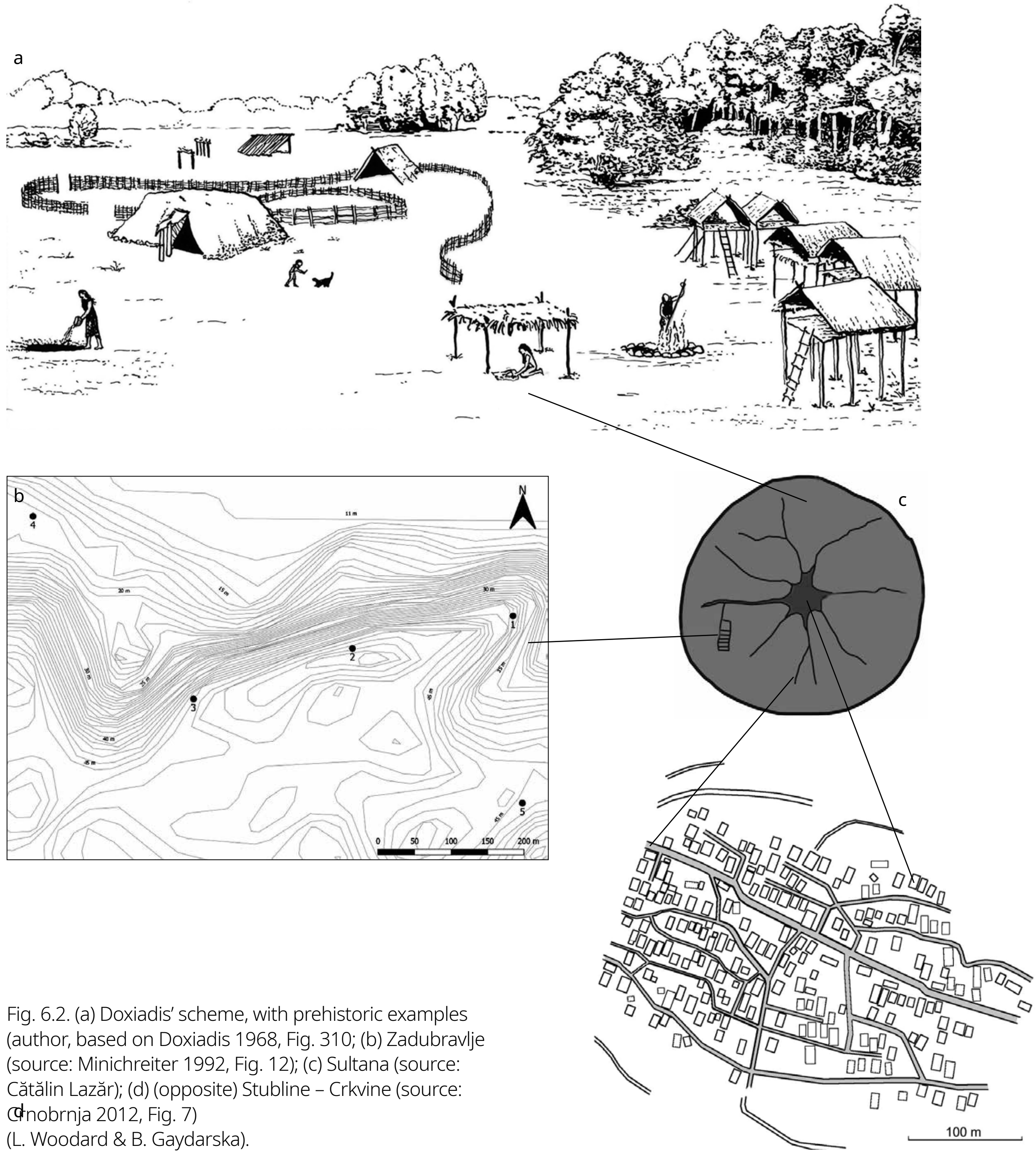


Fig. 6.2. (a) Doxiadis' scheme, with prehistoric examples (author, based on Doxiadis 1968, Fig. 310; (b) Zadubravlje (source: Minichreiter 1992, Fig. 12); (c) Sultana (source: Cătălin Lazăr); (d) (opposite) Stubline – Crkvine (source: Crnobrnja 2012, Fig. 7)
(L. Woodard & B. Gaydarska).

whether by excavation or geophysics. The area covered by structures (built space) is divided by the area of open land (unbuilt space). Thus, if built space covers 2 ha and unbuilt space covers 3 ha, the BUB ratio is 1: 1.5 (Chapman 1989). Because the assumption is made that all houses were coevally occupied, the BUB ratio is always a maximum ratio. A set of early BUB calculations was made 30 years ago (Chapman 1989); updated calculations based on almost double the number of sites are presented below.

A final principle of spatial analysis concerns the temporal dimension. One of the most stimulating questions ever asked in the field of archaeology was posed by the phenomenologist Yi-Fu Tuan (1978): 'what time is this place?' This question leads us into further enquiries about history, ancestry and long- or short-term identities. The multiplicity of answers to this question depends initially upon the kind of place in question. An important kind of place is the 'persistent place (Schlanger 1992; Moore & Thompson 2012) – a place repeatedly used in the long-term occupation of a region. Persistent places are more than just redundantly utilized locations; they are places where relationships are created and, as a result, identities are formed.

A diversity of site types

Now that we have discussed some general ideas about the way that settlement planning works, we shall turn to the variety of site types in Old Europe. We can recognize a number of site types – not only settlements – which combined to form a 'settlement pattern' (Kowalewski 2008). In parallel to burial sites such as cemeteries and mortuary barrows, there were eight principal site types: dwelling sites (tells, flat sites, enclosed sites and pile-dwellings) and specialised sites (pit sites, extraction sites (flint or copper mines, quarries, salt exploitation sites, etc.), cave sites and what I shall call 'landscape deposits'. Overlaid on this typology of sites is a social categorization of settlement units usually based on the size of the artifact scatter forming the 'site' – homesteads (or farmsteads), hamlets, villages (Chapman 1989) and, uniquely in the Trypillia case, towns or 'proto-cities' (Chapman et al. 2014)[77]. We turn to current perspectives on each of the site types.

Tells (Fig. 6.3)

The phenomenon of dwelling on tells stretches widely across Eurasia in both space, from India to North-East Hungary, and time, from 8000 BC to modern times. Authors such as Eva Rosenstock (2009: 2010) have taken tell-dwelling as a unitary phenomenon, seeking to explain similarities in the form of tells, the environmental characteristics of their locations and other factors (for a critique of this approach, see Evans, J. 2005). Unfortunately, Rosenstock's multiple regression analysis of 2,670 tell sites pre-dating 3000 BC (Rosenstock 2010, 10-11) does not contribute much to an understanding of tell-dwelling and it would perhaps be more useful if this analysis could be conducted in a social framework and at a regional scale.

Childe was the first to formulate a binary classification into tells and flat sites in his paper on Bulgarian tells (Childe 1923). For Childe, this distinction arose from a fundamental division between modes of subsistence – the difference between tells with permanent, mature farming systems, with the potential for complex behavior, and open sites with systems of shifting cultivation, where practitioners could hardly rise far above savagery (Childe 1939, 59). The lack of extensive, open-area excavation prevented Childe from transcending the contradictions in his argumentation (Chapman 2009).

Several authors have proposed a definition of 'tells' (Sherratt 1983a; Gogâltan 2003; Link 2006), with Gogâltan (2003) arguing that the term 'tell' should not be used because it causes confusion (it is, after all, an *Arabic* word!). Perhaps the most useful definition is that of Draşovean (2007, 19): "Tells are anthropogenic creations whose genesis, development and features are determined by certain pedo-climatic and relief conditions, by certain relations of production and social relations, by the character of the architecture and the type of the construction materials. They are the material expression of an orderly use of a well-defined geographic space. From a morphological point of view, the tells are the result of a cumulative process in which habitation traces accumulate vertically in a relatively consistent and regular way, within a well defined area". But were tells for dwellings?

The vast majority of tells have copious evidence for dwelling practices but the Csőszhalom tell has been characterised as an 'ersatz tell' – a continuously constructed communal monument rather than an ordinary habitation mound (Sherratt 2005, 142-3; Raczky 2015, 243)[78]. This leaves Csőszhalom as a combination of a flat site and a mounded Rondel. However, most tells were inhabited, characterised by a volatile mix of intensive co-presence and household autonomy (Thomas, J. 2013a, 16).

The processes of tell growth produced a consistent visual difference between tells and flat sites. But the most important principle of tell living was the commitment to a supra-household place-value based upon ancestral dwelling and materialized in the communal labour required to create and maintain the tell. Hansen (2010) and Müller (2015) have noted that there would have been a tension between ancestral principles and the emergence of hierarchical leadership on tells. This idea is reminiscent of John Robb's (2007, 314) characterization of the main social change in the Italian Neolithic – the shift from tracing ancestry through co-residence in villages to genealogies by means of monumental stelae and small-group communal burials. The key aspect of tell living was that it combined both means of tracing ancestry – co-residence and genealogy – in one and the same settlement form.

An earlier attempt at capturing the relationship between site type and social structure posited gross contrasts between the West Balkans and the East Balkans (Chapman 1989). This generalisation can be criticized for ignoring the most nucleated settlement phenomenon in the region – the Trypillia mega-sites of Ukraine (see below, pp. 228-233), for missing the blurring of the distinction between flat sites and tells through the discovery of off-tell zones and for underestimating the importance of enclosure. The tells at such hybrid complexes were usually separated by enclosure ditches but this was not always the case (e.g., Podgoritsa: Bailey et al. 1998) (Fig. 6.3). There were at least three forms of off-tell deposition around the tell: sites where the tell was spatially central to the other

77 For definitions of these terms, see Chapter 2 (p. 45).

78 Raczky et al. (2018a, 120) have also re-interpreted the Phase 3 settlement mound of Öcsöd as an assembly central place / place of congregation rather than as a settlement.

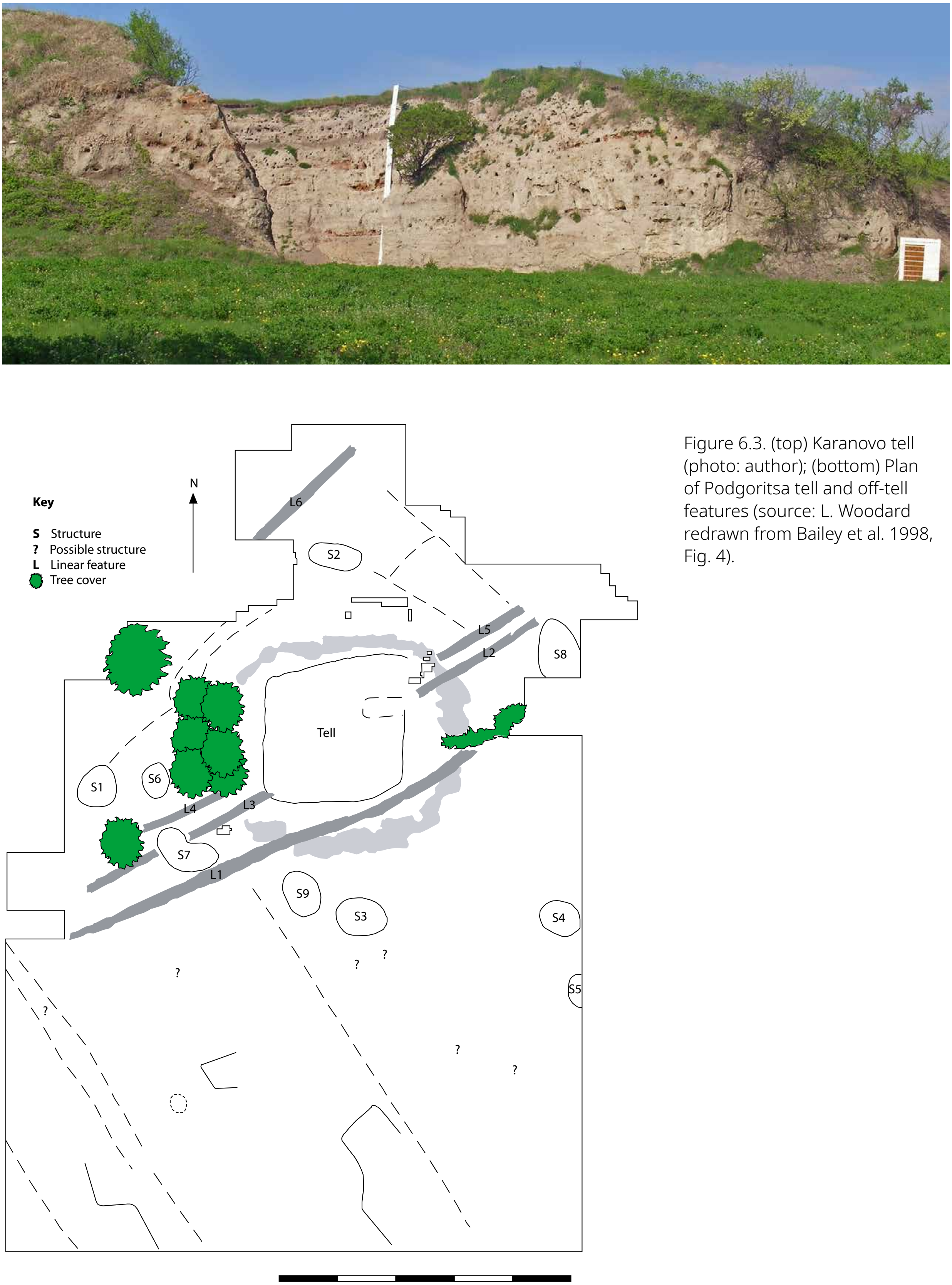


Figure 6.3. (top) Karanovo tell (photo: author); (bottom) Plan of Podgoritsa tell and off-tell features (source: L. Woodard redrawn from Bailey et al. 1998, Fig. 4).

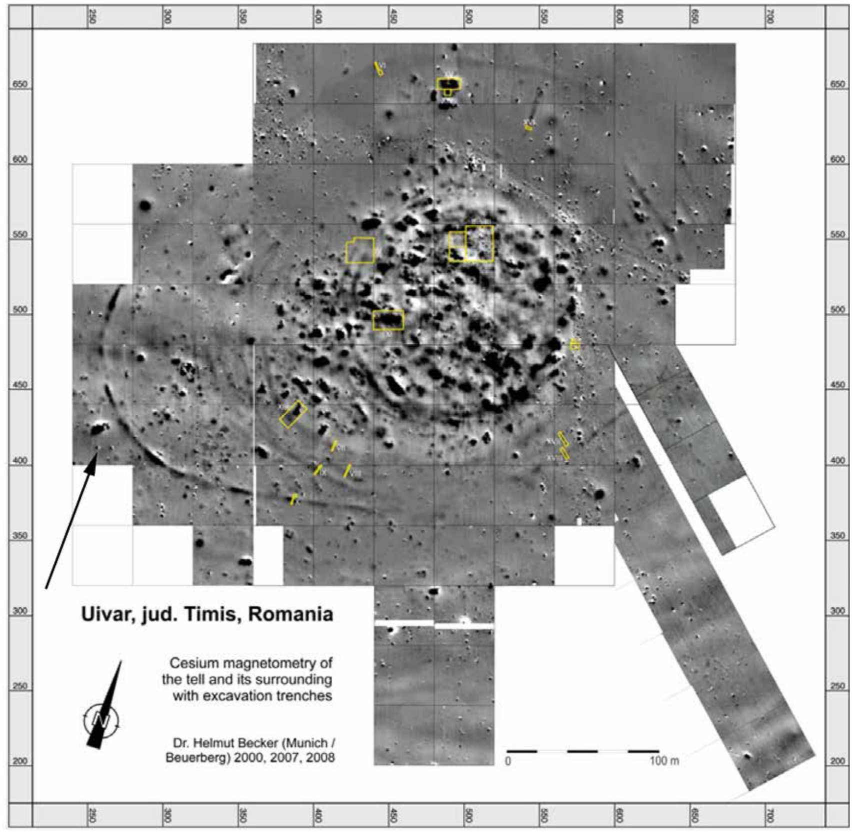


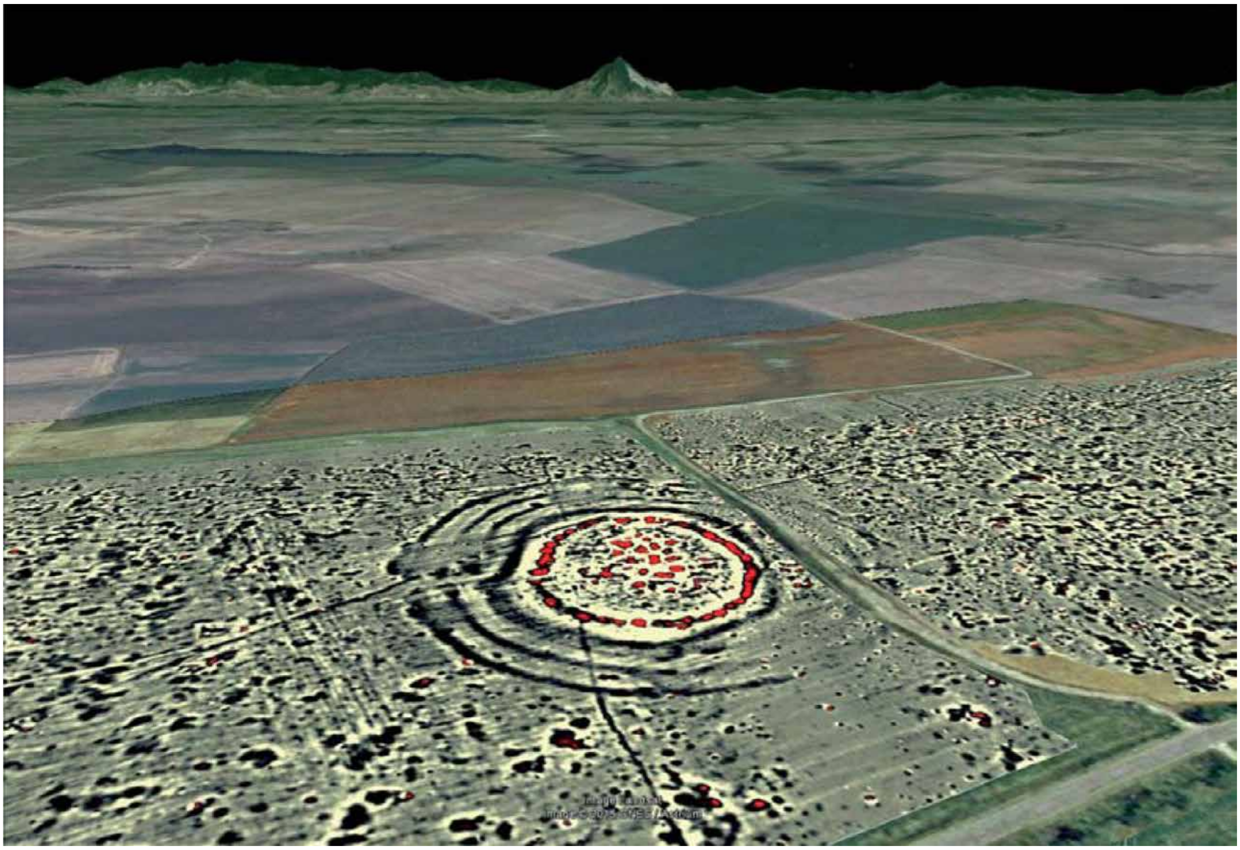
Figure 6.4. Geophysical plan of Phase 3 Vinča tell of Uivar (source: Draşovean et al. 2017, Fig. 2).

deposition (e.g., Uivar) (Fig. 6.4); complexes such as Pietrele or Czőszhalom, where an enclosed tell was built within a large open settlement but was central to the settlement in only a general sense (Hansen 2015; Raczky 2018) (Fig. 6.5); and sites where house clusters and single long-houses were dispersed round the tell (e.g., Szeghalom – Kovácshalom: Gyucha et al. 2015) (Fig. 6.6). The general point arising from such hybrid sites is the potential contradictions between the two principles of dwelling – *communal* identity based upon physical proximity and history expressed as ancestry on the tell itself and *household* identity on the open part of the complex – and the potential offered for transcending such identities.

John Evans posed an important question about tells (2005, 112): "How could it be that (tell) growth was so purposeful yet so incremental as to be invisible to adjacent generations?" Although Evans was correct about the slow growth of mounds, he missed the point that even minor differences in height were sufficient to differentiate tell houses from those on a lower surface. What was purposeful was not the increase in mound height but the commitment to ancestral values. The results of Draşovean & Schier's (2010) calculations of mound-formation at Uivar showed the large scale of the collective enterprise of building a tell – far beyond any individual household's capabilities and explicable only though a supra-household commitment to ancestral values (cf. Siklósi 2013, 241).

The other aspect of Evans' question plays into the issue noted by John Barrett (1994) that we often – and mistakenly – take the final form of a site or monument to be its initial form. Thus, all tells began as 'flat' sites, prompting repeated community decisions to live where the ancestors lived rather than shifting sites before a mound developed (Chapman 1998). An important, unresolved issue concerns the extent of tell agency – the influence of existing tell form on the decision on whether or not to continue life on the tell.

Turning to mobility, it would seem at first sight that tells embodied the most permanent form of settlement in European prehistory – what Dragoş Gheorghiu (2008) called "immobile places in a landscape in flux". However, a long-running critique of permanent, sedentary tell-dwelling led by Whittle and Bailey maintained that "even with the most securely assumed monuments to sedentism (tells), there is increasing evidence that reconstructions of static, permanent sedentary life are misguided" (Bailey & Whittle 2005, 4). The climax of this research programme was supposed to be the 2003 conference entitled "*Un*settling the Neolithic" but this aim was undermined by several speakers introducing bio-archaeological evidence for settlement permanence and against geoarchaeological studies for impermanent tell occupations. The overall conclusion is that Whittle and Bailey have asked some important questions about tells but, in the end, they have not managed to demonstrate that the more mobile lifeways typical of the



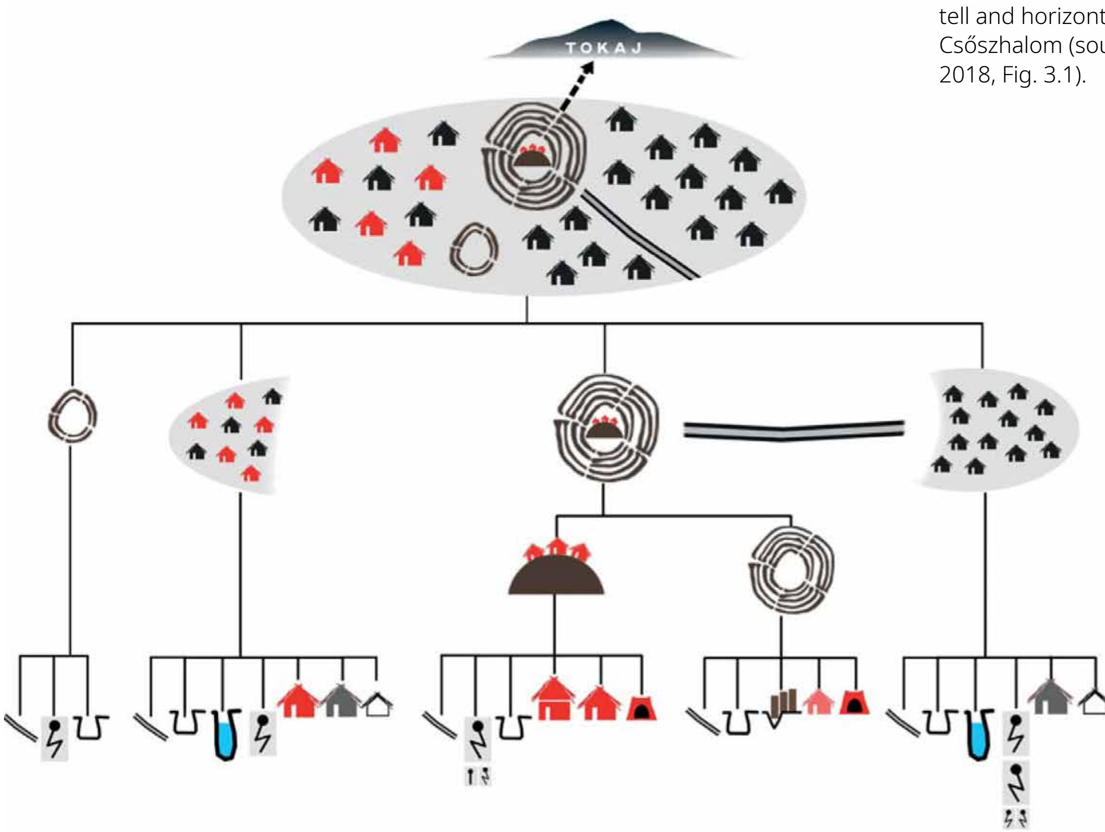
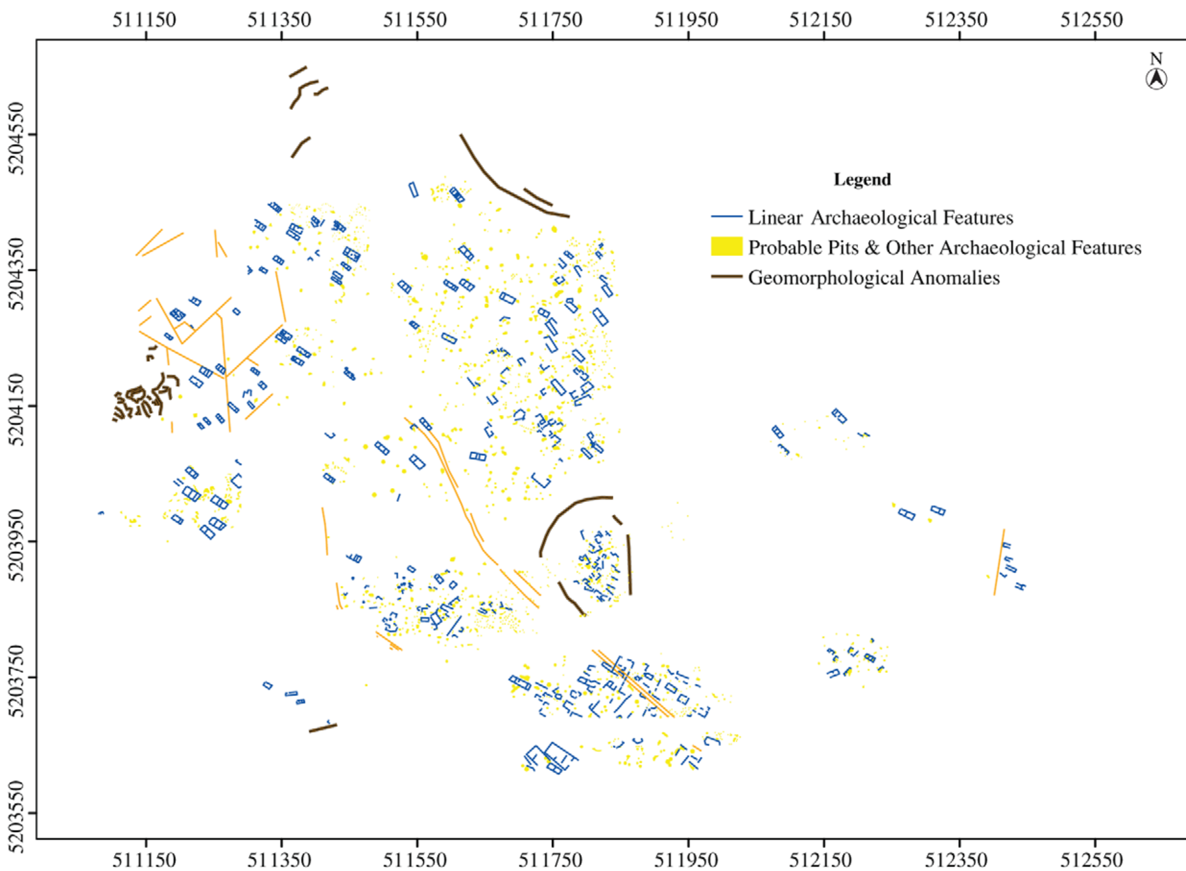


Figure 6.5. Plan of Phase 3 tell and horizontal site at Csőszhalom (source: Raczky 2018, Fig. 3.1).



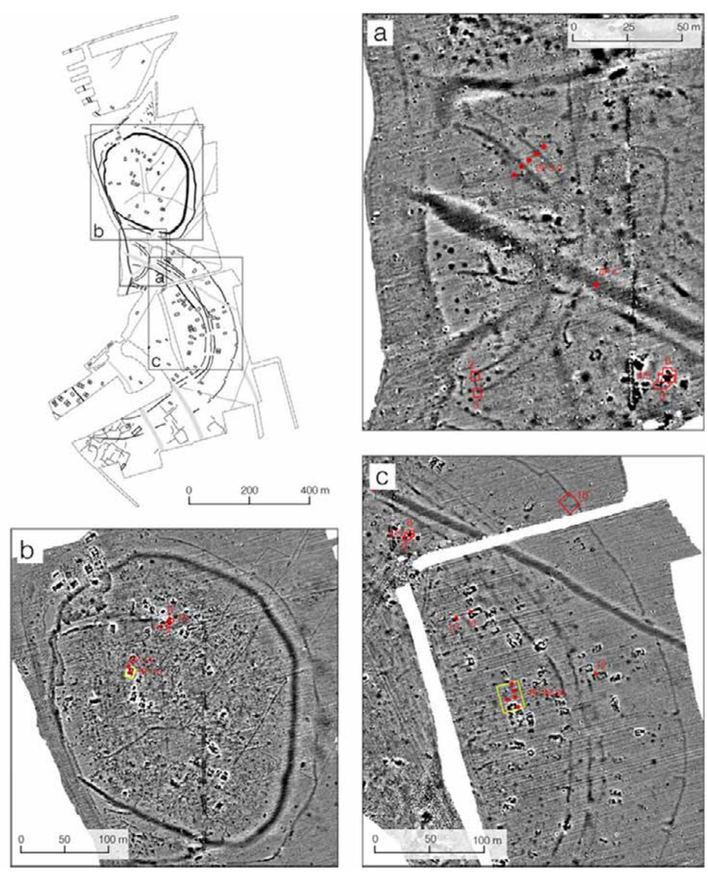


Figure 6.6. (top) Plan of Phase 3 tell and off-tell features at Szeghalom – Kovácshalom (source: Gyucha et al. 2015, Fig. 10) ;(bottom) Plan of Bordjoš Vinča – Tisza complex (source: Hofmann, R. et al. 2019, Fig. 3).

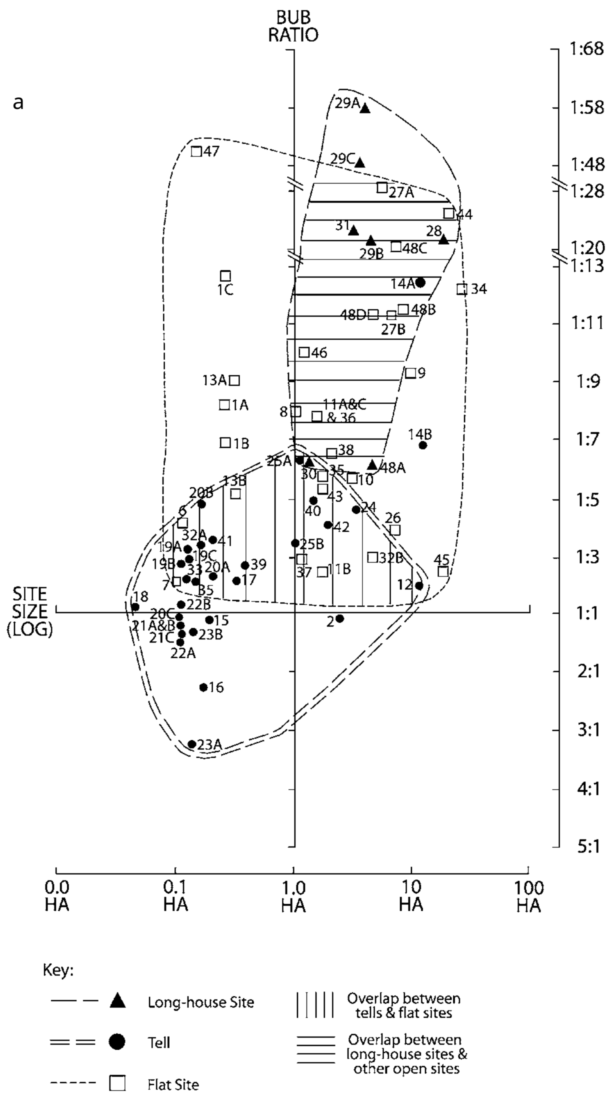
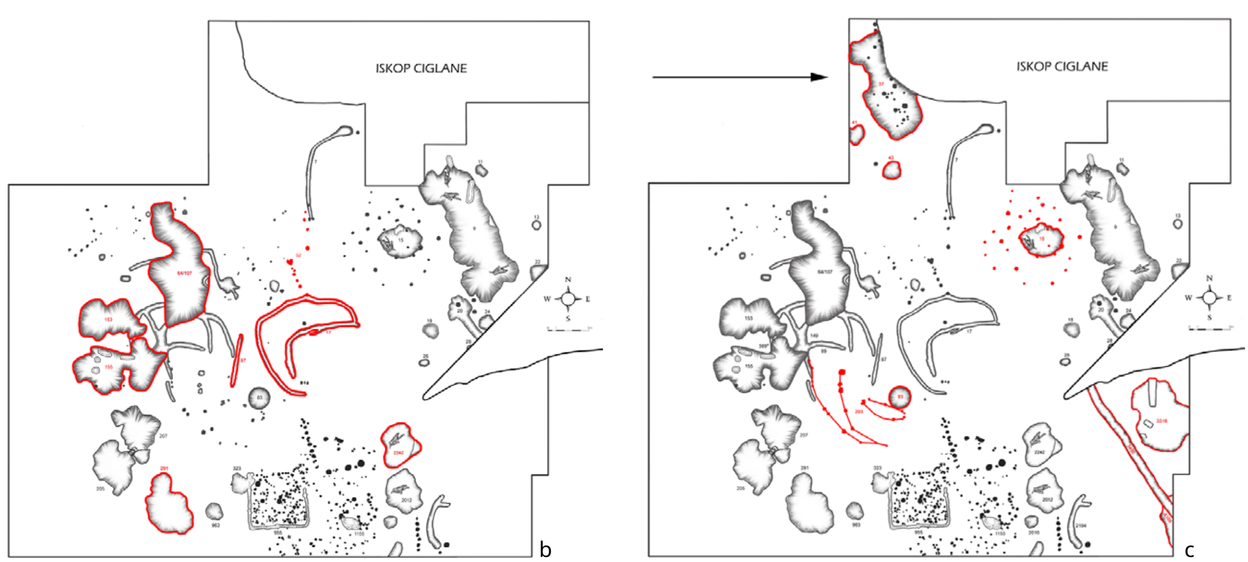


Figure 6.7. (a) Built-to-Unbuilt (BUB) space ratios, Balkan tells, flat sites and long-house sites: Phase 2: 1 – Lepenski Vir: a – Phase Ia (Fig. 2.5d); b – Phase Ib; c – Phase Ic; 2 – Karanovo I; 3 – Azmashka mogila; 4 – Kazanluk; 5 – Chavdar; 6 – Rakitovo (Fig. 6.13); 7 – Ovcharovo – Gorata Phase I (Fig. 6.13); 8 – Obre I; 9 – Divostin I (Fig. 6.12); 47 – Endrőd 119 (Fig. 6.12); Phase 3: 10 – Grivac (Fig. 6.15); 11 – Obre II: a – early; b – middle; c – late; 12 – Kökénydomb; 13 – Târpeşti: a – LBK; b – Cucuteni; 14 – Vinča: a – phase 1b; b – phase I c-d; 15 – Gomolava; 16 – Herpály; 17 – Radovanu; 18 – Goljamo Delchevo Horizon V; 19 – Vinica: a – I (Fig. 5.14c); b – II; c – III; 20 – Targovishte: a – I (Fig. 6.21a); b – II; c – III; 21 – Radingrad: a – V; b – III; c – I (Fig. 6.21b); 22 – Ovcharovo: a – IV; b – I; 23 – Polyanitsa: a – III; b – I (Fig. 5.9c); 24 – Okolište (Fig. 6.15); 25 – Drama: a – Karanovo V (Fig. 5.7a); b – Karanovo VI; 26 – Crkvine – Stubline (Fig. 4.2); 27 – Bordjoš (Fig. 6.6): a – Sector 1; b – Sector 3; 28 – Balatonszárszó (Fig. 5.5); 29 – Szederkény: a – North sector; b – Central sector; c – South sector; 30 – Versend; 31 – Füzesabony – Gubakút (Fig. 6.16); 32 – Csőszhalom (Fig. 6.5): a – tell; b – flat site; 33 – Parţa level 7b (Fig. 6.17); 34 – Szeghalom Northern sector (Fig. 6.6); Phase 4: 35 – Traian; 36 – Hăbăşeşti; 37 – Corlăteni; 38 – Truşeşti; 39 – Căscioarele; 40 – Hotnitsa level I (Fig. 6.20); 41 – Dolnoslav; 42 – Durankulak Big Island Level IV; Phase 5: 43 – Tiszalúc (Fig. 6.26); 44 – Apolianka (Fig. 6.23c); 45 – Petreni (Fig. 6.23a); 46 – Adâncata (source: author) (L. Woodard); (b) – (c) Plans of Phase 2 Starčevo site of Galovo: (b) Phase 2; (c) Phase 3; arrow shows position of possible birthing-hut (source: K. Minichreiter).



British Neolithic worked in a Balkan context – a point that Whittle has recently accepted (Whittle 2015, 1054-9).

Life on tells was typically framed by densely spaced houses – in terms of spatial analysis, a high BUB ratio (Fig. 6.7a). The often small areas of unbuilt space could have been important spaces for communal practices (cf. Smith M. L. 2008). This required the agreement over relations based on high-density housing so as to diminish practical problems of privacy, inter-house audibility and problematic neighbours. The ancestral social space that 'covered' the whole tell remained the key to tell identities but their communities needed to maintain relatively tight communal rules over house size and shape as well as controls over 'unsociable' practices. As Crnobrnja (2012) appreciated, a packed house layout meant people seeing and hearing neighbours all of the time, with all outdoor activities in the public eye because they took place in public places. Merkyte & Albek (2012: 176) suggest that both coherence and intimacy arose from the dense clustering of uniform structures in rows, where people's front doors often faced the walls of nearby structures (Hillier 2014). Was regular, geometric planning of house layouts a response to crowded living conditions, just as hospitality would have been an important response to inter-household tensions arising from spatially closer living (Whittle 2003: 2005)?

Turning to movement into and through settlements, each of the site types differed strongly in the possibilities of movement which they offered to inhabitants, known visitors and strangers (Salisbury 2012). Gheorghiu (2008) has emphasized the rite of passage effected by entrance through complex footbridges, gates and palisaded entranceways to enter the enclosed spaces of tells (e.g., Fig. 6.8). Merkyte & Albek (2012, 176) echo this view for the inner area of tells, suggesting that it was hard to move along the main axis of a tell house because the small passages were often filled with refuse and that movement along the streets was reserved for neighbours / affines. However, the residents of tells with far lower house densities would have had far fewer constraints on movement. There is an overlap zone in the BUB ratio to site size plot between flat sites and tells, including 12 sites (Fig. 6.7a). These tells with lower-than-usual BUB ratios were located in the same regions as tells with much higher BUB ratios, so there was evidently a positive choice for more unbuilt space on these particular tells, with the implication that residents preferred to have the possibility of developing a wider range of on-tell social practices. However, the group of small North-East Bulgarian tells, such as Ovcharovo and particularly Polyanitsa, maintained their extremely high BUB rations – some of the highest in Old Europe.

Flat sites

Flat sites may be characterised as possessing great temporal variability, often combined with fuzzy spatial boundaries. This allowed the emergence of household identities in the face of communal, ancestral principles that were generally weaker on flat sites than on tells. But what effects did the form of settlement have on everyday practices at tells and flat sites?

My earlier answer to this question (Chapman 1989) was that the social space on tells was inadequate for many practices, including animal-keeping, gardening, outdoor ritual, dancing and feasting, high-temperature pyrotechnics[79], including metallurgy and perhaps cooking. However, the corollary of this observation is that such practices *were* possible at open sites, with the greater availability of space near the house making open sites more flexible and multi-functional than tells. The openness of flat sites created different forms of relationship between household and community and also between humans, plants and animals, often through the closer and more intimate incorporation of animals and garden plants into these homes. Here, the ancestral space tended to be focussed on the household, with lower BUB ratios than on most tells (Fig. 6.7a). One specific group of 'long-house sites', on sites with LBK-style long-houses, was characterised by particularly high proportions of open space, although there was an overlap zone in the BUB – site size plot between long-house sites and other flat sites. The space for gardens for each home, with household intensification of effort on gardening, would have led, in time, to the emergence of the 'home-and-garden' complex (cf. Mlekuž 2015). Bradley (2005, 89-90) quotes Malinowski's (1935, 56) view of gardens: "the gardens of the community are not merely a means to food: they are a source of pride and the main object of collective ambition."

The combination of contrasting practices and different place-values attached to dwellings and open spaces would have led to increasing differences between tells and open sites. This would have led to the 'growing' of different kinds of households and the emergence of two different expressions of the 'Concentration Principle'. On packed sites (tells), nucleated houses and dispersion of practices contrasted with sites with more widely spread buildings (open villages) with their dispersion of homes but the nucleation of practices around the home.

In open settlements, the paucity of banks and ditches, as well as the lower building density, meant that, in principle, movement around the settlement was much easier than on tells, enclosures and, especially, enclosed tells. However, the gardens attached to separate houses may well have been enclosed in an archaeologically invisible way, such as with dead hedges[80]. Moreover, in two rare large-scale exposures of Phase 2 (Early Neolithic) site plans – Galovo (Fig. 6.7b) and

79 But NB the Kozareva mogila pottery kiln (Georgieva 2010; see above, p. 183 & Fig. 4.18d)

80 A 'dead hedge' is a line of usually spiky bushes used to prevent animal (and human) movement across a boundary.

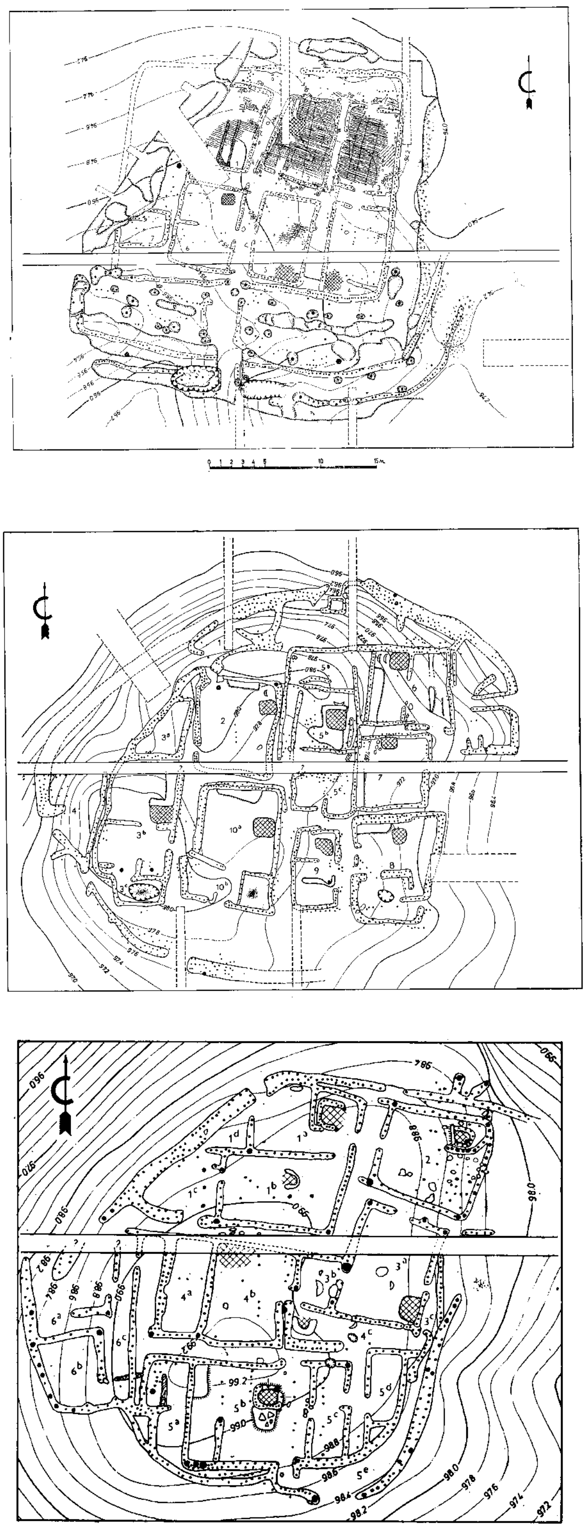


Figure 6.8. Ovcharovo plans: (top) level I; (middle) level IX; (bottom) level XII (source: Todorova 1983, Tablo 13, 26 & 31: copyright – Ivo Vajsov).

Zadubravlje (Figs. 6.2b & 6.9a) (Minichreiter 1992: 2007) – the site interior is divided into sectors by internal ditches but there was no necessity for complex rites of entrance as on tells. However, the high proportion of open sites – especially on long-house sites – where houses are laid out in rows indicates the relevance of some of the issues raised by Merkyte & Albek (2012) for moving along streets and alleys.

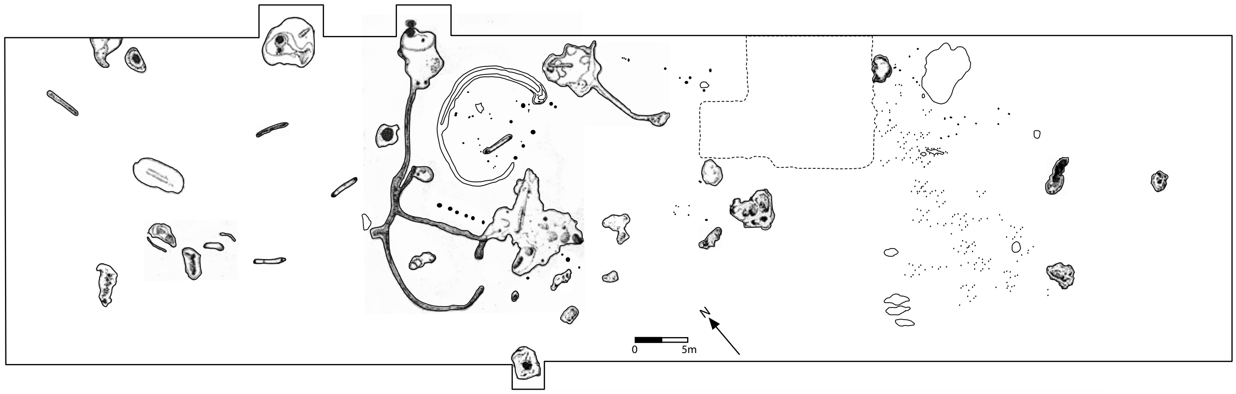
Enclosed sites

In studies of Balkan settlement patterns, one recent data source has been invaluable – remote sensing involving high-precision geophysical prospection, satellite imagery and aerial photography. As the German aerial archaeologist Otto Braasch tellingly stated (1995), before remote sensing was possible behind the Iron Curtain, 'Europe (was) half-blind'. One of the key classes of sites identified by remote sensing was the enclosed site – once conceived of as a North-West European Neolithic phenomenon but now common in Old Europe, as well as Greece (Sarris et al. 2017). The concept of 'enclosure' at once unifies the European Neolithic but also recalls the debate over social difference between insiders and outsiders. The rapidly expanding list of enclosed sites in the Balkans and the Carpathian Basin means that any conclusion reached here is in danger of being overtaken by events.

We now appreciate that Neolithic enclosure is found in at least six forms:- the enclosed tell (e.g., Luncaviţa and Teiu, South-East Romania); the enclosed tell inside an unenclosed horizontal settlement (e.g., Bordjoš – Gradište: here Fig. 6.6); the enclosed tell-and-horizontal-settlement complex (e.g., Uivar: Fig. 6.4); the enclosed horizontal settlement (e.g., Iclod: Fig. 6.17); the enclosed ritual site (or '*Rondel*') (e.g., the Személy group: Fig. 6.18)[81]; and the class of small, moated Vinča sites known as '*obrovci*' in the hydrologically unstable zone of the Middle Sava catchment (Fig. 6.9). It is important to recall that, with the exceptions of *Rondels* and *obrovci*, the majority of enclosed sites were hybrid in nature. For Schier, there is no separate category of 'enclosed site' (p.c., W. Schier, June 2016).

Claims by Parkinson and Duffy (2007) that "most Late Neolithic tells in SE Europe were fortified" may be questioned on two levels: the conceptual and the empirical. The objection that not all banks and ditches were fortifications is commonplace (Harding et al. 2006); the significance of symbolic separation between inside and outside and the emphasis on the line separating the two has often been discussed (Parkinson & Duffy 2007; Chapman et al. 2006). There is also a group of sites, including tells, where geophysical survey has not revealed any traces of banks or ditches (e.g., tell

81 The '*Rondel*' is a Central European version of a West European enclosed site, positioned somewhere between the British henges and causewayed enclosures (Podborský & Kovárnik 2006).



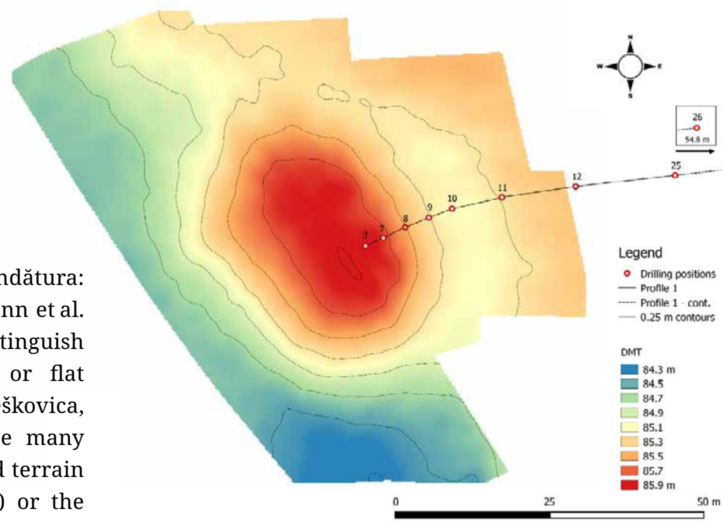


Figure 6.9. (top) Plan of Phase 2 Starčevo site of Zadubravlje (source: Minichreiter 1992, Fig. 11); (bottom) plan of Phase 3 *obrovac*: Lug – Ratkovača, obrovčine 2 (source: Tripković & Penezić 2017, Fig. 4).

Podgoritsa: Bailey et al. 1998; the open site of Fundătura: Mischka 2012; the mega-site of Taljanki: Rassmann et al. 2016). Parkinson & Duffy's claim also fails to distinguish the enclosure of settlements, whether tells or flat sites (e.g., the Early Vinča example from Oreškovica, in Eastern Serbia: Borić et al. 2018), from the many moated Vinča *obrovac* sites in seasonally flooded terrain (Chapman 1981, 45; Tripković & Penezić 2017) or the creation of *Rondels* for special deposition. In Central Europe, '*Rondels*' (or '*Kreisgrabenanlagen*', *viz.*, circular enclosure) comprised a morphologically tight group built ca. 4900-4700 BC, mostly associated with solar rituals (Schier 2015; Petrasch 2015). However, in Old Europe, the form is more varied and many *Rondels* have settlements nearby or even surrounding them (Harding et al. 2006; Parkinson & Duffy 2007; Bertemes & Meller 2012).

A comparison of pairs of enclosed and unenclosed sites in the study region (Chapman et al. 2006) concluded that, while the context of deposition – mostly burnt houses and pits – was widely shared within all sites, the content of deposition was specific to enclosed sites, with each site emphasising its difference from all others by drawing on different elements of widely shared material culture. This is a classic case of an emergent arena of social power, in which there is the potential for distinctive social action not hitherto possible on unenclosed settlement sites.

Enclosed sites also created a strong sense of place-value, primarily through a division between inside(rs) and outside(rs) which referenced the co-residence principle of tracing ancestry and the communal labour committed to the project of enclosure. The variability in duration of enclosure use made the genealogical principle equally variable, although long-term enclosures, or tells enclosed on islands such as Durankulak (Chapman et al. 2006) (Fig. 5.6), clearly relied on deep local pasts and significant timemarks. Perhaps the most important element of an enclosure is that it intensified practices within the boundary.

Pile-dwellings

Despite the discovery in 1875 of Laibach Moor (Ljubljansko Barje) as one of the 'Alpine' lake-dwellings (Novaković 2011, 353), wetland archaeology has remained marginal to much of Old Europe. A good example is the key Albanian sequence at Lake Maliq, with pile-dwellings in Phases 2-5 (Prendi 1966; Fouache et al. 2010). Naumov (2018: submitted) has highlighted the concentration of four Phase 3 pile-dwellings around Lake Ohrid. The destruction of Phase 4-5 sites by Socialist harbour expansion along the shores of Lake Varna has prevented the discovery of the settlement(s) related to the Varna cemetery; although settlement discard has been dredged from the lakes, its relation to the cemetery is tentative (p.c., B. Gaydarska). Other coastal sites flooded by the rising Black Sea post-3000 BC are known from the Sozopol area (Draganov 1995).

Pit sites (Fig. 6.10)

A site type whose existence has been known about for decades but whose recognition is much more recent is the pit site – a place consisting wholly or largely of pits with no houses identified at all[82]. Such sites are exemplified by the Big Plateau at Gradac, Southern Serbia (Stalio 1972), the Hamangia settlement at Durankulak (Dimov 1992), Chalcolithic Iskritsa (Gaydarska 2007) and a series of Karanovo IV sites such as Sarnevo (Bachvarov et al. 2017; Bachvarov & Gorczyk, submitted). These sites, or phases of sites, indicate commitment to place through object deposition, often marking the start and finish of each occupation (Chapman 2000b; Garrow 2012). Pit deposition is thus a characteristic of both open and enclosed sites, while pit-fields typify a smaller number of both site classes. A recent interpretation of pit sites as 'sanctuaries' (Nikolov, V. 2011) overlooks the ubiquitous interdigitation of sacred and profane deposition on Neolithic and Copper Age sites. One of the recently identified functions of large settlement pits is the public context for the deposition of communal feasting remains (e.g., Gomolava: Orton 2012; see above, p. 90).

Extraction sites

The sixth site type to be considered is the specialist extraction site. There was the potential for production sites from any Phase wherever the scale of object-making increased and/or the source of a particularly suitable raw material was identified. Phase 2 examples include the stone axe production site of Haymarlita in Turkish Thrace (Erdoğu 2000), where stone from outcrops 2-3km distant were brought to the site for rough-out production before moving to settlements for final working. A spectacular Early Neolithic mound of burnt earth, daub and Criş sherds was created next to the salt spring of Lunca – Poiana Slatinei (Dumitroaia 1994; Weller et al. 2008). Lunca is currently not only the earliest salt exploitation site in the salt-rich East Carpathian piedmont zone but also the earliest salt production site in the world, with dates in the 6th millennium BC (Weller & Dumitroaia 2005) (here Fig. 6.10).

Intensive fieldwork in the Carpathian Basin by Katalin Biró and her associates has revealed a multiplicity of chipped stone raw material sources (Biró 1986-87), of which two illustrate the trend towards intensified production in the 5th millennium BC. The sources of the red Szentgál radiolarite in the Bakony Hills North of Lake Balaton had been known and appreciated since the 7th millennium BC (Phase 1), with an active exchange network between foragers and the earliest LBK farmers in Hungary and Czech Republic (Mateiciucová 2004). Intensive Lengyel-group exploitation from a network of nine production sites within 5km radius of the sources began in Phase 3 (Biró & Regenye 2007). An equally intensively exploited Lengyel flint mine at Sümeg is also dated to the same Phase (Bácskay 1990). Other Phase 3 flint mines are known from North-East Bulgaria, where the high-quality 'honey-coloured' (or 'Balkan') flint was mined in several areas (Manolakakis 2005).

The notion of mining was extended to copper in the case of two Balkan mines – still the earliest copper mines known from the world (O'Brien 2015). The well-dated Late Starčevo and Vinča copper mine of Rudna Glava, 5400-4650 BC (Borić 2009, 15 & Fig. 14) (here Fig. 4.4a), is so remote from lowland settlement that its discovery implies extensive upland reconnaissance. The small, round shafts followed the malachite veins vertically through the limestone matrix, the longest reaching to 32m (Jovanović, B. 1982). At Ai Bunar, in the Sredna Gora range in North Central Bulgaria and within 10km of tell settlements, Copper Age linear pit-mines 2-3m in depth were used to exploit malachite veins running parallel to the surface (Chernykh 1978)[83](here Fig. 4.4b). At Akladi Cheiri, on the Medni Rid hills above the Bulgarian Black Sea coast, excavations have recovered complex evidence for copper production, including many kilograms of slag, ores, crucibles and sherd-lined pits used as 'furnaces', dated to the 5th millennium BC (Leshtakov, P. 2010). The copper source of Ždrelo, near the site of Belovode, has traces of shafts to exploit the malachite and azurite veins (Šljivar 2006; Antonović, D. 2014, 10). Other copper mines have been prospected in the poly-metallic Balkan and Carpathian uplands but without secure AMS dates placing their use in the Copper Age (e,g, Rudnik Shaft III, with associated Baden pottery: Jovanović, B. & Bogdanović 1990; Mali Šturac, with grooved hammerstones similar to those at Rudna Glava: Jovanović, B. 1989; Jarmovac, only 300m from a Vinča settlement: Davies, O. 1938; Derikonjić et al. 2011; Špania Dolina, with hammerstones and Lengyel pottery: Točík & Zebrák 1989). Sources of tin (e.g., Ćer Planina, South of Šabac, Serbia) and antimony (e.g., Strieborna, East Slovakia) have been hypothesized without conclusive field data.

Caves

The use of caves has long been associated more with foragers than farmers but three regional trends in cave use have been documented for Old Europe. First, a number of usually large, spacious caves with good visibility and lighting conditions were used for perhaps seasonal habitation. An excellent example of living caves is Devetashkata Peshtera, in North Bulgaria (Fig. 6.11),

82 For a summary of the long-running debate on whether people lived in pits (the so-called 'pit-houses'), see above, pp. 160-1.

83 The Ai Bunar mines still lack radiometric dates but nodules of Ai Bunar malachite have been found in Karanovo V layers at the nearby tell of Stara Zagora – Mineralni Bani (Chernykh 1978) and more widely on Karanovo VI sites.

where rich deposits of painted pottery as well as animal bones and lithics were found in Phases 2 and 4 (Karanovo I and VI) (Gaul 1948). Other large caves at medium altitudes in the Central Rhodopes (e.g., Yagodina Peshtera and Haramijska Dupka) would fit into the pattern of seasonal occupation, perhaps for pastoralists, although the veins of graphite running along the limestone walls of Yagodina Peshtera have suggested to Avramova (1989) the additional use of the cave for pottery-making in Phase 4.

Secondly, soil micromorphological evidence from caves in the Slovenian Kras and the Trst / Trieste region show the Neolithic use of caves as animal pens, with most of the cave deposits consisting of animal dung and fodder (Boschian & Montagnari-Kokelj 2000). Without such investigations in other parts of the Balkans, we cannot exclude seasonal animal-penning in other caves.

Thirdly, the elaborate material culture in yet other caves suggests an emphasis on depositional practices. There are classic examples of material deposition in caves in many limestone regions, such as the Slovakian karst (e.g., the Aggtelek – Domica cave system), the Transylvanian gorge of Cheile Turzii (e.g., Peştera Binder and Peştera Ungurească) and the Podolian plateau (the Bilcze Zlote caves). Special deposits include both human remains and striking objects. Communities from near and far have made 120 deposits of partial human remains at the Verteba Cave, in Bilcze Zlote (Ledogar et al. 2019), with the placing of an unusual bone pendant in the shape of a deer with a female figure incised on it (Lazarovici C-M. 2011). Equally, fragments of fine painted vessels representing three-quarters of the total assemblage were deposited in Peştera Binder in Cheile Turzii (Chapman 1981). The recent discovery of a gold workshop at the Peştera Ungurească, Cheile Turzii shows prestige production of local gold in a gorge with a long history of special deposits (Lazarovici Gh. & Lazarovici C-M. 2013). A variant on ritual cave use concerns the appearance of paintings on the cave walls of two Bulgarian caves – Bajlovo (Stoev et al. 1989) and Magura Peshtera (Stoytchev 1996). A wide range of motifs has been identified at the latter, including anthropomorphic images, geometric motifs, possible astronomical symbols and objects datable to the Copper Age (Fig. 6.11).

Landscape deposition sites

A variable proportion of Old European finds has come from places outside the other eight site types. Such finds tend to be described as 'chance finds', 'isolated finds', 'single finds' or 'stray finds' or, in the case of group finds, as 'hoards', with the latter being found in settlements and other site types as well (see *Prähistorische Bronzefunde* volumes such as Vulpe 1975; Antonović 2004; Todorova 1981). However, Cooney & Mandal (1998, 9) dispute the contrast between 'site context' and 'stray find', preferring to see these terms as indicative of a wide spectrum of contexts in which objects were discarded or deposited.

The frequent, modernist cause invoked for these finds is that they were 'hidden' in times of mortal danger and the reason why they were not recovered was the death of the depositor from enemy action (Fontijn 2002). The sheer frequency of unrecovered landscape deposits suggests a level of intercine warfare or raiding hitherto undocumented (but see Keeley 1996) and/or an improbably high level of loss of cultural memory. A second reason, this time with Classical parallels in, *inter alia*, Greek sanctuaries, was that the deposition represented a 'gift to the gods' (Hänsel 1997), albeit as a gift without a temple (Hansen 2015). But the reasons for the largely dispersed giving in preference to gifts within settlement (e.g., the hoard in the building on the top of the Csőszhalom tell: Raczky & Anders 2008) remain unexplained. A third explanation is that these objects have been 'lost' – as if a 10-kg copper axe or ten flat axes could easily have been mislaid! One reason for these explanatory shortcomings is the over-attention to the types of objects deposited and the frequent lack of attention to the place of deposition. The distinctiveness of many of these places, such as the Stollhof cliff (Angeli 1966) or the Hencida islet in the Berettyó floodplain (Patay 1984), suggest deliberate associations with such landmarks, although the majority of landscape deposits was made in lowland arable land close to settlements (e.g., Dobanovci: Jovanović, B. 1971, T. VI/1-3). Authors such as Bradley (2000), Cooney and Mandal (1998) and J. Thomas (1999) have emphasised the close relation between particular places and specific kinds of offering in the prehistory of North-West Europe. The gifting of heavy copper axes to the landscape rather than to traders from the next village constituted a return of the copper won from the earth, from mines, back to nature through a generalised exchange with a specific place replete with personal and ritual connotations. As A. Jones (2007, 226) puts it, 'landscapes were densely packed networks of indexes' and each landscape deposit formed an index of past deposits of the same or different objects (cf. Kovacik 1999, 168). Edmonds (1999, 125) sees British Neolithic stone axes deposits as 'anchors for local memory', constituting 'the tradition of renewing tenure through offering and interment'.

I believe that we have mis-named, overlooked or not accurately characterised an entire class of sites whose defining feature was the transformation of a place by the deposition of a significant object or group of objects to create a qualitatively different place – a place of landscape deposition, as proposed by J. Thomas (1999) for pit deposition in the British Late Neolithic. While dwelling in an area filled the entire landscape with associations to persons, objects and other places (Bradley 2000; Jones, A.

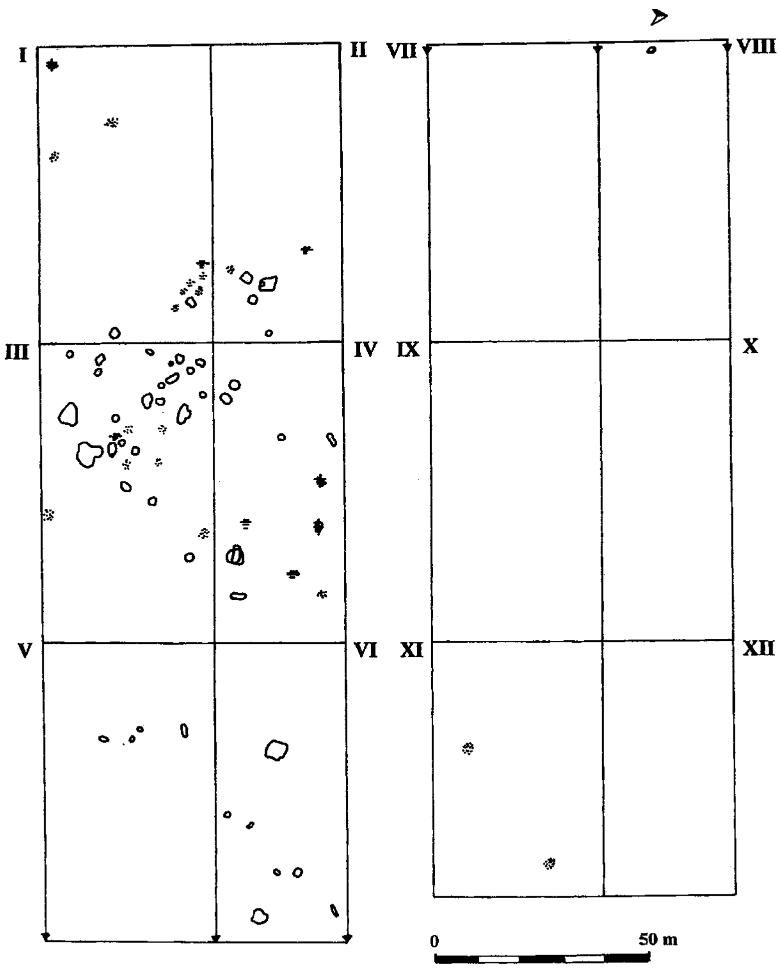


Figure 6.10. (top) Plan of Phase 3 pit site Kompolt-Kistér, showing pit contexts (source: Bánffy et al. 1999, Map XVI: copyright – A. Vaday); (bottom) G. Dumitroaia's excavations at the Lunca salt site (source: author's photo).

2007), deposition changed the value of that place in the network, creating new, dispersed networks of deposition in the landscape by the marking of such places. The creation of such 'landscape deposit' sites varied in time and space throughout Old Europe but all sites shared this new dimension of the extended cultural domain. In a very high proportion of cases, landscape deposits deliberately excluded human remains and the remains of domestic practices (Chapman & Gaydarskam, 2020).

Summary of site types

The presence of tell settlements without encircling enclosures or surrounding flat settlements enabled the emergence of a greater communal identity based upon physical proximity and history expressed as ancestry on the tell itself, while open, flat sites were more prone to fragment through the creation of distinct identities for each household. Enclosed sites emphasised insider identity in contrast to exterior space, emphasising the intensity of practices within the boundary. The hybridity of settlement forms, especially involving enclosure, became more common in Period 3. Here, the contrasting modes of tracing ancestry, controlling movement and prioritising everyday activities each specific to the various settlement forms would have led to more complex social spaces, with the potential for different actors using settlement principles and practices for their own purposes. The rising frequency of landscape deposits through time brought a new dimension and significance to the meaning of the extended cultural domain outside other site types.

The contrasts in BUB ratios for the three different site types (Fig. 6.7a) – tells, flat sites and long-house sites – showed distinctive use of social space in each site type, although there were overlaps between tells and flat sites and between flat sites and long-house sites. More examples of tells containing considerable areas of open space are now known than in 1989, indicating an expanded range of on-site social practices which brings tells closer to practices on flat sites.

We are now in a good position to consider the sequence of site plans in order to gain a better understanding of social space on the settlements of Old Europe.

Planning at forager settlements?

Given the scarcity of widely-excavated Phase 1 Mesolithic settlements, the only hunter-gatherer site with a complete settlement plan is Lepenski Vir (Srejović 1969; Radovanović 1996; Borić 2016)[84]. The recent stratigraphic revisions and a plethora of new AMS dates enable us to make significant revisions to the settlement plan reconstructed by Radovanović (1996, Figs. 3.34-3.36). Borić & Dimitrijević (2007) propose collapsing all of the trapezoidal houses into a single Lepenski Vir I-II phase, lasting from 63/6200 BC to 5900 BC, without any suggestion of sub-phases (Fig. 2.5d). Bonsall et al. (2008, 192 & Table 4) take a broader view, dating the maximum time-span of trapezoidal house construction to 6400-5500 BC but with the post-6000 BC construction of the majority of houses (viz., coeval with the appearance of early farming outside the Gorge). The contemporary use of all houses is clearly impossible, given the 15 clusters of house superimposition and with only 13% of all houses with no superpositioning (Table 6.1). Without more high-precision AMS dates, it is currently impossible to create a settlement plan of the likely two or three phases of the Lepenski Vir central place, each with no more than 20-25 houses. What we can say is that house superposition was an important characteristic of the long-term *habitus* at Lepenski Vir – a conclusion not at odds with Borić' (2008) notion of house societies in the Iron Gates Mesolithic.

Phase 2 settlements

There is a fairly clear differentiation between Phase 2 tells and flat sites on the variables of size and BUB ratios (Fig. 6.7a). Original settlement form had some influence on the nature of later occupations of the same site, with several regularities apparent from the current data. First, pioneer flat sites began their lives as single-household sites (e.g., Obre I, Bosnia) or hamlets (e.g., Gura Baciului, Transylvania) and the majority of them remained at the same scale of dwelling. Secondly, pioneer tell sites began their lives as village communities and remained at such (Chapman 2008a). In other words, tells and open sites probably differed in terms of their origins and the form of social networks in which they participated.

The practice of tell-formation is characteristic of the Bulgarian lowlands in Phase 2. The majority of Phase 2 Bulgarian tells exhibited a narrow size range of c. 0.15-0.3 ha, with exceptional sites such as Karanovo occupying 3.6 ha (Hiller & Nikolov 1997). Here, 12-15 houses have been excavated so far in the earliest Karanovo I occupation, suggesting the existence of a village structure from the outset. Consideration of BUB ratios indicates that Karanovo is distinct in its building density as well, with BUB values clustering around 1.1:1, in comparison with 1:2 for other Phase 2 tells. Hence, with one-third of tells built over, and allowing for 12-15 houses in the built-up area, each containing a family of 5-6 people, the estimated Phase 2 tell population size at Karanovo would be in the order of 60-90 individuals.

Flat sites in Old Europe exhibited far greater variability in form, planning and size than that of their tell counterparts. The size range of Phase 2 flat sites was larger than that of the coeval tells, ranging from 0.3 to 9 ha. for Körös sites and 0.2 to 12 ha for Starčevo sites in the Šumadija (Chapman 1990). Four site types were found – the single-household site (or 'homestead'), the hamlet, the village (Chapman 2008a) and the pit site. Phase 2 homesteads were centred

84 Further South of our study area, a settlement of circular huts defined by drystone wall foundations has been discovered at Maroulas, dated to the 8th millennium BC (Samson et al. 2010).

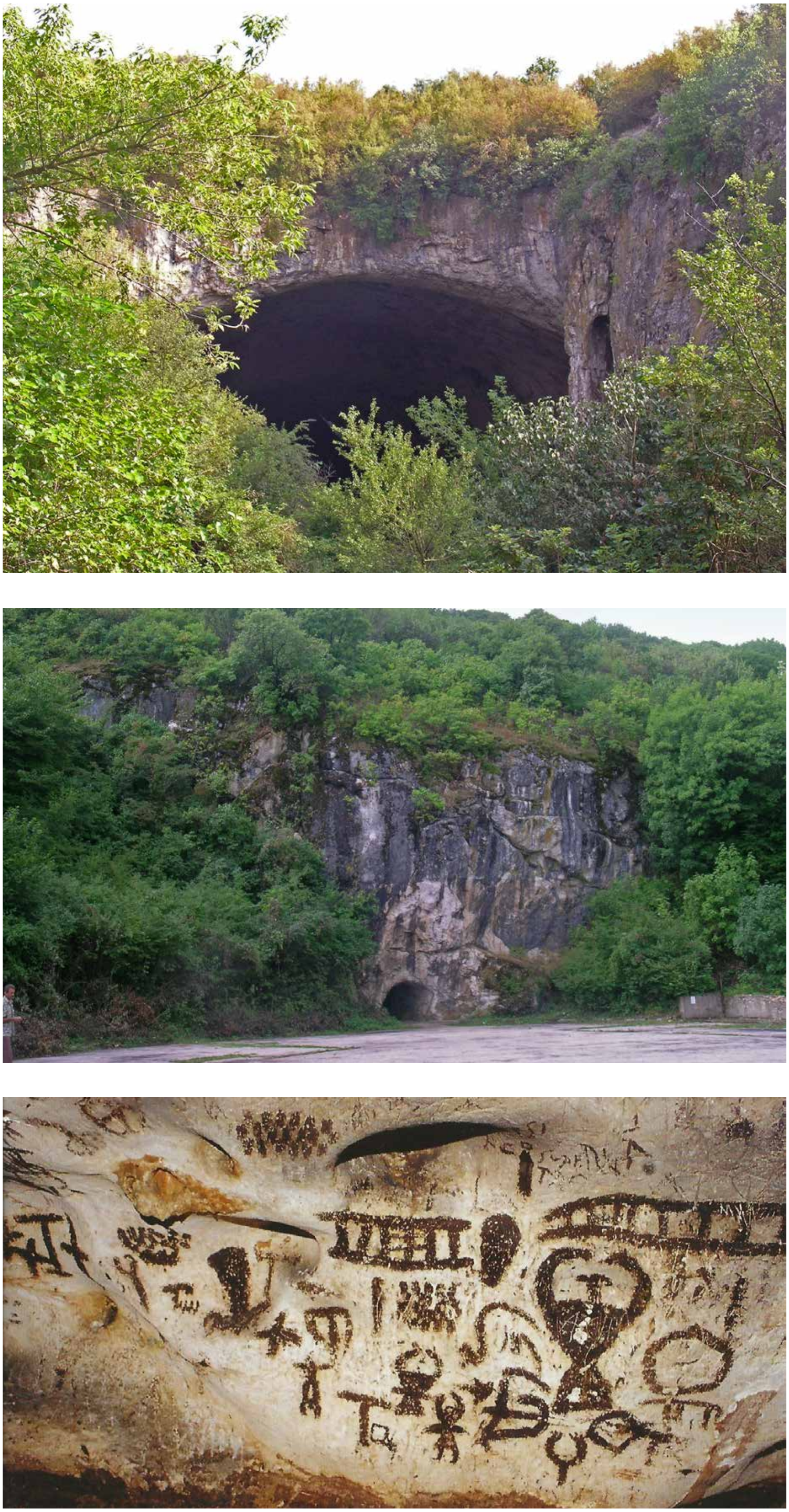


Figure 6.11. (top) Devetashkata Peshtera, North Bulgaria; (middle) Magura Peshtera, North-West Bulgaria (source: author's photos); (bottom) rock paintings at Magura Peshtera dated to Phase 4 (source: Istoricheski Muzej, Belogradchik, front cover).

Table 6.1 House superposition, Lepenski Vir with AMS dates (cal BC centuries) (source: author, with data derived from Bonsall et al. 2008, Appendix 2).
Key: Clusters show superimposed houses in stratigraphic order, from earlier (lowest) to later. The appearance of two or more houses on the same horizontal row has no stratigraphic implication of contemporaneity.

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
House 26	House 24 (60th – 58th)	House 63	House 35	House 1 (60th – 57th)
House 26’	House 24’	House 63’	House 36 (64th – 61st)	House 2

Cluster 6	Cluster 7	Cluster 8
House 5	House 15	House 56
House 5a	House 16 (60th – 56th)	House 46
House 6	House 17	House 55

Cluster 9	Cluster 10	Cluster 11	Cluster 12
House 23	House 32 (59th – 56th)	House 38	House 47 (60th – 58th)
House 18	House 33	House 41	House 47’
House 31	House 20	House 37 (59th – 57th)	Houses 53 and 58
House 19?	House 66	House 42	

Cluster 13	Cluster 14	Cluster 15
House 9 (60th – 56th)	House 21 (62nd – 60th)	House 27 (65th – 58th)
Houses 7 and 5	House 22	Houses 27b, 43? and 51 (58th – 51st)
Houses 8 and 17	House 29	Houses 34 (60th – 56th) and 52
	House 30	
	House 30b	

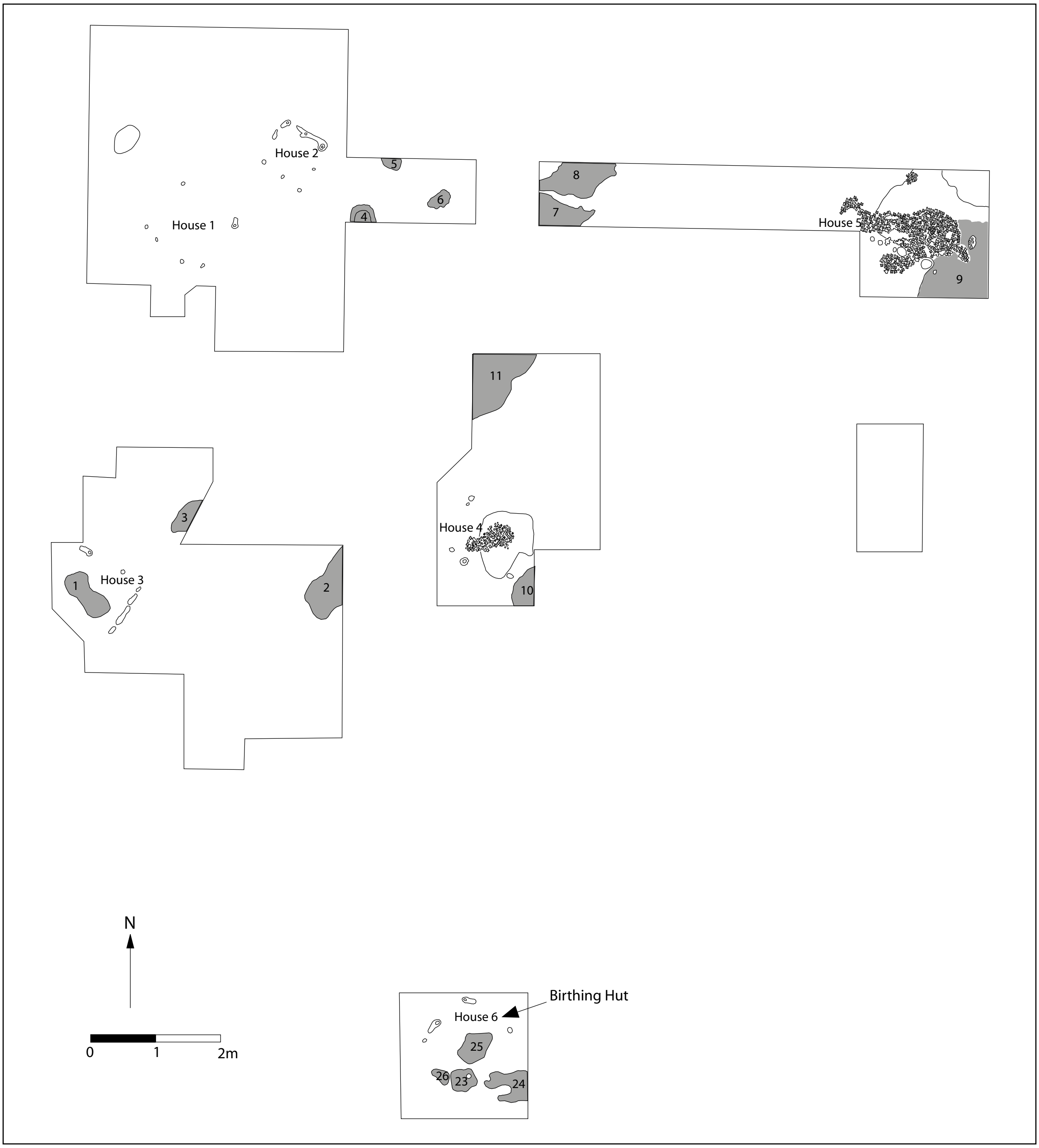
around a single house (Galovo / Phase 1: Fig. 6.7b; Endrőd 119 / Phase II: Fig. 6.12). Pit sites without any houses are known at Divostin Ia – Ib (Fig. 6.12). Hamlets developed out of initial homestead settlement at Obre I (Chapman 2008a). This suggests a consolidation of the local breeding network, with cultural memory “fixing” a social group to a previously occupied founder place, sometimes through the strategic burial of soon-to-become “ancestors”. This is a good example of the creation of ancestral space in flat settlements. However, other founder communities such as Rakitovo began their lives as hamlets (Raduntcheva et al. 2002; Chapman 2008a), growing into a village of 12 houses in the second phase (Fig. 6.13). Other sites, such as the flat sites of Ovcharovo – Gorata and Alsónyék, began life as fully-formed villages (Krauß 2014; Oross et al. 2016) (here Fig. 6.13), suggesting that the whole community moved onto the site from another location.

The best example of enclosure in Phase 2 is the remarkable site of Yabulkovo, where excavations showed two triple-ditched enclosures with interior houses, pits and ovens constructed in three settlement phases (Roodenberg et al. 2014). Although only the South-West ditch complex has been AMS-dated to the Early Neolithic (6000-5700 BC), the segmented, frequently re-cut form of the Northern ditches and the features they enclose were identical (2014, Figs. 71 & 77) (here Fig. 6.14). Little sense of regular house layout can be seen in either enclosure. In the sense that both enclosures were dominated by large numbers of pits, Yabulkovo can be characterized as an enclosed pit site with limited dwelling. A second example of a Phase 2 enclosure comes from Cârcea, in South-West Romania, where a circular ditch contained surface houses, pits and exterior ovens (Nica 1977).

The number of landscape deposits in Phase 2 is limited to the Kraljevo axe hoard, found in a Starčevo vessel outside any site (Ljamić-Valović 1986); all other known hoards were placed within domestic settlements (Chapman 2000a, 246-7).

Summary of Phase 2 settlements

Phase 2 settlements showed marked variability, with each site selecting a specific range of structures and modes of deposition as if to emphasize their own distinctiveness. The biggest single difference was the oscillation between house-sites and pit sites. The Yabulkovo triple-ditch systems indicate that pit sites could have been enclosed as well as open sites. Dispersed houses typified Phase 2 settlements, with straightforward additions of new features on open sites (e.g., Obre I, Galovo and Zadubravlje). Basic planning decisions were followed to create rows of houses (e.g., Karanovo, Ovcharovo – Gorata and Anza). The formation of rows channeled movement in certain paths, as did the ditch segments at Yabulkovo and a possible entrance at Galovo (Krajcar Bronić 2007, Sl. 1) (Fig. 6.7b). Special enclosed areas were also rare within



these sites, although the central enclosure at Zadubravlje was an exception, flanked as it was by a 5-m-deep well (Minichreiter 1992, Sl. 11) (Fig. 6.9). The strategic use of pits for burials early on in Phase 2 site dwelling could also have created special 'ancestral' areas (cf. the Ossuary at the base of the Vinča – Belo Brdo site or the ring of burials at Ajmana: Chapman 2000a). However, Phase 2 communities used the plentiful space available to them to settle in diverse, unconstrained ways, with special events forming timemarks in a local history.

Phase 3 – the spread of settlement planning

An important part of settlement developments in Phase 3 concerns the increasing regularity of settlement planning on the vast majority of sites with large areas under study, whether by excavation or remote sensing. The trend of larger, more carefully ordered settlement agglomerations is seen throughout Phase 3 but there are signs of much more organized household layouts at sites occupied after c. 5000 BC, suggesting that the grouping of households

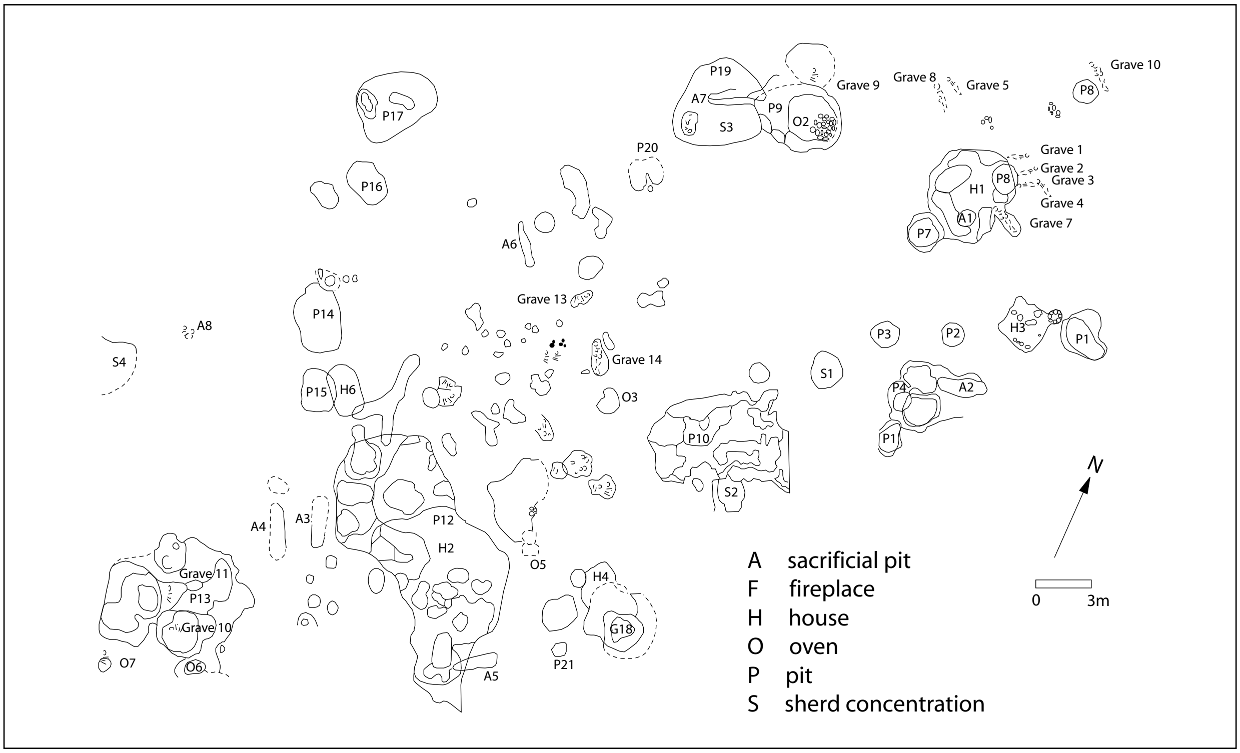


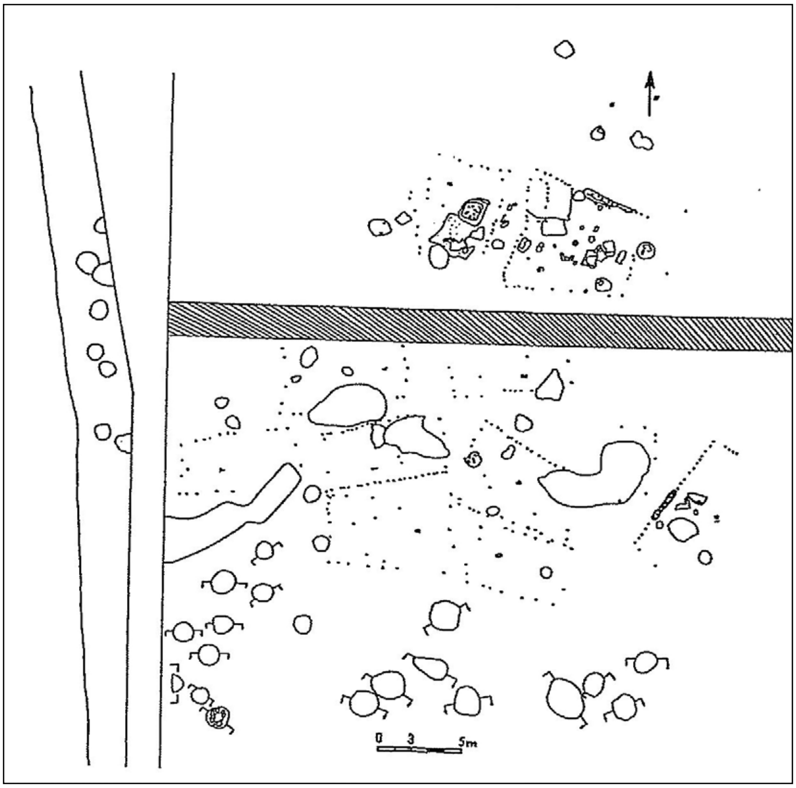
Figure 6.12. (left page) Plan of Phase 2 Starčevo occupation at Divostin; arrow shows position of possible birthing-hut (source: Bogdanović 1988, Plan I); (above) Plan of Phase 2 Körös site of Endrőd 119 – the only totally excavated Phase 2 settlement (source: Makkay 1992, general map (after p. 150)) (L. Woodard).

into 'neighbourhoods' of between 50 and 100 persons was gradually replacing the loose organization of most Phase 2 settlements. This crystallisation of relations would have established a new, intermediate 'level' between the individual household and the entire community, with significant consequences for social differentiation and the potential for craft specialization (Spasić & Živanović 2015).

There are remarkably few settlements whose layout of houses could be characterized as 'irregular', with such irregularity often confined to one part of the site. This occurred at the two Lengyel sites of Aszód (Kalicz & Kovács 2012) and at sub-site 5603 at Alsónyék (Osztás et al. 2012), as well as at the 40ha Late Vinča site of Drenovac, where there are house rows in the central part and a far less regular layout in the outer part (Perić, Slaviša & Miletić 2020). The large-scale pit-digging at Sarnevo cannot mask an overall irregularity of pit layout at a site linked to persistent visits for rites of deposition from the coeval, neighbouring tell of Kaleto, 900m from the pit site (Bachvarov et al. 2017).

In this Phase, two opposed planning principles – rectilinear (house rows) and curvilinear (concentric rings of houses) – were implemented, whether on different sites (the vast majority) or on different parts of the same site (e.g., in the two parts of the Csőszhalom settlement: Raczky 2018). At the latter, the concentric principle was shown on the tell, with House 11 in the centre of what became a more ritualized, more formally planned mound, itself surrounded by multiple concentric ditches, in contrast to the rectilinear rows of houses on the horizontal settlement, with its stronger emphasis on quotidian practices (Fig. 6.5). It is, nonetheless, striking that, despite the different planning principle used on the two parts of the Csőszhalom complex, the BUB ratios of the tell and the flat site are virtually identical (Fig. 6.7a). It is striking that most Phase 3 settlements selected the row principle, with the concentric ring layout rare outside the Carpathian Basin. The two contrasting principles embodied different patterns of movement – circulation towards the centre of the concentric sites as compared to movement along 'streets' between rows of houses, allowing regular, open access (e.g., the Early Vinča settlement of Grivac, with gaps of 10m between house rows: McPherron & Srejović 1971) (Fig. 6.15).

Examples of house rows occurred in many regions and on all major site types – tells in Bosnia (e.g., Okolište phases 1-6) (Fig. 6.15), Serbia (e.g., Gomolava phase Ib), Eastern Hungary (e.g., Szegvár-Tűzköves), the Banat (e.g., Uivar) (Fig. 6.4), Wallachia (e.g., Radovanu) or Northern Bulgaria (e.g., Hotnitsa) (Fig. 6.16)); flat sites in Serbia (e.g., Grivac) (Fig. 6.15), Croatia (e.g., Sopot) and Hungary



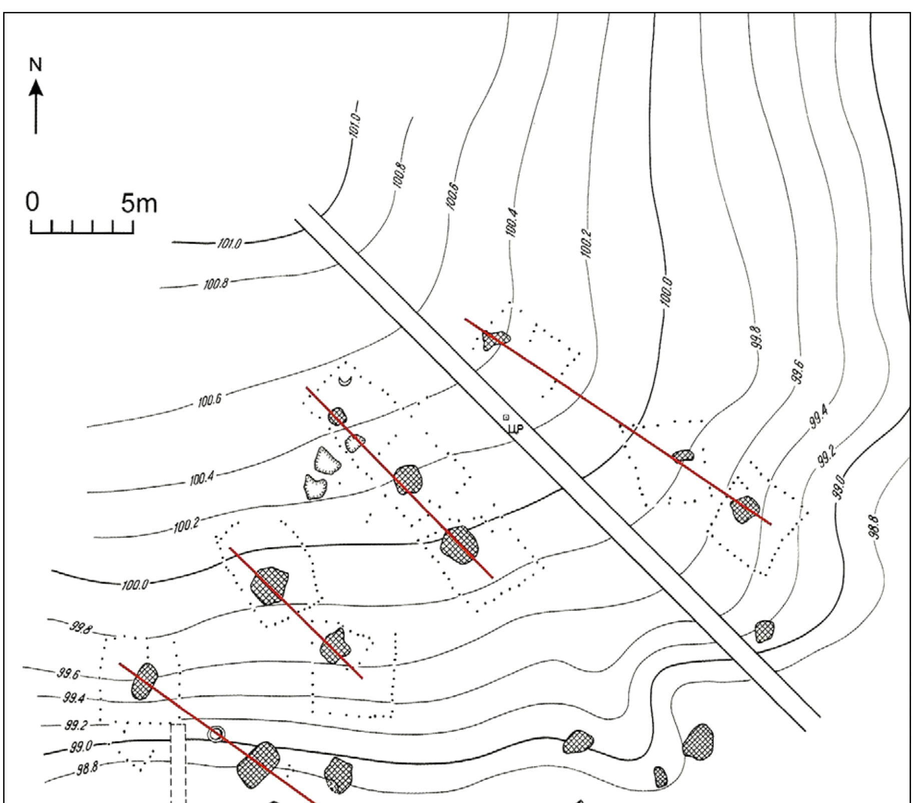


Figure 6.13. (top) Plan of Phase 2 site of Rakitovo level II (source: Raduntcheva et al. 2002, Obr. 2: copyright – B. Raduntchev) (L. Woodard); (bottom) Plan of Ovcharovo – Gorata level II (source: Krauß 2014, Abb. 29).

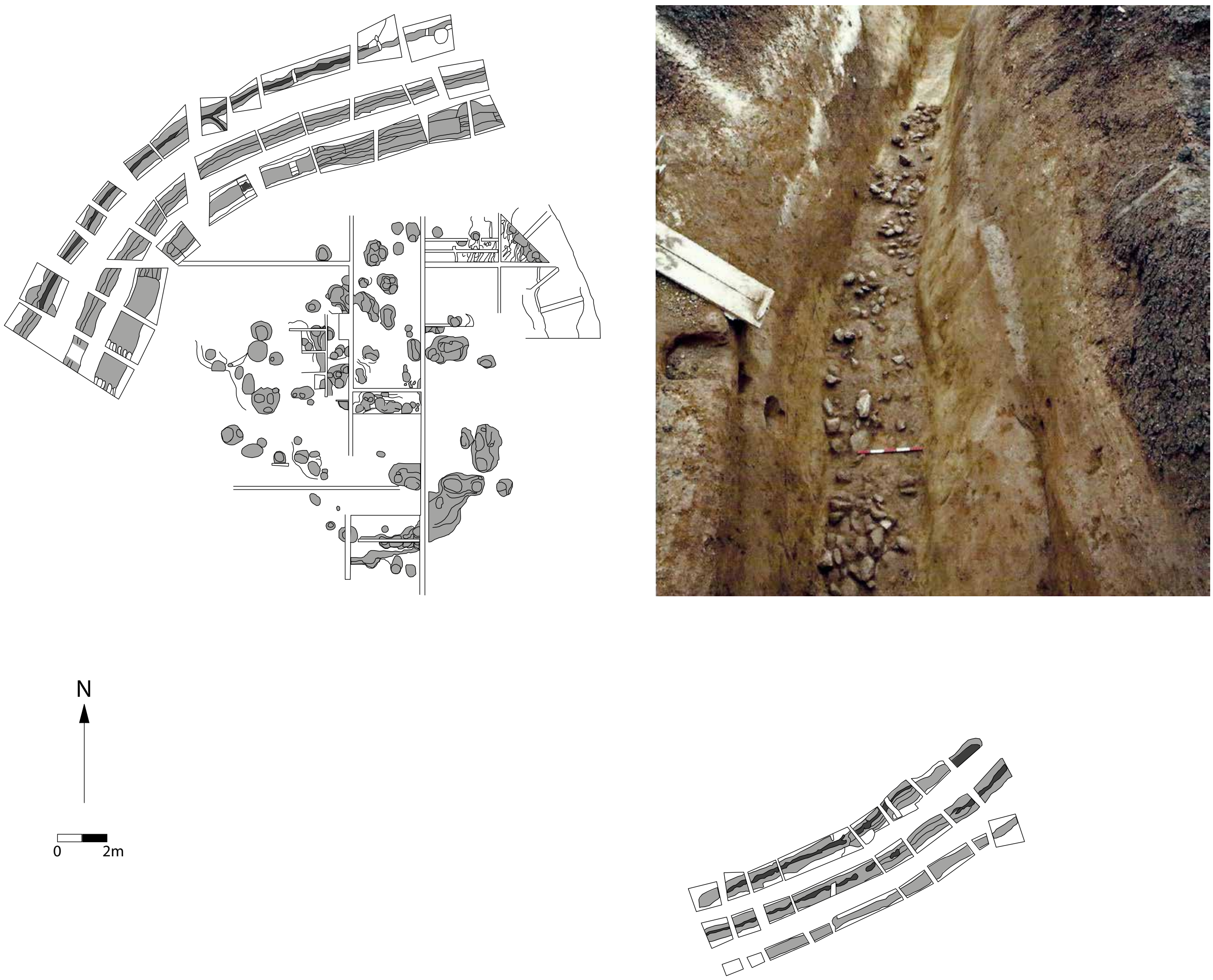
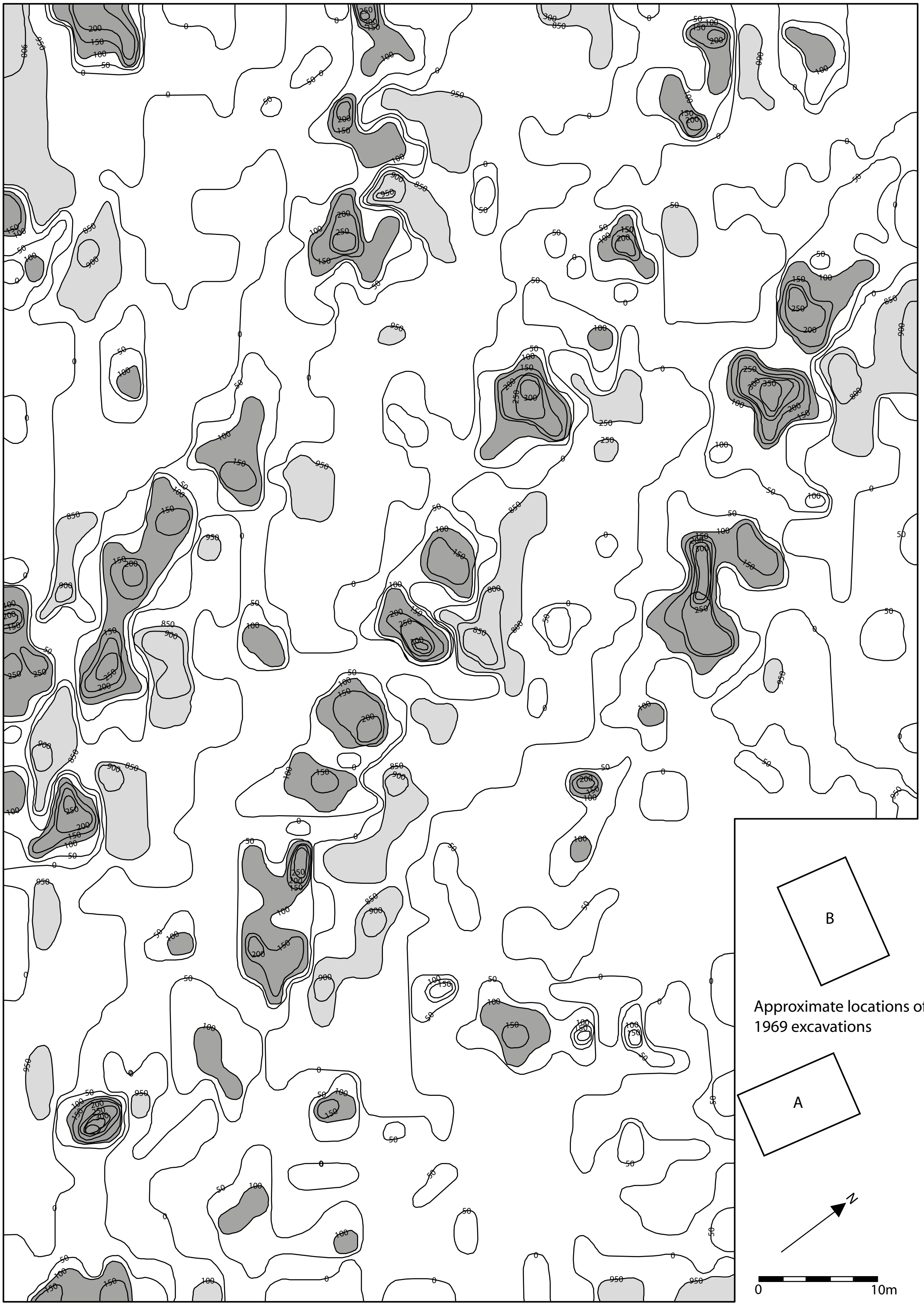


Figure 6.14. Plan of Phase 2 enclosures and ditches at Yabulkovo (source: L. Woodard, re-drawn from plan of triple-ditched enclosure: Leshtakov, K. 2014, Fig. 77; (top right) photo of Ditch B1 (source: Petrova, V. 2014, Fig. 15).

(e.g., LBK sites such as Füzesabony – Gubakút (Fig. 6.16); and enclosed sites in Transylvania (e.g., Iclod) (Fig. 6.17) and Transdanubia (*e.g.* the Sopot phase at Alsónyék). House rows were particularly characteristic of the large Transdanubian LBK sites (e.g., Alsónyék, Balatonszárszó, Versend and Szederkény).

However, both planning principles included the subsidiary grouping of houses around open areas or 'squares'. Such 'nests' of houses indicate the lowest level of spatial order (Popovici 2010) (e.g., the Pre-Cucuteni village at Târpeşti: Marinescu-Bîlcu 1981), which could have morphed into either concentric groupings or house rows. Rows of houses, some laid out around squares, typify the Parţa tell (here Fig. 6.17). At the centre of the low, 21ha Öcsöd mound was the 4ha built space comprising three major and five minor house clusters separated one from another by fences or marshy terrain. In the sole excavated major cluster, rows of houses were found but soil coring suggested house nests in the minor clusters (Fig. 6.16). It seems likely that the houses in the house clusters formed small neighbourhoods which integrated quotidian and symbolic practices in a way that transcended less integrated earlier AVK site layouts (Raczky 2018).

One development out of the house row principle was prominent in the very small tells of North-East Bulgaria. The emergence of the grid plan exemplifies in an unparalleled way the growth of planned settlement layouts c. 5000 BC (for an extended discussion of episodes from the birth, life and death of the Ovcharovo tell, see Chapman & Gaydarska 2019). Two different patterns of house-building and use of outdoor space were found in the four tells under analysis (Chapman 1990a: 1991; but NB comments by Brown, F. 1990) (Table 6.2). The differences between the two patterns are not such as to suggest two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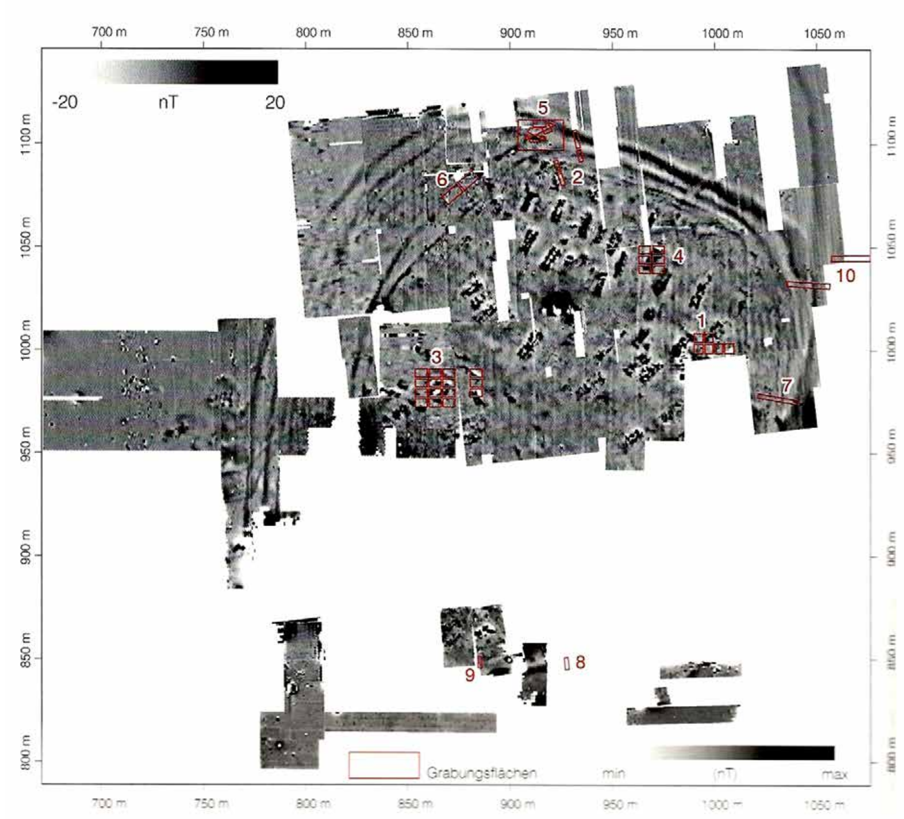


Figure 6.15. (left page) Magnetometry plan, Phase 3 Vinča site of Grivac (source: L. Woodard redrawn from McPherron & Srejović 1971, Fig. 6); (right page) Geomagnetic plan of Phase 3 Butmir tell of Okolište (source: Ercul et al. 2013, Abb. 1: copyright – J. Müller).

polarised, incompatible ranges of behaviour but, rather, two different trajectories along a similar path towards social inequalities, supporting Hansen's (2010) claim that tells were built to make distinctions between people and to effect changes in social power relations away from communal, ancestral values. In both cases, the changes in house sizes indicate cycles of household competition and rivalry within the limits set by tightly-organised communities. The houses at Ovcharovo were particularly large, showing the greatest concentration of Class III (over 100m^2) houses of all the tells (see above, pp. 170-1), showing the development of extended households of up to 15 persons. It is important to note that such trends on a small number of very small (< 1ha) Bulgarian tells preceded the start of the Varna cemetery by two or more centuries (see below, pp. 262-7); Varna did not appear out of nothing in a blaze of gold and glory but emerged from a settlement background of incipient social diversification.

It is interesting that there are few cases of special central 'foci' on sites with concentric planning – as a way of emphasising centrality. One exception comprised the two highly ritualized houses on the Parţa tell[85], (see above, pp. 175-7) built in squares surrounded with houses (Draşovean & Schier 2010) (here Fig. 6.17); another was the central house before the creation of the Csőszhalom mound, with the special deposits of highly fragmented, unburnt ceramics placed on top of House 11 after it had burnt down (Raczky & Anders 2008, Fig. 3).

More generally, the concentric principle formed the basis for different site forms which arose in Old Europe coeval with the North-East Bulgarian tells – enclosed settlements and *Rondels*. Settlement enclosures have emerged as the most important novel aspect of settlement planning in Old Europe in the last two decades. Three Phase 3 examples present contrasting plans of the complex time-place relations between different building elements – the Early Vinča site of Uivar, on the Timiş, in Western Romania (Draşovean & Schier 2011; Schier et al, in press), the syncretic Vinča – Tisza site of Bordjoš, on the lower Tisza valley in north Serbia (Hofmann, R. et al. 2019), and the Zau-group Iclod complex on the Someş river, Transylvania (Lazarovici Gh. 1991; Mischka 2012).

Uivar is a good example of an area of 9ha enclosed by multiple ditches and palisades which contained a 3ha tell and numerous unburnt and some burnt off-tell houses (Fig. 6.4). The TOTL programme of Bayesian modeling of the 192 AMS dates shows that the earliest dwelling on the tell probably pre-dated the earliest enclosure ditch, with the ditch-enclosed tell continuing in occupation until the end of the settlement (Draşovean et al. 2017). Three of the four additional off-tell ditches

85 The two structures have been termed the 'Temple' and 'The House of the Tribe' by the excavators (Lazarovici, Gh. et al. 2001).

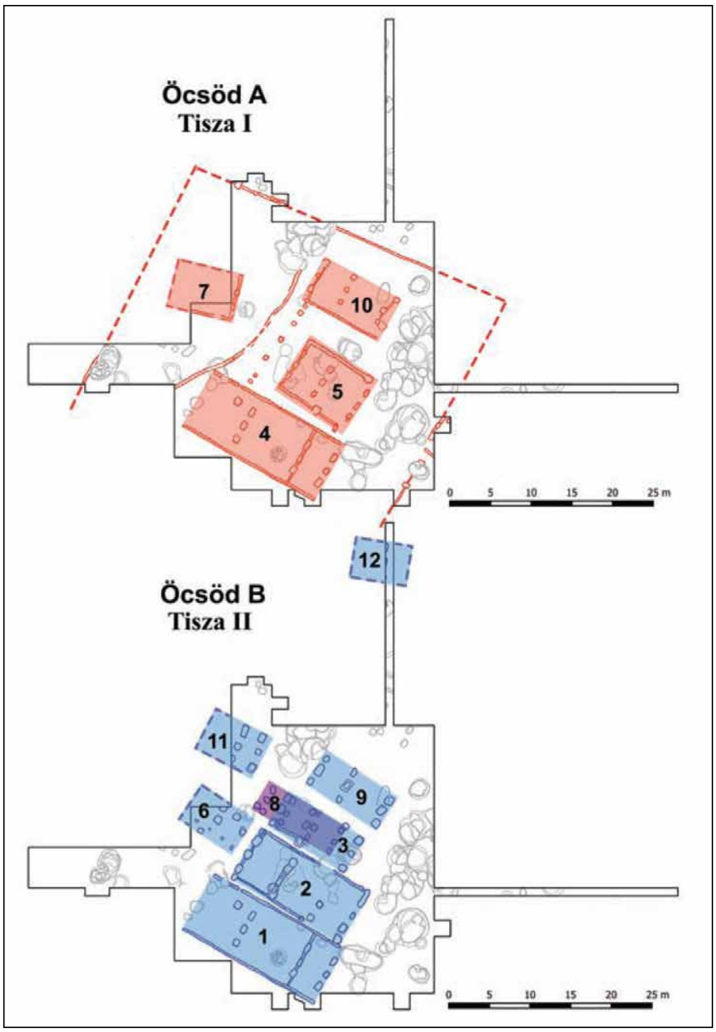
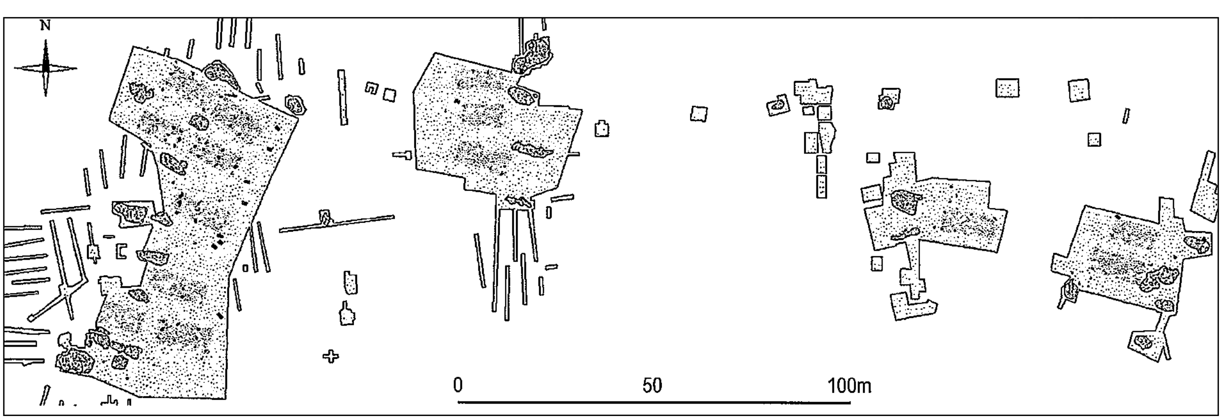


Figure 6.16. (top) Plan of Phase 3 tell of Öcsöd (source: Füzesi & Raczky 2018, Fig. 2); (bottom) Plan of Phase 3 AVK site of Füzesabony – Gubakút (source: Domboróczki 2003, Map 1) (L. Woodard).



Feature	Pattern A (Targovishte (Fig. 6.21a) and Radingrad (Fig. 6.21b)	Pattern B (Ovcharovo (Fig. 6.8) and Polyanitsa (Fig. 5.9b)
Built-to-unbuilt space ratio	Increase in unbuilt space with time	High to very high BUB ratios, with tendency to increase with time (e.g., 4:1 in Polyanitsa Level VII)
Movement	Easy movement	Relatively constrained movement, harder with time, with fewer paths around the settlement
Inter-house space	Increases with time at Radingrad; deceases with time at Targovishte	Low, regular values throughout the sequences
House size	Stable, with occasional large houses (Radingrad Level 2)	Cyclical patterns of increase and decrease; formation of multi-house 'islands' (e.g., Ovcharovo Levels V – VII)
No. of rooms	One or two rooms	Wide range of numbers of rooms (up to 10 rooms)
No. of entrances	One or two entrances	Wide range of number of entrances, up to five.
Access levels	Low and stable	Controlled access to houses, especially into multi-room houses

Table 6.2. Two patterns of spatial layout in Phase 3 North-East Bulgarian tells (source: author).

were dated to the Vinča period but were constructed some way through the tell occupation, as were the small number of burnt houses excavated within the enclosure. The final dwelling-phase on the tell related to people using Tiszapolgár pottery (Phase 4), who also constructed the latest ditch.

There is a complex dwelling sequence at the site of Bordjoš, which Robert Hofmann and his team are beginning to unravel (Hofmann, R. et al. 2019) (Fig. 6.6). Two phases can be distinguished: an earlier phase, where people started to live on the tell in the early 5th millennium BC, while at the same time constructing a small circular enclosure to the South-West; and a later phase, when the tell and small enclosure, constituting a site of 19ha. were abandoned, to be replaced by a much larger, multi-ditch enclosure with a small mound in the centre and with a far higher BUB ratio than in the earlier phase. The site grew to 38ha in the second phase, with burnt houses containing both Tisza-style and Vinča-style pottery, as in the earlier phase.

At Iclod, it had long been known that the site comprised two settlement zones and two cemeteries (Iclod A); however, it was not until geophysical prospection of 11ha in the 2000s that a more complete picture of the site emerged (Mischka 2012) (Fig. 6.17). The central part of the settlement (Iclod B and D) was enclosed by a triple ditch with possible exterior palisades – a total of 10.6ha of enclosed space. The innermost ditch was the earliest – dug and filled in within Iclod pottery phase I. However, relatively few burnt houses were found within the second and third enclosure ditches, with the majority to the North of the third enclosure and near the palisades. In the absence of AMS dates, it is currently impossible to understand the phasing of Iclod. It is possible that the innermost enclosed area resembled more a *Rondel* than a dwelling area.

These brief characterizations of three Phase 3 settlement enclosures show both their complexity and their dynamic development through time and space, with different communities drawing on common elements – ditches, banks, palisades, pits, houses – to construct their own intimate living space. The *Rondels* present a strongly contrasting picture.

Rondels were well known from West-Central Europe decades before their discovery through remote sensing in Old Europe (Podborský & Kovárnik 2006). The combination of aerial archaeology, geophysics and fieldwalking in the Pécs region of South-West Hungary makes this region the best-known for such enclosures in the Carpathian Basin (Bertók & Gáti 2014, Fig. II.89) (here Fig. 6.18). After the appearance of a small ring-ditch probably dated to the Linearbandkeramik period at Máriakéménd (2014, Catalogue No. 9), a string of over 15 Lengyel enclosed sites has been identified, including some on previously well-known sites such as Zengővárkony and Villánykövesd. A bewildering number of combinations of a few basic elements – causewayed ditches, ditches with opposed entrances (two or four), outer enclosures, 'bastions' and settlement remains in the form of houses or pits – as well as a degree of size variation (0.4-14 ha) indicates the primacy of local choices for specific functions, with little duplication of plans. A simplified classification highlights this variability (Table 6.3).

Four points deserve further attention. First, the association of some of the main enclosure types with settlement remains was typical for *Rondels* in other parts of Central Europe (Bertemes & Meller 2012); house-shaped geophysical anomalies were noted at four of the Lengyel sites. Secondly, the interrupted ditches known from the UK as creating causewayed enclosures (Mercer 2006) were not found on their own, as separate enclosures, but always as structural components of *Rondels*. Thirdly, the small, semi-circular ditches added to the outside of the external ditches at sites such as Szemely and Villánykövesd could possibly be defensive features and/or were special foci for deposition. And, finally, the most complex site planning (e.g., Szemely 1 and 2) comprised multiple ditches and palisades, with a highly structured spatial layout and strong constraints on lateral movement.

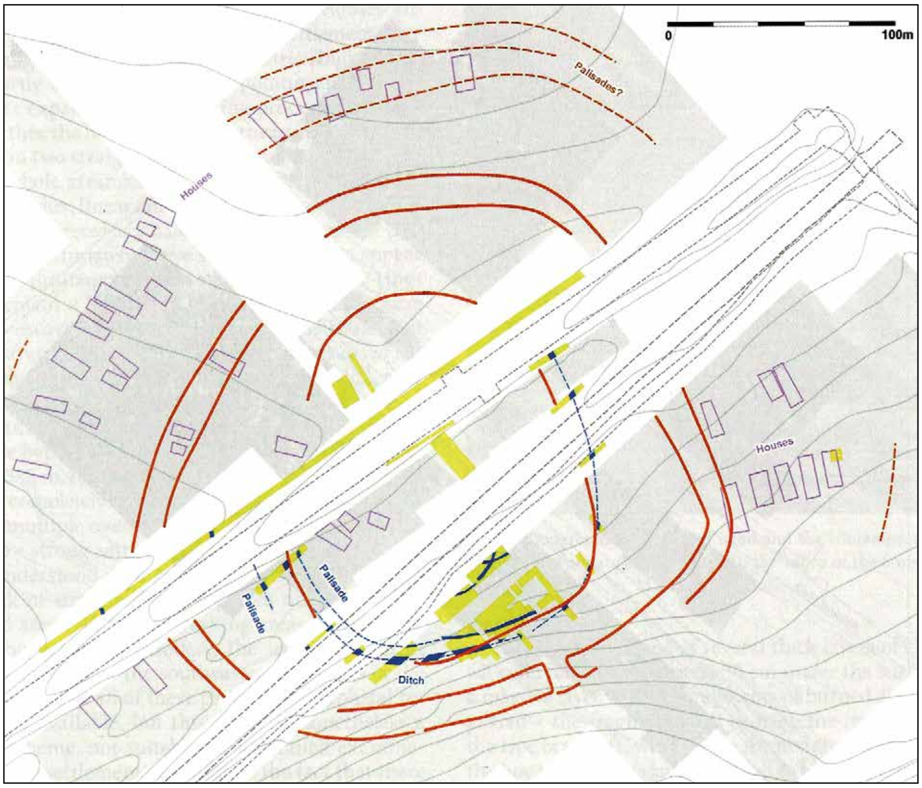


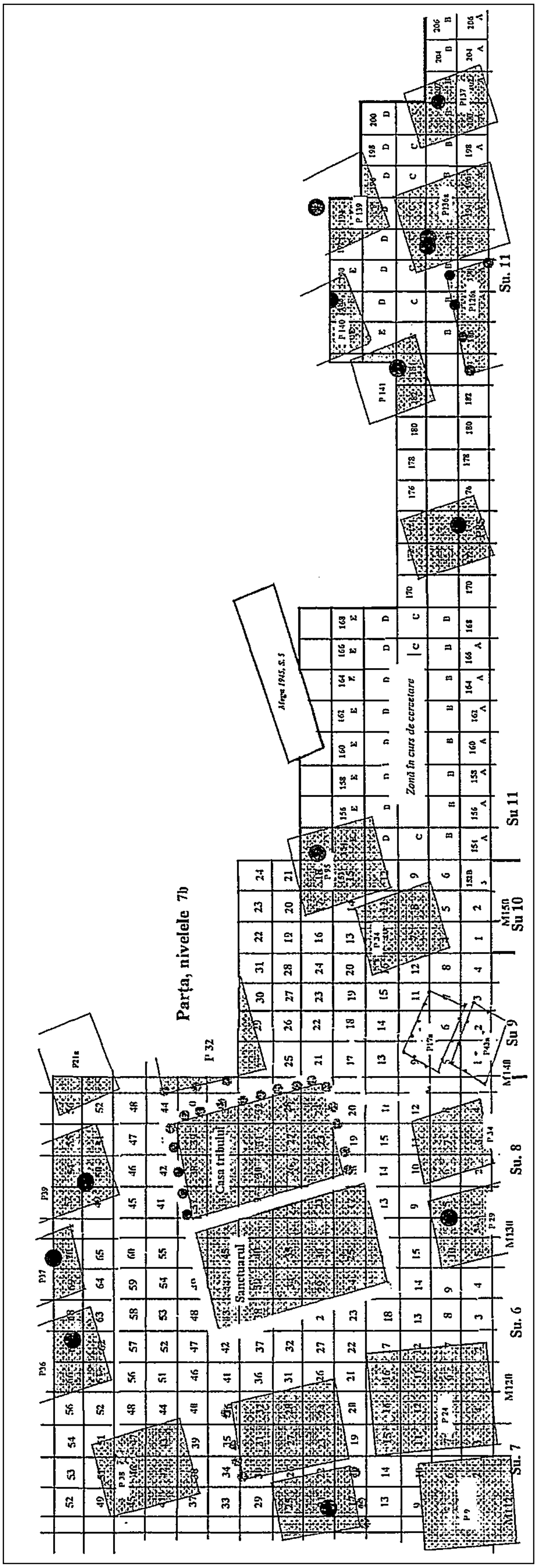
Figure 6.17. (left) Geophysical plot of the Iclod settlement and mortuary complex (source: Mischka 2012, Fig. 6); (right page) Layout of houses on Phase 3 tell at Parţa level 7b: excavation grid of 2 x 2m (source: Lazarovici et al. 2001, Vol. I.1, Fig. 77).

There is clearly much excavation and an intensive AMS dating programme to be done before we can reach a full understanding of the enclosure phenomenon in the Pécs area. But the focus of all concentrically-organised sites – the centre of the site as the *omphalos* of the inhabitants' world – distinguishes the Lengyel enclosures from most other Phase 3 sites. The significance of interrupted ditches in the construction of many *Rondels* underlines the importance of open access in and out of the sites, especially to performances held in the centre. Equally, for other enclosures such as Szemely 1 and 2 (Fig. 6.18b – c), the multiplicity of the ditches and palisades echoed the structured formality of rites of entry passage found at the North-East Bulgarian tells (see above, p. 205). It should, nonetheless, be remembered that Lengyel enclosures were not primarily settlement zones, as were most Phase 3 tells and open sites, but special foci of meeting, performance and ritual (Barna & Pásztor 2011) – sometimes, as in Zengővárkony, in the centre of settlement sites (Fig. 7.7). In this sense, Zengővárkony is the West Hungarian equivalent of Csőszhalom – a central site but without a tell inside the *Rondel*.

A contrast to the strong preference for a separate mortuary domain in Phase 3 (see below, Chapter 7) is found in the Lengyel group in Transdanubia and North Central Hungary (Dombay 1939). An extraordinary juxtaposition of domestic areas, formed by clusters of houses and pits, and mortuary areas containing 2,300 excavated burials, was found at the Lengyel complex of Alsónyék (Osztás et al. 2016; Bánffy et al. 2016). The AMS Bayesian modelling dates the duration of Lengyel dwelling at 425-545 years, with three separate Lengyel foci – subsite 10B (71 houses in 9ha), subsite 11 (23 houses in 8.3ha) and subsite 5603 (26 houses in 6.3ha) (Fig. 6.19).

The duration of both burial and settlement varied at each sub-site. The houses were unified by the same NNW – SSE orientation in all sub-sites but house rows were prominent only in sub-site 10B. Alsónyék is noteworthy for a massive burial peak centred on 4700BC, estimated at 2,500 people and interpreted as a coalescent community drawing people from other Lengyel sites – a nucleation that was unsustainable for more than a generation or two. This site is a classic example of a persistent place, with a total duration of almost 1,500 years – the longest of any site in Old Europe! The Lengyel practice of the blurring of the mortuary – domestic division was unusual in Old Europe and provides another variant on the combination of the two ways of tracing ancestry on the same sites – both co-residence and genealogy.

The practice of landscape deposition continued on a small scale in Phase 3, with most hoards deposited in settlements (Chapman 2000a, 246-7) but with one pair of complete *Spondylus* bracelets and a flint flake placed in open country near Provadia (Gellert & Gerscha 1930).



Summary of Phase 3 settlements

In Phase 3, sites were often planned more carefully and with wider, longer-term effects on social space than in Phase 2. Far more communities made the decision to enclose their site than in Phase 2. One traditional planning principle – the house row – was extended from rare Phase 2 settlement layouts to many regions in the Balkans, while the notion of house 'nests' became more formalized in the concentric principle on certain sites in the Carpathian Basin. The focal open area, or square, also became common, although its openness was sometimes compromised by the construction of significant buildings in the square. These planning changes affected the relations of persons in the community through the creation of an intermediate level in the settlement – the 'neighbourhood'. In the larger settlements, this grouping consisted of as many people as there were in entire dispersed tells – an estimated 50-100. Neighbourhoods would have attracted the commitment and loyalty of households who had previously related to the community level, while maintaining the spatial intimacy of the small community. Inter-neighbourhood differentiation could have been a powerful means for social change, whether through accumulation of objects and animals or by the emergence of specialized craft skills. The emergence of the neighbourhood altered the tension between kinship solidarities and broader political affiliations.

Phase 4 planning – the displacement of concentricity

While all of the three main planning principles used and consolidated in Phase 3 settlements continued into Phase 4, the decline of Lengyel enclosures meant that concentric planning was widely displaced from special sites to settlements all over Old Europe. In the East, there was still considerable variety in house layout on Middle Cucuteni – Trypillia settlements, with nests of houses in sites such as Truşeşti (2.35 ha) and Hăbăşeşti (1.9 ha)[86] (Popovici 2010), house rows at Scânteia and curvilinear arrangements at only some sites (e.g., the Cucuteni A village of Târpeşti, with its single oval configuration of houses, and Iablona I, with two adjacent circular areas containing nests of houses). An early aerial photograph of the 150ha mega-site of Vesely Kut (Trypillia Phase BI/II) shows an irregular perimeter containing nests of houses in five or six clusters but no concentric house ovals or circles. None of the recent geophysical plans (e.g., Rassmann et al. 2016; Ţerna et al. 2018, Fig. 1B) shows more than one of the four key planning principles developed conjointly in Phase 5 megasites on any single site (Gaydarska 2020; see below, p. 228), although the

86 It is interesting to note the increase in unbuilt space over the three successive occupations of Hăbăşeşti, with the BUB ratio declining from an initial 1:8 to 1:12.5 and finally, in Phase 3, to 1:25 (Popovici 2010, 96 & Fig. 4-6).

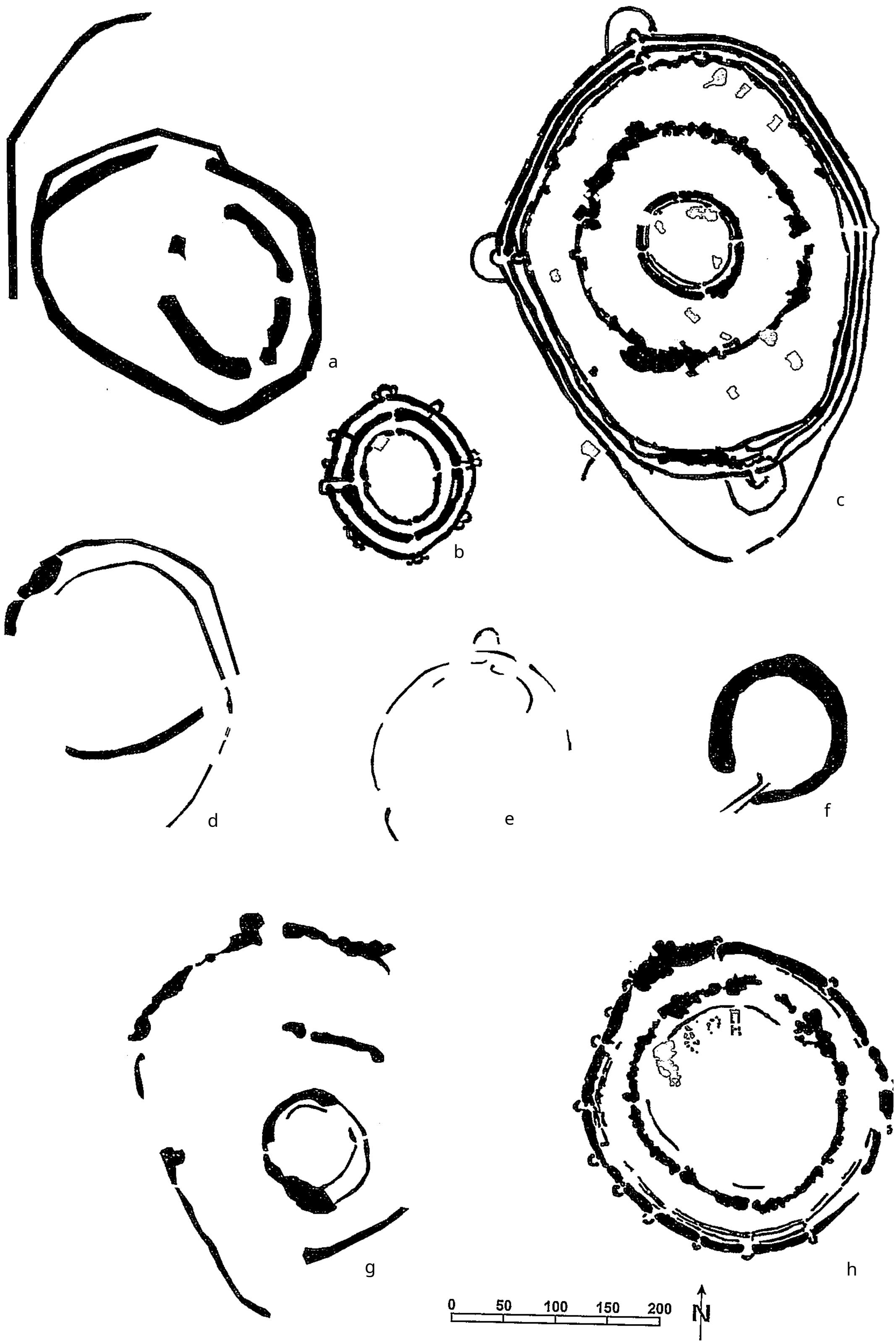


Figure 6.18. Plans of enclosed sites, South-West Hungary: (a) Nagykozár; (b – c) Szemely; (d) Palkonya; (e) Belvárdgyula; (f) Máriakéménd; (g) Peterd; (h) Villánykövesd (source: Bertók & Gáti 2014, Fig. II.89) (layout – B. Gaydarska).

	Rondel	Causewayed Rondel	Rondel surrounded by an enclosure	Other
With settlement remains	Zengővárkony 1, Geredlak 1, Szemely 1 & 2, Töttös, Belvárdgyula-Szarkahegy	Geredlak 2, Villánykövesd	Nagykozár	
Without settlement remains	Feked, Palkonya, Szebény	Belvárdgyula-Gombás, Harkány, Kökény, Vokány	Belvárdgyula-Nádas, Peterd	Magyarsarlós (fortified site), Zengővárkony 2 (rectangular enclosure)

Table 6.3. Classification of enclosed sites in Pécs region, South-West Hungary (source: author, with data from Bertók & Gáti 2014). Key: bold – sites with house-sized anomalies. Other sites with settlement remains were associated with pits.

obviously multi-period Sîngerei plan may have exhibited concentric rings and radial streets cumulatively. The location of large houses (? Assembly Houses) in the centre of the sites distinguishes these settlements from the later megasites.

In the West Balkans, a rare example of settlement planning derives from the 50ha Late Vinča Stubline – Crkvine settlement, which showed a combination of rows of between five and 12 houses and houses grouped round squares, with a well-developed network of pathways connecting house groups and rows (Crnobrnja 2012, Figs. 2-4) (here Fig. 4.2b). Crnobrnja poses the question 'were the house groups and rows based upon kinship units?' – to which the term 'neighbourhood' is applicable. Rectilinear house rows had also widely been consolidated into tell living in the Lower Danube Basin (e.g., Hârşova, Borduşani, Sultana – Malu Roşu). At tell Hotnitsa, the plan of the uppermost level shows four rows of houses separated by alleyways and a possible square in the South-West corner (Chohadzhiev, A. 2009, Fig. 3) (here Fig. 6.20).

Changes in the creation and use of social space were found in the Phase 4 villages of the small, totally excavated tells in North-East Bulgaria. In the case of the two 'Pattern A' tells of Phase 3 (Targovishte and Radingrad), there were major increases in unbuilt space, with higher inter-house spacing and similar sizes or smaller houses than before (Fig. 6.21). By contrast, a dramatic expansion of built space in Phase 4 was seen at the 'Pattern B' tells of Poljanitsa and Ovcharovo, despite the construction of smaller houses at Ovcharovo which were placed very close to each other (Fig. 6.8). The 12 successive villages of Phase 4 Goljamo Delchevo tell showed an intermediate pattern between the Pattern A and B tells (Fig. 6.20). What these divergent trends meant was an increase in inter-village differentiation, with Pattern A communities reducing inter-household competition by increasing unbuilt space and maintaining limits on house size and Pattern B villages building larger houses and controlling movement around the village by a reduction in unbuilt space.

By comparison, the complete excavation of a limited number of settlement layers at Southern Romanian tells shows less clearly structured use of space. An irregular layout of the 16 buildings comprising the final dwelling phase at Căscioarele (Dumitrescu, H. 1968) compares with the haphazard location of five buildings in a large unbuilt space at Teiu. A more geometric layout for the seven houses in the centre of the tell at Bucşani was surrounded by a few buildings in open areas (Bem & Bălăşescu 2005).

The expanded scale of landscape deposition was a major feature of Phase 4, with far more shaft-hole copper axes being placed in a wide variety of 'natural' places than in settlements (Chapman 2000a, 247-254). The recent find of 22 copper axes weighing a total of 11.6 kg in arable land outside the village of Polkovnik Taslakovo, North-East Bulgaria (Chernakov 2018) proved to be the largest known hoard in the Bulgarian Late Copper Age – comparable in scale to the stray find of a single Székely-Nádudvar-type hammer axe from Vámospércs weighing 3.645kg (Patay 1984, 48). Long flint blades and obsidian cores were also placed in the landscape, while ornaments such as gold discs and copper spirals and bands were much rarer. However, single tools were by far the commonest type of landscape deposit in each region.

Summary of Phase 4 settlements

Different trajectories emerged in the Central Balkans, the Lower Danube Basin and the Cucuteni – Trypillia zone in Phase 4, with rare evidence of planned household layouts in any other regions. The development of house rows on small tells and large open sites in the first two regions showed both increases and reductions in intra-household competition. In the larger East European settlements, different neighbourhoods of a size congruent with the small Danubian tells co-existed on the same sites but with their houses organized in a variety of different ways. The idea that planned concentric layouts had a long history in the Trypillia group now looks implausible. For the first time in Old Europe, landscape deposits became an important element of most regional dwelling.

Phase 5 – the triumph of concentricity in Eastern Europe

The greatest dichotomy in settlement planning between Eastern Europe and the Balkan – Carpathian regions came in Period 5, with a decline in formal planning in the West and the creation of sometimes massive Middle to Late Trypillia settlements based upon four key planning principles found at all major sites.

The first unambiguous evidence for concentric circuits of houses, whether oval or circular, can be dated to the Trypillia BII phase. Two complete geophysical plans

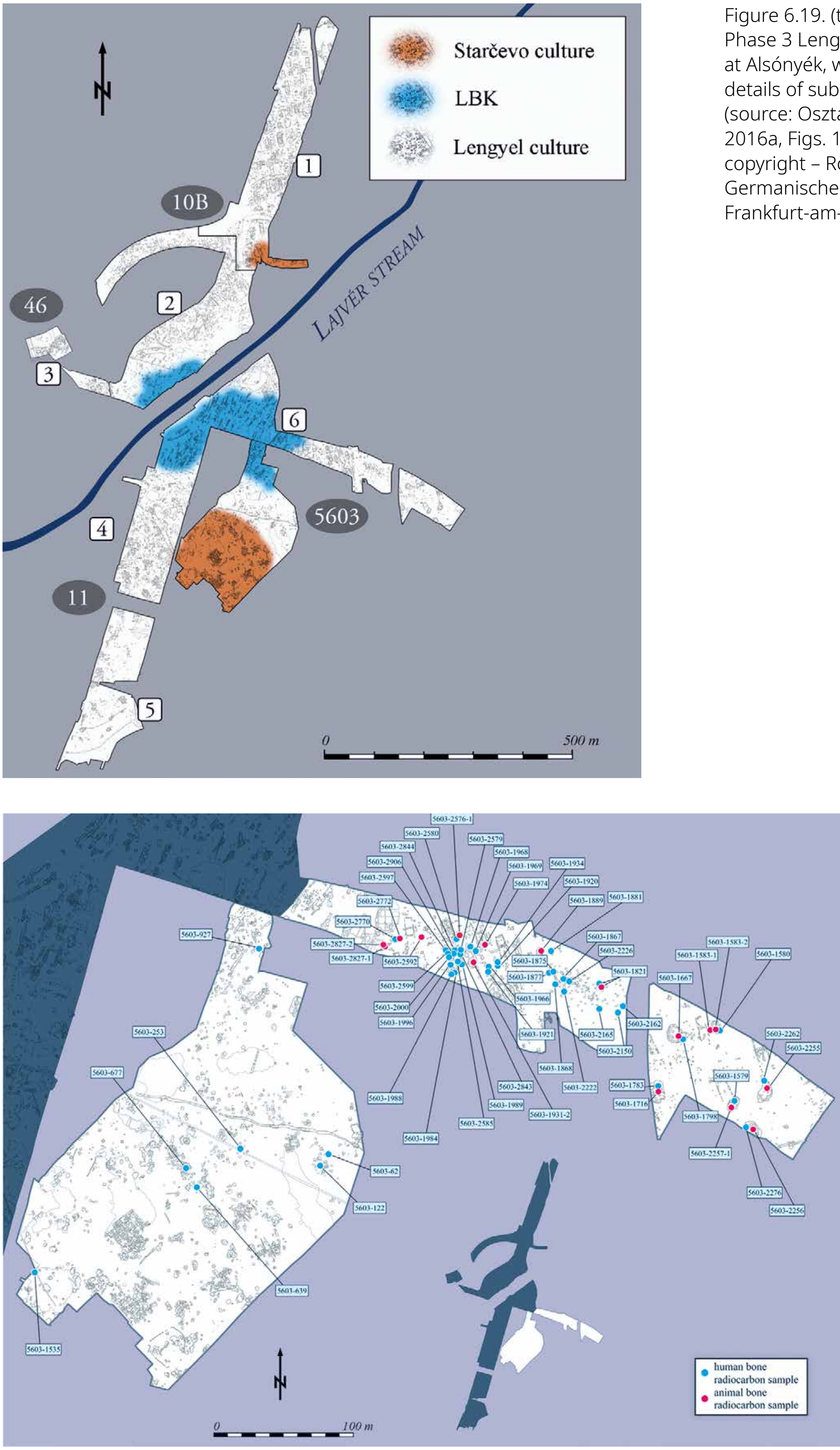
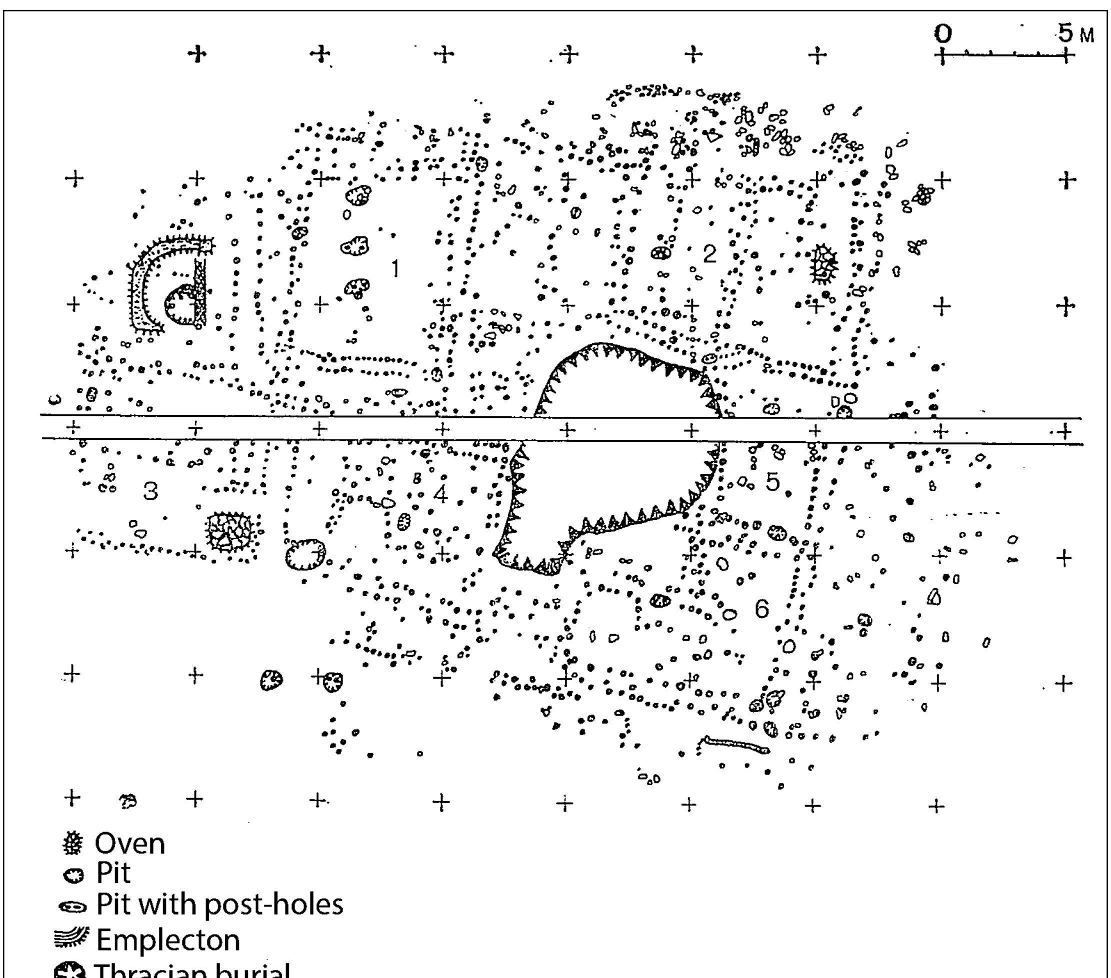


Figure 6.19. (top) Plan of Phase 3 Lengyel complex at Alsónyék, with (bottom) details of subsite 5603 (source: Osztás et al. 2016a, Figs. 1 & 11: copyright – Römisch-Germanische Kommission, Frankfurt-am-Main).

Figure 6.20. (top) Plan of Phase 4 tell of Hotnitsa level 1 (source: Chohadzhiev, A. 2009, Fig. 3) ;(bottom) Plan of Phase 4 tell of Goljamo Delchevo (Horizon XV) (source: Todorova 1975, Obr. 31: copyright – Ivo Vajsov).



are now known from Moldova. The 70ha. Trypillia BII settlement of Stolniceni I (Ţerna et al. 2019) (Fig. 6.22) shows all of the planning principles of a classic Ukrainian megasite but covering a much smaller area. In a remarkable site plan based upon Shishkin's aerial photograph, the site of Petreni, Moldova purported to show ten concentric house circuits (Markevichi 1981; cf. Ellis 1984, Fig. 69). Recent geophysical investigations with modern equipment produced a still remarkable plan, this time with only four concentric house circuits, but also showing two ditch circuits (Rassmann et al. 2014, Figs. 38-39) (here Fig. 6.23a). Other Phase BII site plans, such as at Glybochok (Videiko & Rassmann 2016, Fig. 9/3-4), show a combination of concentric principles and houses laid out around squares and open spaces (Fig. 6.23b). Early radial layouts have now been found on Phase BI (Cucuteni A) sites in Moldova, such as Songerei and Ripiceni (Ţerna et al. 2018).

One of the earliest mega-sites is the 238ha. settlement of Nebelivka, where a Durham – Kyiv team has produced the first complete plan so far of a mega-site (Chapman et al. 2014: 2014a; Chapman & Gaydarska 2016) (Fig. 6.1). The megasite was created around the inner open area of 65ha, which was used for public meetings and seasonal gatherings, with their events and ceremonies producing collective social memories (Ensor 2018, 189). The megasite developed outwards from the primary inner open area, with two concentric rings of houses separated by a wide area and a perimeter ditch with interrupted sections. The total number of structures identified at Nebelivka is currently 1,445 – almost all assumed to be dwelling houses. Two-thirds of the structures were burnt at the end of their 'use-lives'. Some 23 structures have been identified which are much larger than the usual 'dwelling house': these so-called 'Assembly Houses' were public buildings where people held local meetings to make key decisions (Fig. 5.22). The largest of these Assembly Houses was a 60 x 22 m structure, excavated in 2012 and termed the 'mega-structure', because its size makes it the largest currently known structure in the Trypillia world (Chapman et al. 2014b) (Fig. 5.18).

Later, Phase CI mega-sites with substantial parts of their plans completed include Majdanetske (Fig. 6.24) and Taljanki (Fig. 6.25) (Rassmann et al. 2016). Although Taljanki had the largest overall area of the mega-sites at 320 ha, 140ha of this was taken up with the inner open area, leaving 180 ha for building. This was similar to the 174 ha built area at Majdanetske, which had a total area of 200 ha but, ultimately, a much smaller inner open area, in comparison to the 173 ha of built space at Nebelivka. Each of these Phase CI mega-sites shows similar planning principles to the earlier Nebelivka plan, with one major exception – the absence of a perimeter ditch and any Assembly Houses at Taljanki. Lacking two of the main communal aspects of the usual mega-site hints at a markedly different social structure at Taljanki, which requires future investigation (Gaydarska 2020, Chapter 10). For Balkan prehistorians accustomed to 1 ha tells or 5 ha open sites, it is hard to get a sense of the sheer vastness of the mega-sites (see the Nebelivka story, above, pp. 195-6) [87]. One way is the calculation that 66 virtual Tell Karanovos at 3.6 ha each would fit snugly inside the Nebelivka perimeter ditch! Even if the mega-sites were as not internally differentiated as Western Asia's first cities (Wengrow 2015), it is clear that the mega-sites were as large as the Uruk settlements and may be considered as an example of low-density, non-hierarchical urbanism, by which Gaydarska means the formation of central settlements far larger than all other coeval settlements with poorly developed hinterlands and little evidence for internal social differentiation (Gaydarska 2016) (see also below, pp. 372-8).

Nonetheless, coeval with the Trypillia megasites in the Southern Bug – Dnieper interfluve, there was great variety in settlement planning, with double house circuits (e.g., Volodymirivka), single house circuits (e.g., Kolomiishchina) and incomplete house circuits with outliers (e.g., Apolianka) (Fig. 6.23c). Equally, much smaller Late Cucuteni sites to the West created rows of houses (e.g., Ghelăieşti), with others grouping those houses in nests (e.g., Putineşti III) and yet others showing little sign of ordered planning at all (e.g., Drăguşeni).

Irregular layouts such as this were more characteristic of the Central Balkans, where, even on tells such as Gomolava (Level IIIb), Kostolac groups built some houses around squares, leaving most dwellings in an irregular layout (Fig. 6.26). The large excavations on Croatian motorway projects have produced no examples of planned layouts of Phase 5 sites, despite the extreme size of some houses (see above, p. 189). Further North, despite the absence of house plans, pit and artifact distributions revealed the existence of four household clusters of c. 40m. diameter, separated from each other by 10-60m, at the multi-phase Baden site of Balatonkeresztúr – Réti dűlő (Fabian et al. 2013). The only example of a planned house layout occurred at the Hunyadi-halom group site of Tiszalúc[88] (Raczky & Siklósi 2013), where Patay (2005, 53 & Beilage 3) has proposed that the houses were laid out in four North – South-oriented rows, with gaps of up to 7 m between the rows (Fig. 6.27). Although the multiple stratigraphic overlaps between houses indicate fewer coeval houses than the total of 45 (perhaps as few as 28), the four house

87 Recent geophysical investigations show that the areas of sites such as Drenovac (33-35ha), Pločnik (c. 26ha) and Belovode (25-33ha) are much smaller than 100ha (p.c., K. Rassmann).

88 Dates from the three Hunyadi-halom graves showed the site started at 3990-3810 cal BC and ended before 3910-3700 cal BC, suggesting an occupation of up to 250 years (Raczky & Siklódi 2013).

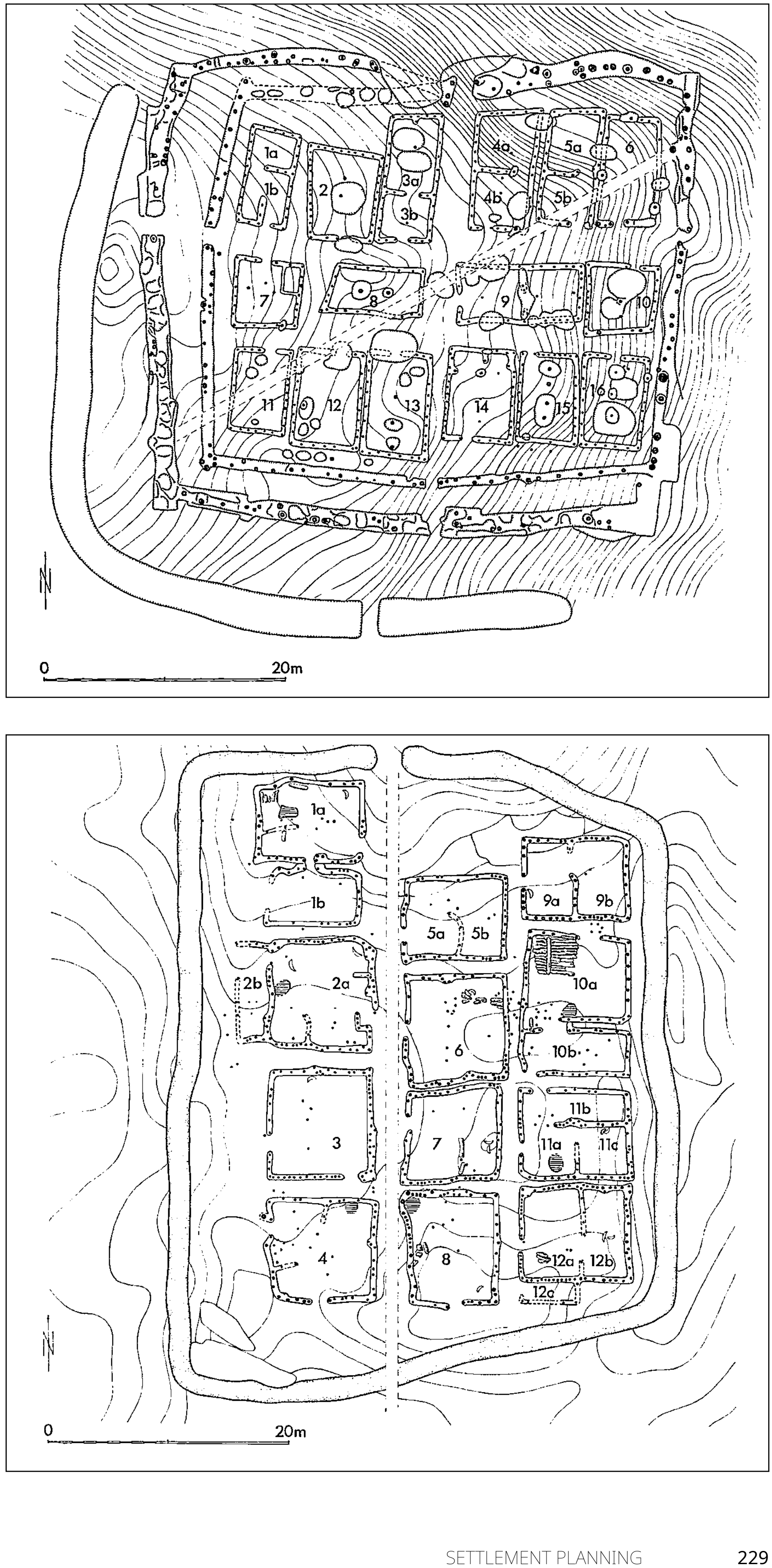


Figure 6.21. Plan of Phase 4 tells: (top) Targovishte level I; (bottom) Radingrad level I (source: Todorova 1982, Abb, 175 & 185: copyright – Kommission für Archäologie Aussereuropaischer Kulturen, Bonn).

Figure 6.22 (left). Geophysical plan of Stolniceni I (source: Ţerna et al 2019, Fig. 5).

Figure 6.23 (right page). Geophysical plans of Phase 5 Cucuteni-Trypillia sites: (top) Petreni (source: Rassmann et al. 2016, Fig. 12); (bottom left) Glybochok: length x width – 1,100 x 960m (source: Videiko & Rassmann 2016, Fig. 9/4); (bottom right) Apolianka (source: Rassmann et al. 2016, Fig. 32a).

rows were maintained over many generations, without any sign of an assembly house nor any concentrations of copper or stone tools (Patay 2005, 63-76). Here was a Phase 5 community of perhaps 150 people with no obvious architectural materialization of leadership, living in an ordered layout of rather similar houses.

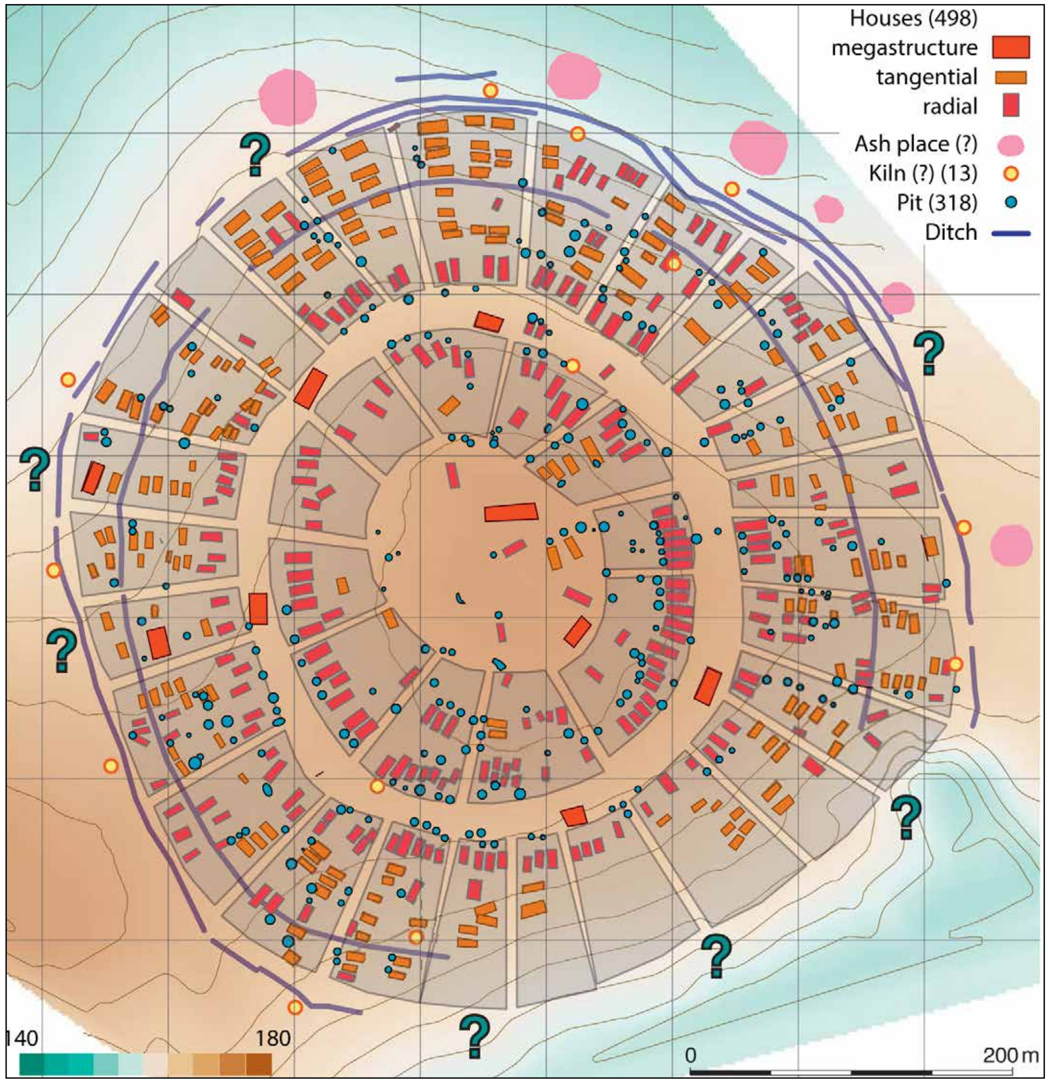
Outside the relatively few settlements known from Phase 5 in the Central and Western Balkans and the Carpathian Basin, people were depositing copper axes – at first more shaft-hole in form, later more flat axes – in many parts of the landscape. In most, if not all, regions, there were more landscape deposit sites than 'settlements', matching J. Thomas' (1999, 164) observation of the British Neolithic that deliberate deposition was emphasised at a time when domestic activities were fleeting and transient.

Summary of Phase 5 settlement

There was a strong contrast in Phase 5 settlement planning between Eastern Europe and the Balkan – Carpathian regions, just as there was in house-building (see above, pp. 189-194). Smaller Cucuteni-Trypillia sites continued to use varied house layouts, including house circuits, house rows, nests and combinations thereof. The dominant view of mega-site planning is that the main planning principles were enshrined in a traditional (Phase A – BI) template which people had internalized before they materialized the template in later (BII – CI) megasites (Videiko 2012; Korvin-Piotrovskiy 2012). However, this idea does not explain the process of megasite creation, which combined different planning elements from a variety of earlier sites to form an utterly novel settlement form (Gaydarska 2020). The complete antithesis of megasite nucleation was coeval, found in the Central and Western Balkans and the Carpathian Basin as dispersed networks of landscape deposits rather than the traces of dwelling.

Chapter summary

The social basis for planning in Balkan prehistory relied upon a very basic understanding of spatial order between households and communal space and the ability to rationalize this into material form. This planning included at least four basic elements: some kind of geometric thinking, probably derived from the geometric praxis of house-building; a regular relationship between built and unbuilt elements; a tolerance of repetition in space and through time; and ways to deal with 'copy error' – the unplanned and potentially cumulative failures that hindered the accurate replication of a plan. The way that communities dealt with these issues would have strongly influenced the successive forms of plans in a specific place. Our own etic classification of site plans into 'planned' or 'irregular' sites must, in turn, depend on the degree of overall regularity in the settlement, the potential for incremental growth, the continuities through time that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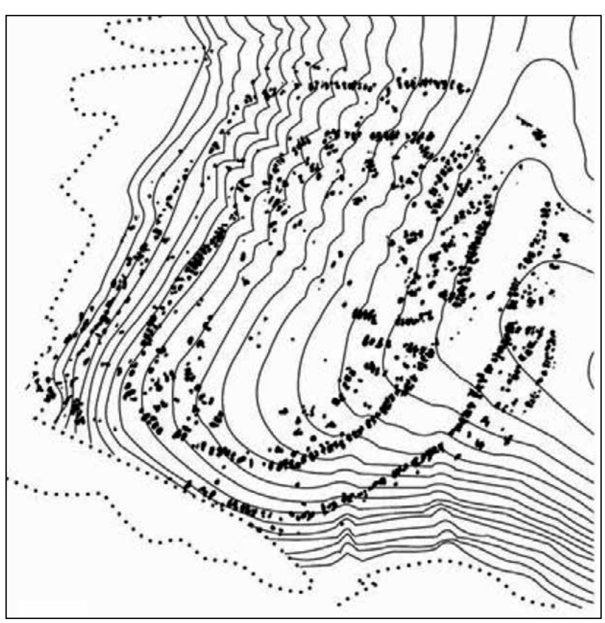

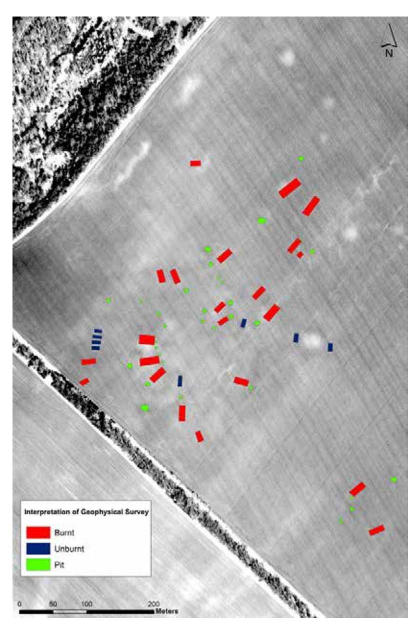
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Interpretation of Geophysical Survey
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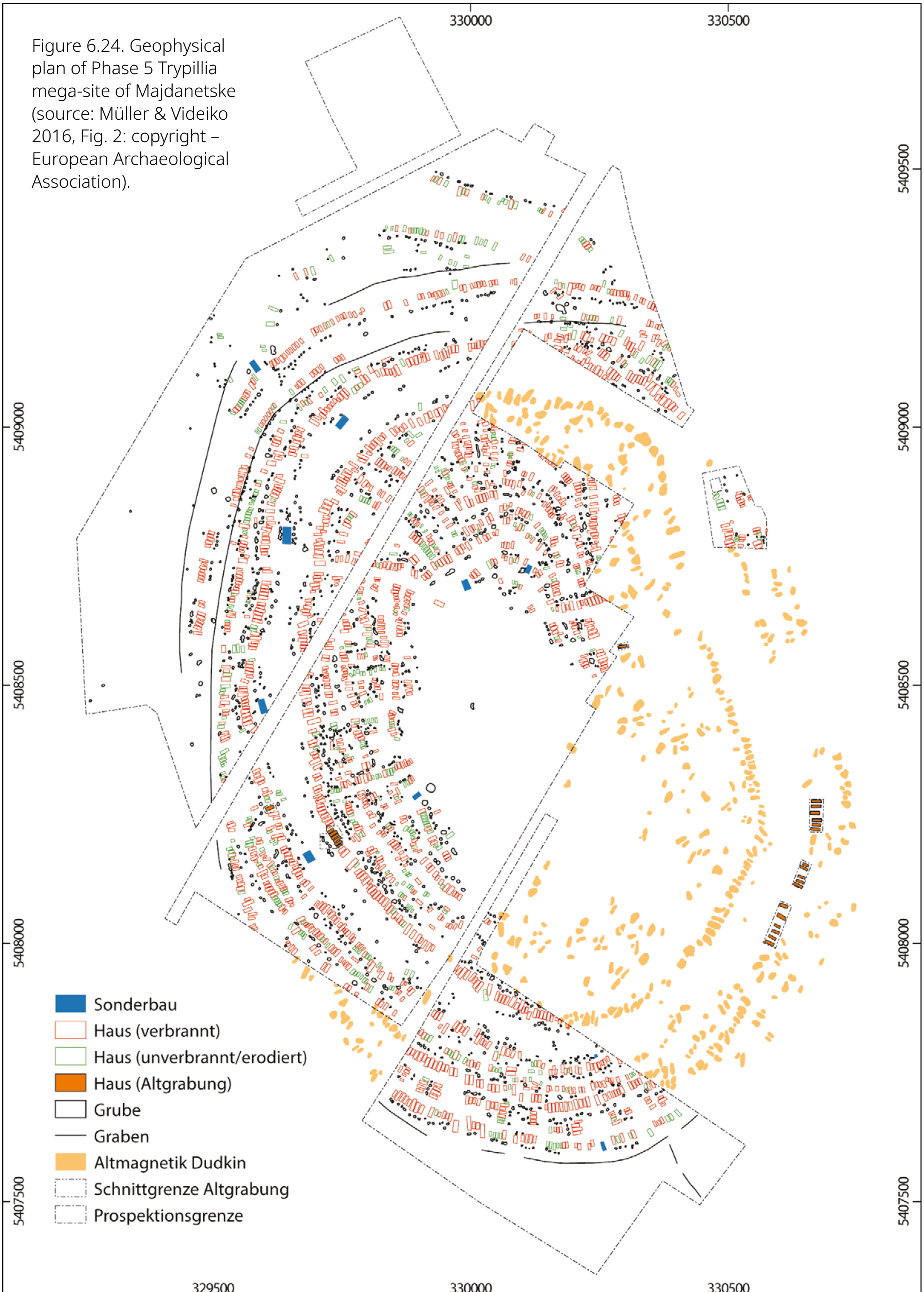
Figure 6.24. Geophysical plan of Phase 5 Trypillia mega-site of Majdanetske (source: Müller & Videiko 2016, Fig. 2: copyright – European Archaeological Association).



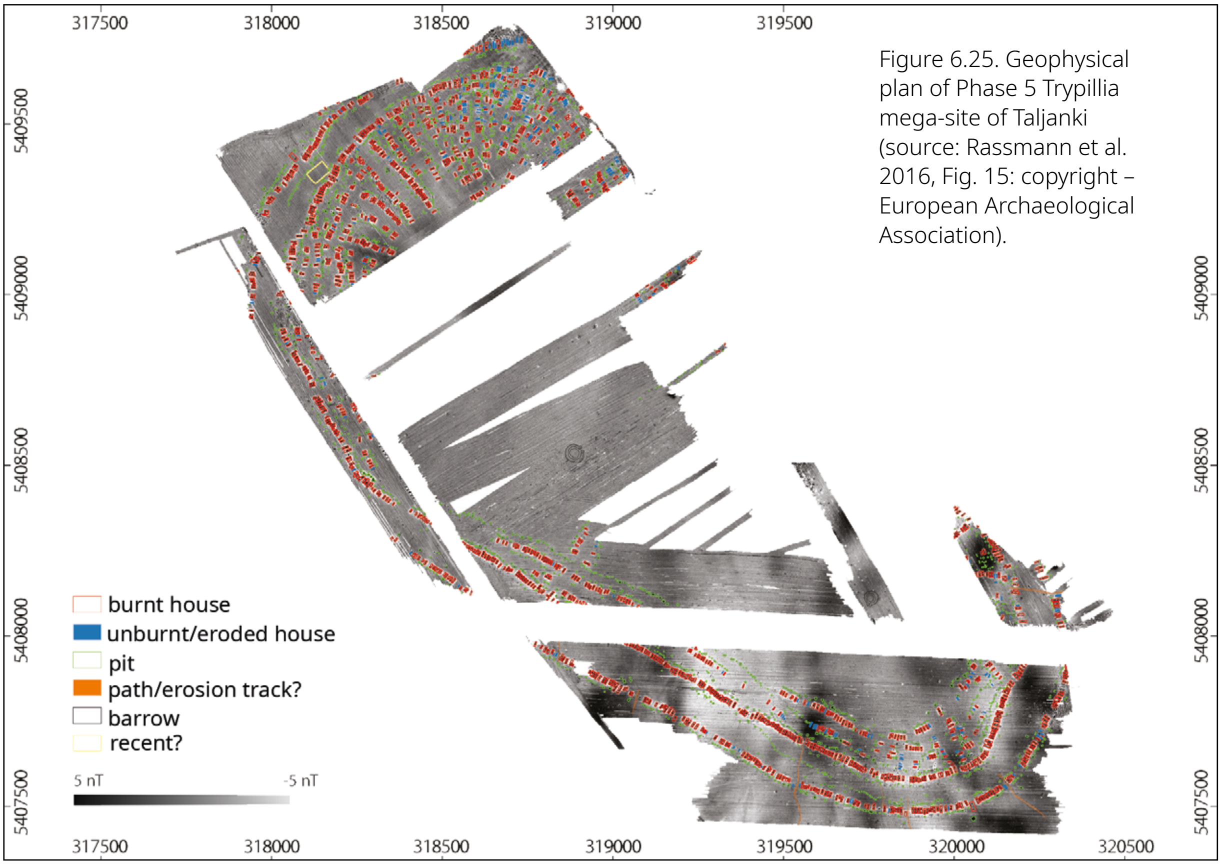


Figure 6.25. Geophysical plan of Phase 5 Trypillia mega-site of Taljanki (source: Rassmann et al. 2016, Fig. 15: copyright – European Archaeological Association).

each group needs and the extent of permissible copy error in the evolving plan.

A moderate to high proportion of settlements in the study region showed no or little planning in their house layouts. This was especially true of the great diversity of irregular homesteads, hamlets and villages in both Phase 2, whether as house-sites or pit sites, and in Phase 5 in the Western parts of Old Europe. It seems highly probable that the weakness of site-level authority – perhaps chiefly their failure to gain agreement between different households – was mostly responsible for the lack of corporate planning. In Phase 5, for the most part we are talking less about a settlement network than what, in another context, A. Jones (2007, 226) has called landscapes … as … 'densely packed networks of indexes' – the most dispersed networks known in Old Europe and as great and extraordinary a contrast to the densely nucleated Trypillia megasites as we know in the whole of European prehistory.

A basic dichotomy running through the sites of the study region which showed more than minimal planning was the focal layout and the linear or grid layout. The former was as small as a nest of houses, as medium-sized as a Balkan tell, as large as an enclosed Lengyel Rondel or as massive as the multiple concentric house circuits which defined Trypillia mega-sites. The unifying feature was a centre or focus of either dwelling or deposition – presumably a materialization of the basic worldview of the community in question. The creation of extra circuits around the *omphalos*[89] through the absorption of positive space increased relational complexity either directly, by juxtaposing households or people closer yet also further from the focal point, or indirectly, by extending the rites of entrance into the centre. Perhaps the cumulative scale of the building process prevented the repetition of the traditional practice of adding new circuits? It may also have related to the danger of over-stretching relational links or over-complexifying rites of passage rather than any inherent property of space. However, these constraints could be overcome at least temporarily, as we can see from the nine concentric house circuits at Phase 5 Majdanetske.

The attractions of coherence and intimacy proposed to explain house rows (Merkyte & Albek (2012) in fact also characterized focal layouts. That was also true of the positive space to which both linear and focal layouts provided ready access. What was more distinctive

89 A Greek term for the hub, or centre, of something (e.g., the world).

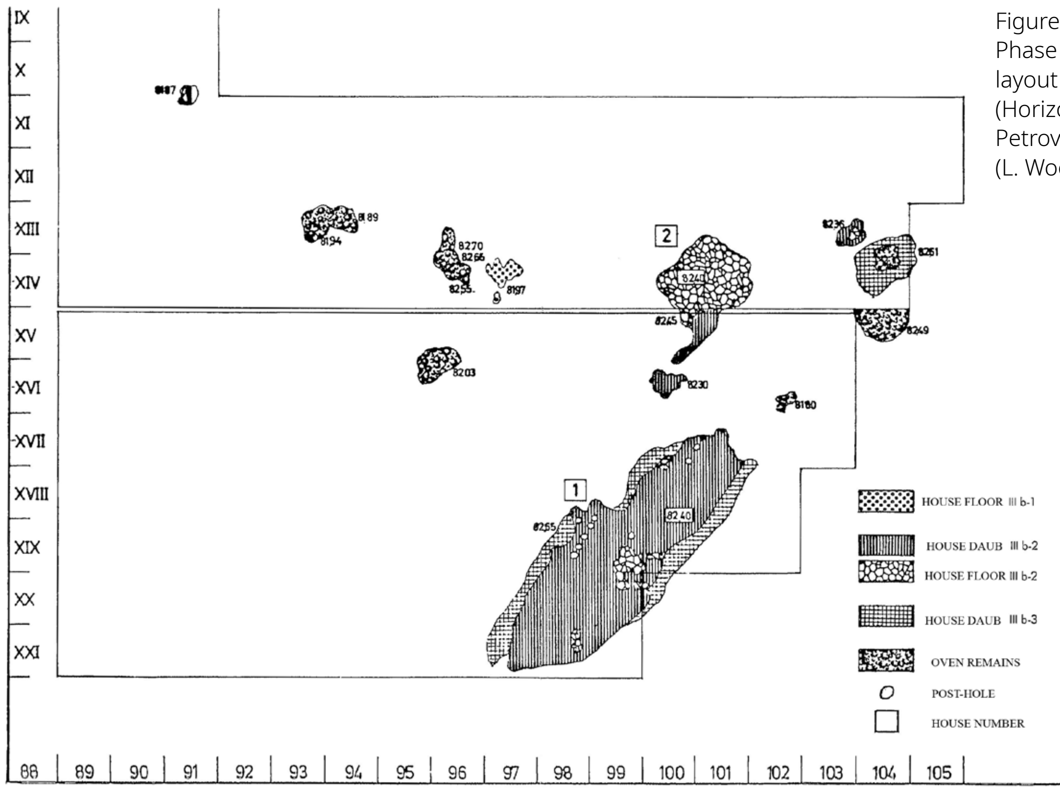


Figure 6.26. Plan of Phase 5 Kostolac layout at Gomolava (Horizon IIIb) (source: Petrović, J. 1988, Fig 1.) (L. Woodard).

Figure 6.27. Plan of Phase 5 Hunyadi-halom site of Tiszalúc: length x width – 150 x 100m (source: L. Woodard, redrawn from Patay 2005, Beilage 3).

about linear layouts was the absence of focus – the open access for all households on the ‘streets’ to both main pathways – to the back as well as the front of the house. The most dramatic example of linear planning turned the circular shape of the North Bulgarian tells into geometric grid patterns with entrance passages as complex as any in the study region. These sites showed the highest degree of dimensional order known in Old Europe. The grid may have been materialized on some of the smallest tells in the Balkans but, nonetheless, set the scene for local inter-household competition in populations of 50-100 people in a manner rarely seen in the settlement of our region (think the 10-room house at Poljanitsa level V). The attractions of the focal layout even to the most linear of designers of social space can be seen by the many examples, from Phase 2 onwards, of linear planning transformed into hybrid plans through the addition of foci.

If it was during Phase 2 that most of the basic modules of settlement layout were created, Phases 3 and 4 village communities were responsible for the consolidation of focal, concentric planning and linear house rows into everyday social space, as well as for developing the many hybrid forms that made the settlements of these Phases so distinctive in European prehistory. The emergence and subsequent consolidation of neighbourhoods into a key element of settlement structure dated to these Phases. This development created the potential for households in a neighbourhood to form their own ‘local’ identity in counterpoint to both the household and the entire community. At this stage, we can perhaps envisage ‘neighbourhood’ land and flocks as well as ‘household’ herds and land. The emergence of neighbourhoods was also a response to the increasing scalar stress on ever larger settlements (Johnson 1982). We may view neighbourhoods on large settlements as the social equivalent of small tell communities in terms of size, complexity and, importantly, access to the ancestors.

The 5th millennium BC was, in many ways, the heyday of European village growth until the Medieval period. The further West and North you looked, and the later the period in prehistory, the fewer the villages that were created as the core element of settlement practices (Chapman 1989). It was not until the 4th millennium BC Trypillia mega-sites that all of the elements by which Doxiadis (1968) characterised settlement could be identified on a single site – the homogenous part (the fields) in the central unbuilt core, the central part (the built-up area) in the concentric rings and inner radial streets, the circulatory part (network of roads or paths) between the circuits and the special parts, identified as Assembly Houses. The Trypillia mega-sites of Phase 5 in Ukraine constituted the first flowerings of a tradition of living in low-density cities that was not re-discovered in Mediterranean Europe until the Minoan Bronze Age, a millennium later, or in temperate Europe until the Late Iron Age, more than 3,000 years later. But it was also in the 4th millennium BC in the Central and Western Balkans and the Carpathian Basin that the most dispersed network of landscape deposit sites was created at the opposite pole on the nucleation – dispersion continuum.

Chapter 7

The mortuary zone

> "Every body was a repository of secrets …" (Lib Wright, in Emma Donoghue (2016) *The Wonder*).

Introduction

In Chapter 6, we discussed Tuan's intriguing question 'What time is this place?' in the settlement context. Here, we continue the discussion but in the mortuary domain at the Phase 3 hamlet of Kisköre – Damm[90] near the River Tisza (Korek 1989; Chapman 2000). The inhabitants of Kisköre had no external cemetery but used the settlement space for the burials of household members in lines of graves linked to each of the six houses. This raised the possibility of defining the sequence of burials, on the assumption that the burial closest to the house was the first burial (Chapman 2000, Chapter 3). We shall focus here on two successive burials in Line 7: graves 34 and 32 (Chapman 2000, Fig. 3) (here Fig. 7.1).

When a mature female living in House D died at the age of about 50 years, she was buried just North of her house in an unusual grave (Grave 34) (Fig. 7.1e), sloping from one end to the other. She was buried as a complete corpse, face up, in an extended position, with her head to the SE. The mourners dressed her in a double-row necklace of limestone beads with two perforated red deer canine pendants, placing a joint of pork and two vessels in her grave. The time of the place of grave 34 was the present but a present shaped by earlier funerary traditions framing the choice of costumes and grave goods for mature females. When, some time later[91], a mature male from the same house died at the age of c. 60 years, he was placed in a grave that shared the same unusual feature as Grave 34 – sloping from one end to the other – but was also dug in an unusual trapezoidal shape. The male was buried as a complete corpse in the same position as the female and was dressed in a head-dress of limestone beads, with red ochre sprinkled on his head. While the lack of overlap in the grave goods indicated contrastive gender identities, the four points of similarity with the adult female who died earlier were the standard form of complete body in extended position, the sloping grave and the use of limestone beads. The time of the place of Grave 32 (Fig. 7.1d) was also the present but it was linked by its location to the preceding burial within the household time-scale, while a longer time-perspective reflected elements of group mortuary tradition. At Kisköre-Damm, only one pair of successive burials was identical[92]. Those living and dying at Kisköre had materialised a multivariate chronological calculus to show the complex relations existing between the dead. The times of their deaths were carefully stored in the ground and in the cultural memory of the survivors.

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90 As yet, there are no ^{14}C dates for the Kisköre complex.

91 It should be emphasized that we do not know the time interval between these two burials but we believe that Grave 34 was earlier than Grave 32 because it lay closer to House D (Chapman 2000).

92 In Group 5, two adjacent burials shared exactly the same mortuary characteristics.

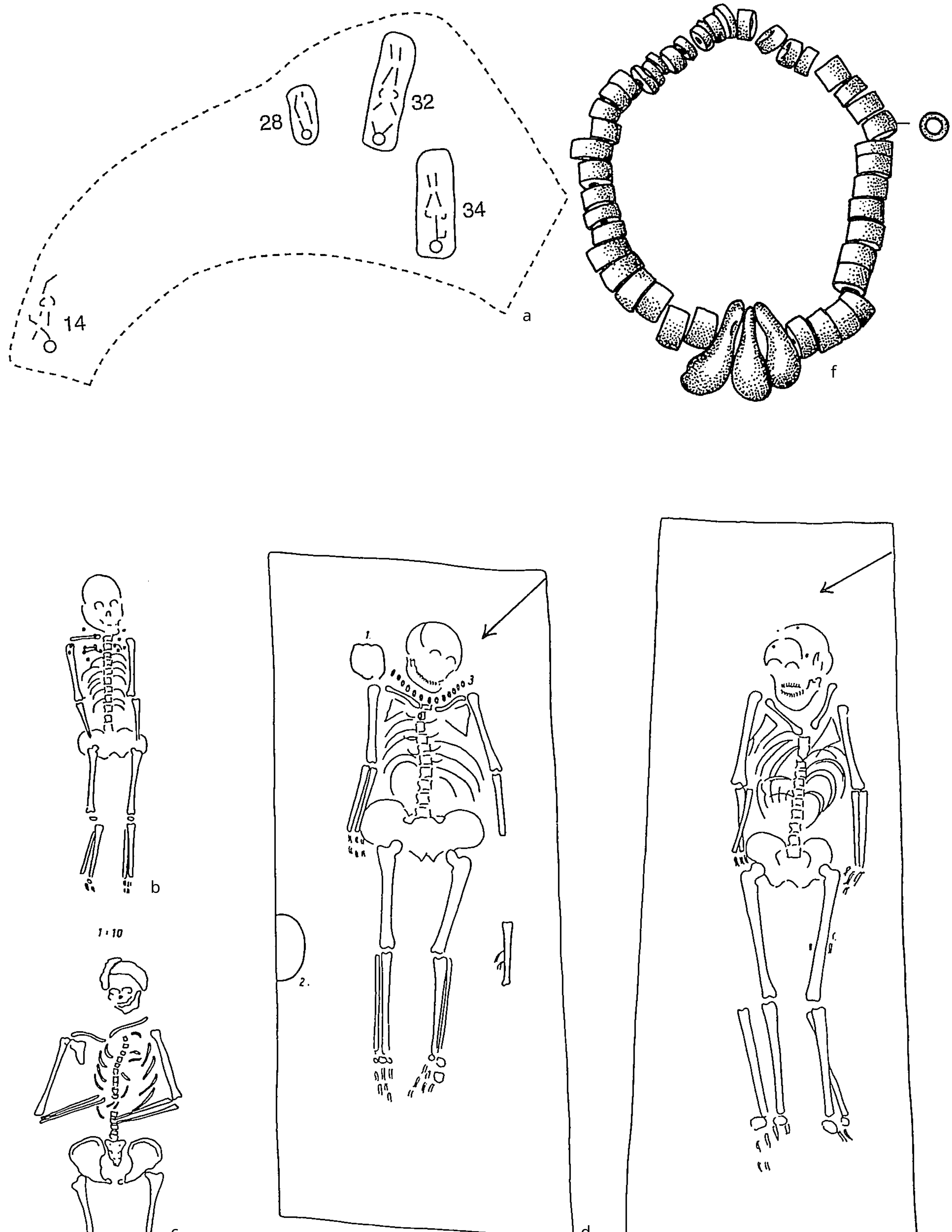
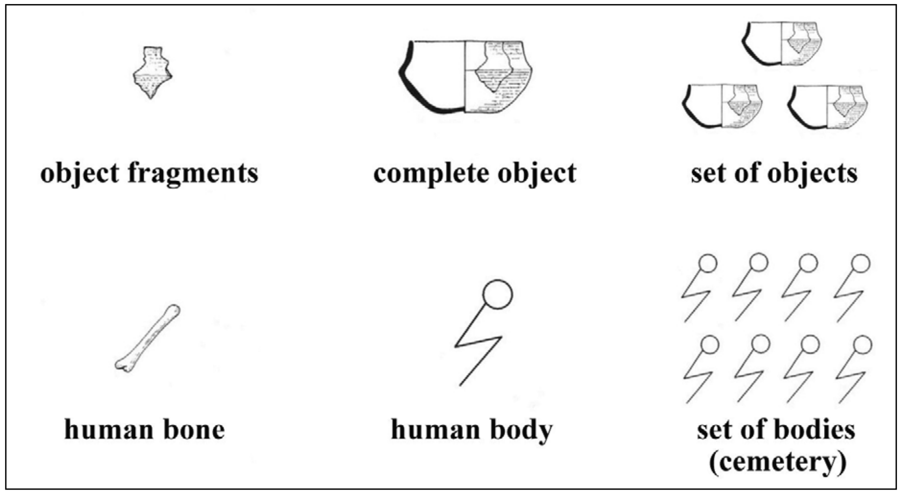


Figure 7.1. (a) Grave line 7, Phase 3 Tisza settlement of Kisköre-Damm, with (b) grave 14; (c) grave 28; (d) grave 32; (e) grave 34: length of group – 18m (source: Chapman 2000, Fig. 3; Korek 1989, Taf. 28; (f) grave goods from Grave 9 (source: Korek 1989, Taf. 35/3: copyright – Nemzeti Múzeum, Budapest) (L. Woodard).

Figure 7.2. (top) Stages of agglomeration for objects and human bodies (source: author); (bottom) 'Cenotaph' burial, Grave 4, Varna I cemetery (source: Ivanov 1988, Abb. 24).



Tuan's question 'what time is this place?' stimulates us to think about the way in which past and present came together to create a new social practice in a new place. The third burial in a line may appear to resemble earlier interments but repetition and improvisation made each act new. The Kisköre study showed that, just as each pair of burials showed differences between two (in)dividuals, so each line of burials showed distinctive practices in comparison with the overall settlement 'norm' – the tension between the 'local' and the 'global'. Each grave claimed both its individuality and its dividuality: the former as a self-defining uniqueness of place (8 m North of the house, 2 m West of the previous burial) and time (15 years after the birth of the hamlet, 3 months after the last death), the latter the relationship of each grave to all other graves through a calculus of burial attributes. It is important to note that this complex, relational calculus worked within the 'global' picture of hamlet-wide traditions. The same kind of tension between individuality and dividuality, as well as between (in)dividuals and the communal, can be seen in extramural cemeteries – even more so when one settlement was attached to two cemeteries (see below, p. 259). But the Kisköre intra-mural burials exemplify only one form of burial in our study region. We now turn to a broader consideration of Balkan burial.

The absent, the bone, the body and the cemetery

In an earlier study of the fragmentation of human bodies, I suggested that the tripartite division of object parts, objects and sets of objects was precisely paralleled in the agglomeration of human remains – individual bones, individual bodies and cemeteries (or sets of bodies) (Chapman 2000a, Fig. 1.4) (here Fig. 7.2a). I shall use this scheme to organize the discussion of the mortuary arena in Old Europe but extend it by a consideration of an even more basic stage – the absence of human bones altogether. I shall therefore consider the evidence for each of these four practices in chronological order, before summarizing the general picture. One pointer to the complexity of these sequences is that we often find the use of different mortuary practices in the same Phase and even, sometimes, at the same sites.

The absent

If Jon Davies' (1994) calculation is correct that 100 billion humans died from 10,000 BC until the AD 20th century, it may be estimated that some 1-2 billion of the deceased are the proper concern of prehistorians. Museum curators charged with the storage of cultural property must be greatly relieved that only a tiny fraction of this total of skeletal remains has ever passed into their care. For prehistorians, however, this shortfall poses one of the most intriguing problems of our discipline – namely why so few remained from so many. There were few other places in prehistoric Europe with so many absent bodies as the Balkans in the Neolithic and Copper Age[93]. The absence of burial monuments until the latest stages of the Copper Age – the mortuary barrows (Russian '*kurgan*') – is a striking contrast to the Neolithic of North-West Europe. Three questions arise from these circumstances: (1) how have taphonomic issues affected the survival of human bone remains?; (2) why would persons not be buried?; and (3) what happened to the large number of persons with no 'permanent' burial?

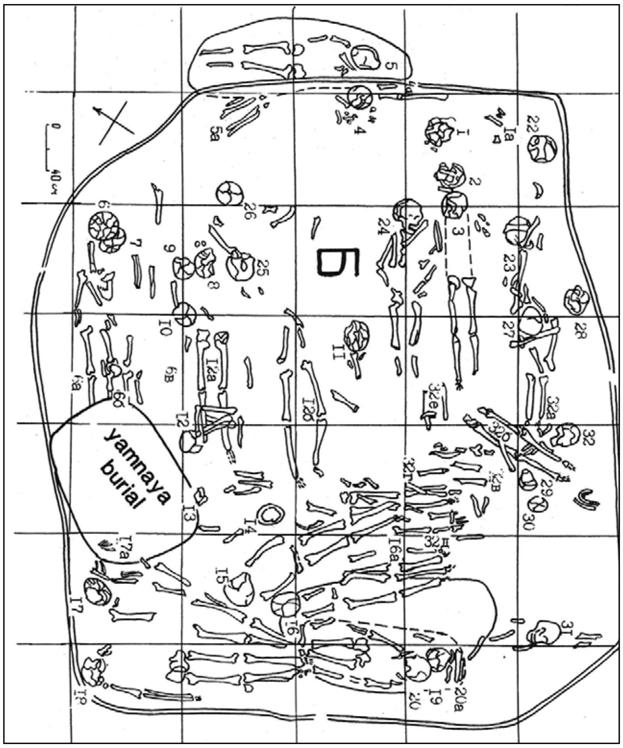
The preservation of human remains is a vital question, especially in an area such as Old Europe with great geological and pedological variability. Soil conditions tending towards acidity tend to dissolve bones (e.g., LBK sites on the acid loess-derived soils (Kibblewhite et al. 2015). The destruction of, or damage to, human burials through disturbance by later activities, mortuary or otherwise, is well attested (e.g., the Cernica cemetery, with 9% of graves destroyed and 34% damaged: Comşa & Cantacuzino 2001). Moreover, there is also the bias against the preservation of skeletal remains from smaller or more gracile bodies, especially children but also women (Saunders & Barrans 1999). Non-survival for these reasons will have affected a variable proportion of burials – perhaps as high as 20%.

Any attempt to answer the question as why only some societies were concerned with the preservation of the bones or bodies of the recent dead (Chapman 1994; Anders & Nagy 2007) requires cultural and historical grounding. If death creates an opportunity for the re-negotiation of the social reproduction of the group by making statements about its cultural core and most significant relationships, we may expect a close relationship between attitudes to the person, the mode of social reproduction and the form of mortuary rites. In those communities emphasising the person as distinct from society, deaths are more likely to be memorialized and the achievements of individuals commemorated, whereas, in societies where personal identities were more grounded in the communal, the dead may have passed into a generalized dreamworld, where personal memorials were unnecessary (e.g., for many hunter-gatherers: Criado Boado 1989). This may make the absence of burial tantamount to forgetting.

The third, and even more difficult, question was what happened to those not given 'permanent' burial. It is reasonable to assume that post-depositional environmental change has destroyed or covered a certain proportion of 'permanent' burials. Some have argued that digging a grave in a loessic substratum would not have been possible in winter. Ethnographic studies of burial show that many communities developed often complex, multi-stage mortuary practices which left no traces behind as 'permanent' burials (Hertz 1907; *e.g.* the high-energy-consuming Cree tree-burial: Bartel 1982). Equally, burials involving the liminal stage of floating the body down a river would have been left no permanent remains, yet may well have been commonplace for Danube- or Tisza-bank communities. A third mortuary practice was cremation in which the bones and ashes were disposed or exposed rather than concentrated in a container (Lazăr & Florea 2012); cremation burials are very scarce in Old Europe (Gligor & Bacueţ-Crişan 2014). The principle of enchainment illustrates the metaphorical disposal of people through the burning-down of houses or the deposition of objects without keeping bodily remains.

The early stages of these modes of disposal of the newly-dead could have been accompanied by vivid performances and elaborate rituals, sometimes involving large quantities of material culture. Yet, in the later stages, the metaphor of burning a house instead of cremating a person, or depositing a hoard of copper axes instead of

93 Other regions claiming precedence in the absence of mortuary remains include Iron Age southern Britain (Atkinson 1968) and Holland (van der Velde 1979).



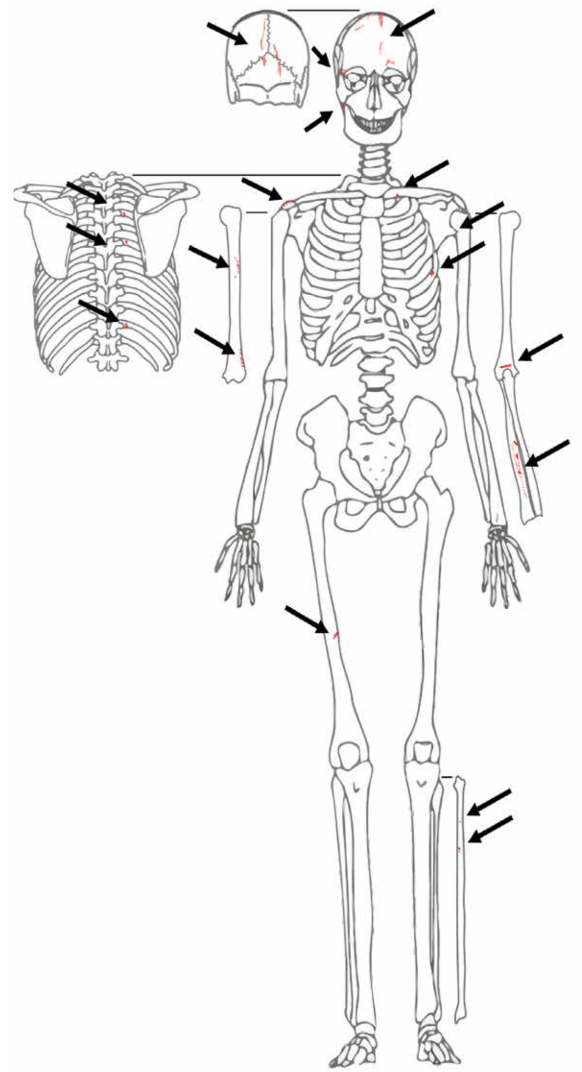


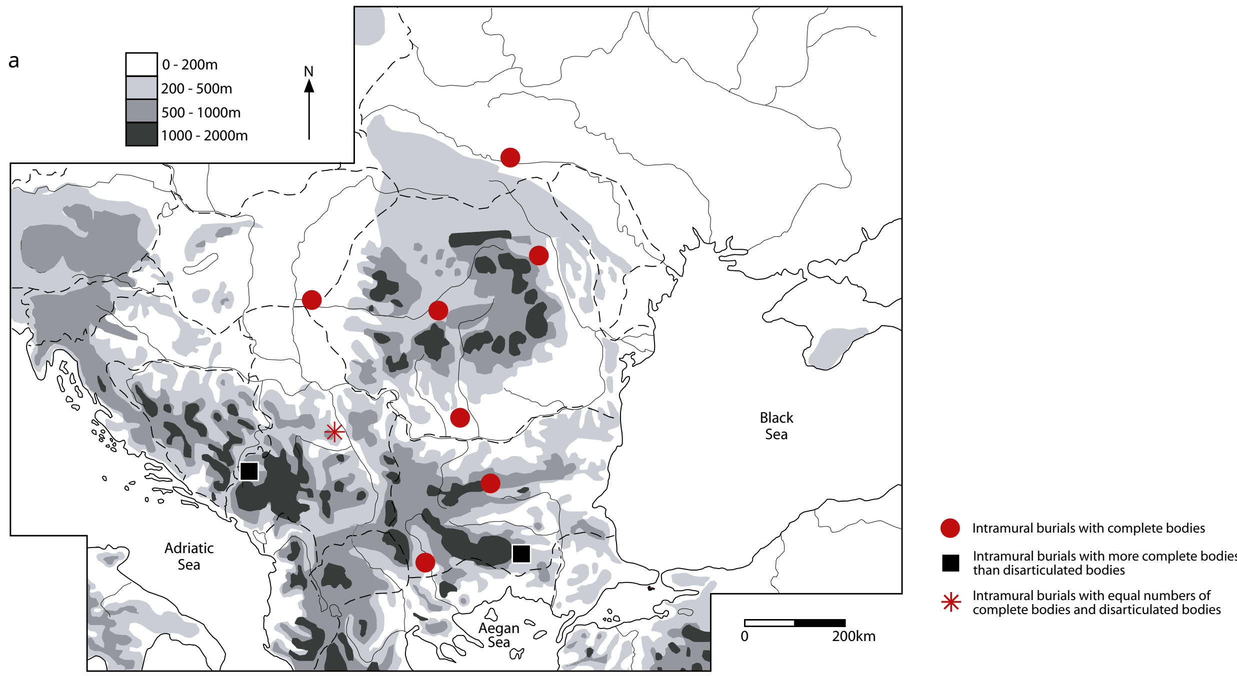
Figure 7.3. (left) Dnieper Rapids collective burial in Grave Pit Б, Yasinovatka, including disarticulation and addition of bones to skeletons (source: Telegin & Potekhina 1987, Fig. 24); (right) summary of cut-marks on human remains, Iron Gates Mesolithic (source: Wallduck 2013, Fig. 5.9).

burying a body, placed the missing body at the centre of the ritual. In a discussion of figurine fragmentation, Bailey (2007) observed how the missing part, and not the fragments that were present, became the centre of the psychological drama – and perhaps this was also true of the 'missing body'. In this reading, non-burial was not a question of forgetting but, rather, the decision to remove permanently any possible access to ancestral bones – to create a different set of relationships between the bodies of the living, the corpse of the newly-dead, the bones of the ancestors and the living landscape. An example of this practice concerns the so-called 'cenotaph' burials, found at Varna I and other cemeteries, in which grave goods were laid out *as if* the body was present but the body was in fact absent (Fig. 7.2b).

Just as repeated living on a tell conveyed a sense of community solidarity, so the maintenance of a cemetery showed the enduring strength of the lineage. But did the same apply to persons? Was there always a significant difference between those persons whose corpse was fully incorporated into an ancestral zone accessible to locals and those others whose body was sent on a raft down the Tisza, never to return?

The selection of persons given 'permanent' disposal may have been a strategic decision by the survivors at the time of death: the family wished to make a statement about their lost grandmother, the lineage strove to impress other corporate groups at the funeral of a prominent member, the community felt impelled to commemorate the death of the old lady of Tărtăria (see above, pp. 99-102). If correct, this line of reasoning leads to the general principle of 'permanent' burial for certain strategically important persons and other mortuary rites for others of differing value to the community – perhaps no more than one in ten of the total population. However, an alternative way to consider non-burial vs. burial is by considering different aspects of personhood as associated with different, or the absence of, burial practices.

a



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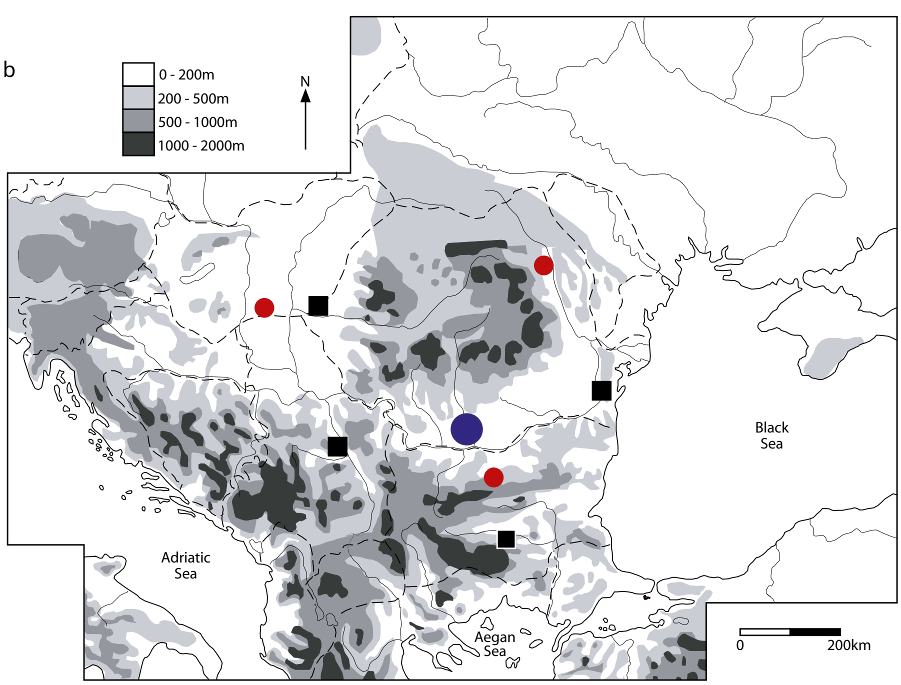


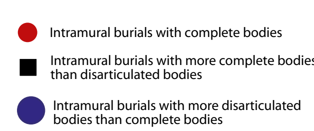
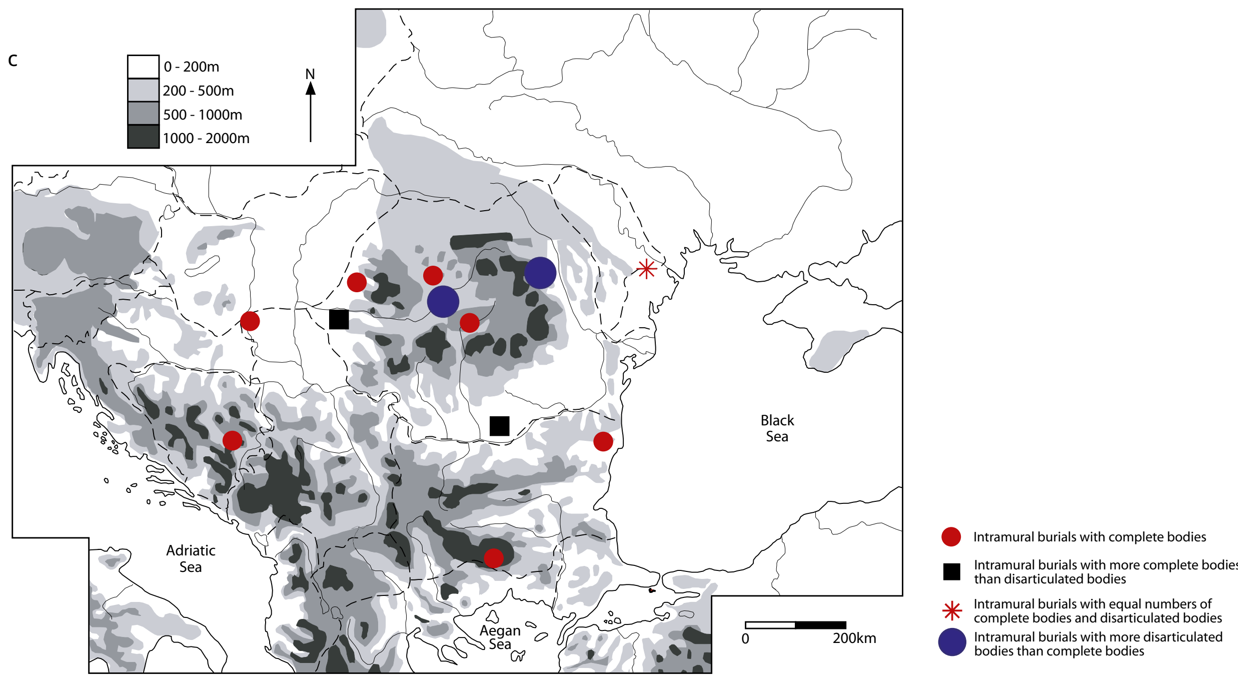


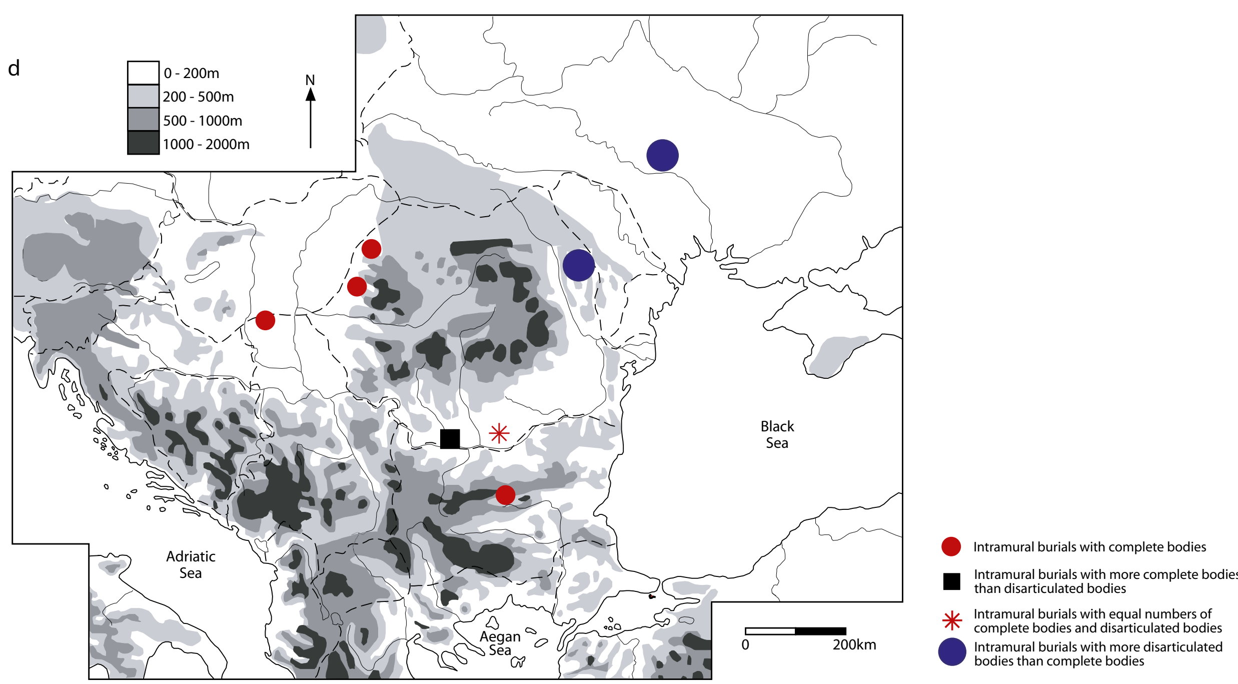
Figure 7.4. Distribution of principal sites with disarticulated human remains: (a) Phase 2; (b) Phase 3; (c) Phase 4; (d) Phase 5 (source: L. Woodard redrawn from Chapman et al. 2014c, Figs. 8-11).

Disarticulated bones

Although most of the major syntheses of Balkan mortuary data have focused on complete individual burials (e.g., Chapman 1983; Lichter 2002; Gligor 2014; Lazăr 2012; Kogălniceanu 2012), recently more attention has been focused on deposition of parts of skeletons, whether individual bones or groups of bones (Wallduck 2013; Chapman 2010a).

The increasing tendency in later European prehistory towards the burial of complete bodies has been interpreted in terms of the rise of the 'individual' in prehistory (Treherne 1995; Harrison & Heyd 2007; cf. criticisms of this approach by C. Fowler 2004). However, many ethnographic cases of such 'individual' burials present alternative readings of the single, complete body (Hirsch 1990; Strathern, A. 1980; Strathern, A. & Stewart 1988; Mosko 1992). Thus, complete body burial defines





the proper way to contain the many dividual parts of a person's multiple identity as much as emphasising the difference between one person and others. Moreover, the links between a person buried in complete form and all those other persons who partook of their identity and contributed to their personhood are frequently symbolised through the practice of fragmentation, whereby only part of an object (or ornament set) is buried with the corpse but other parts of the same object (or ornament set) are curated outside of the grave (Chapman 2000a: 2010a; Jones, A. 2002; Woodward 2002).

If we can agree that the separate burial of an individual corpse did not necessarily indicate the prevalence of an ideology of individuality, we should be able to accept its converse, viz. that partial burials were not always and necessarily concerned with the denial of *in*-dividual identity! The material world existed alongside, and inter-digitating with, these forms of distributed personhood, whose logic relied on the links of a person with all other persons, places and objects. It is these dividual links that made the person as much as the contribution of the individual body (Strathern, M. 1988).

The mortuary domain in Old Europe (c. 6000-2000 BC) has recently been summarised in exemplary fashion (Borić 2015). There was a long-term predominance of complete individual inhumations in their own graves, termed 'normal' burials (Chapman 2010a). Collective burials were far less common, with concentrations in particular times and places. Other forms of burial practice, here termed 'deviant' burials, occurred throughout Old Europe, comprising over 20 percent of bodies in Bulgarian Chalcolithic cemeteries and c. 10 percent in other contexts (see below, pp. 246-9). The commonest form of deviant burial identified is the 'fragmentation burial', where only part of the body was placed in an identifiable mortuary context. An alternative mortuary path was burial of a complete body, followed by disinterment and subsequent re-burial of disarticulated bones, often in a pit or the culture level (p.c., R. Kogălniceanu, 2016). Needless to say, differential bone preservation requires a careful analysis before such interpretations can be offered.

Recent archaeo-thanatological research by Rosalind Wallduck (2013) on mortuary remains from the Iron Gates sites of Padina, Lepenski Vir, Vlasac and Hajdučka Vodenica showed that up to 16% of burials were disarticulated, with up to 23% more graves containing both complete skeletons and disarticulated human bones, often with a predominance of crania and long bones. Cut-marks on the human remains showed that, although excarnation was not documented (*contra* Srejović 1972), the flesh was removed either with a slicing and pulling action or by 'scalping' (*contra* Boroneanţ and Bonsall 2012, 49) (Fig. 7.3). The Danube Gorge Mesolithic-Neolithic communities showed a great variety of spatially and temporally extended ways in dealing with the dead rather than a single highly normative funerary practice, with different manipulations of bodies throughout different stages in the process of decay. Both 'Mesolithic' and 'Neolithic' ideas of the body as divisible, multifaceted, and experiential were embedded within funerary practices in the Danube Gorges (Wallduck 2013).

Another focus of intensive Mesolithic – Neolithic mortuary activity was the Dnieper Rapids area in Eastern Ukraine (Telegin & Potekhina 1987). The absence of a detailed taphonomic analysis and poor bone preservation impedes the reconstruction of multi-stage burial practices in the mostly Phase 3 cemeteries (Zvelebil & Lillee 2000). However, Telegin & Potekhina's (1987, 25-104) detailed descriptions of the burials reveal an obvious pattern of secondary burial of body parts, often the skull or long bones, in individual graves, group graves and large collective grave pits. For example, a total of 40 secondary

	Human bones	Animal bones	Unidentified	Total
Burnt	1,300	712	1,602	3,614
Unburnt	4.209	513	997	5,719
Total	**5,509**	**1,225**	**2,599**	**9,333**

Table 7.1. Bone counts from three main concentrations (Sqs. 5, 13 and 15), Alba Iulia – Lumea Nouă burial complex (source: Gligor & McLeod 2014).

skull burials is reported from Yasinovatka (Telegin & Potekhina 1987, 48-67) (Fig. 7.3), while the attachment of cervical vertebrae to skulls at Lysaya Gora shows that the head had parted company from the body before the decomposition of the flesh (Telegin & Potekhina 1987, 109). The Dnieper Rapids human bone assemblages can only benefit from an archaeo-thanatological analysis of the kind used by Wallduck (2013) for the Iron Gates Gorge.

A general survey of intramural mortuary practices at the level of 'cultural groups' in Old Europe shows great variation in the significance of disarticulated remains and its combination with intramural burial (Chapman et al. 2014c: here Fig. 7.4). In Phase 2 (Fig. 7.4a), there was an overall predominance of intramural burial of complete, articulated bodies, with only the Starčevo group showing comparable frequencies of articulated complete and disarticulated partial burials (Leković 1985; Minichreiter 1998-9). The mortuary data from the earlier part of Phase 3 (Fig. 7.4b) shows a similar pattern of the predominance of the burial of complete, articulated bodies but there was an increase in the incidence of disarticulated human remains. For the first time, there were groups where the frequency of deposition of disarticulated human remains exceeded that of complete body burial (the Dudeşti and Vădastra groups of Southern Romania: Lazăr 2012; perhaps the Hamangia-group Cernavodă cemetery: Kogălniceanu 2014). In the later part of Phase 3 (Fig. 7.4b), despite the potential for greater mortuary differentiation amidst differentiated cultural groupings, the same overall preference for the burial of complete bodies continued, with exceptions occurring in the North-East Balkans. This pattern became stronger in Phase 4 (Fig. 7.4c), spreading to the Lower Danube basin, with Frînculeasa (2011) identifying disarticulated human bone deposition at over 120 Gumelniţa settlements. In Phase 5, the differences between the Western and Eastern parts of Old Europe became even more pronounced (Fig. 7.4d), with disarticulated bone deposition in the Eastern part (e.g., the Trypillia BII Verteba cult cave, near Bilcze Złote, with some 120 fragments of human bone and a group of 16 skulls: Ledogar et al. 2019) and the normal inhumation of complete articulated bodies in the large Baden cemeteries such as Budakalász and Alsónémedi in the West. In the later stages of the Late Copper Age, Hungarian barrows

Figure 7.5. The mass of disarticulated human bones deposited at the Phase 3 site of Alba Iulia – Lumea Nouă (source: Gligor 2009, Planşa CCIV/1 & CCIX/2).

contained few deviant burials, in contrast to the Bulgarian barrow cemetery of Goran-Slatina, where almost 40% of the burials were deviant, with removals from, as well as additions to, articulated bodies and a sole fragmentary body (Kitov et al. 1991; Chapman 2010a).

These results can be summarized in three main points. There were relatively few cultural groups in the Neolithic and Chalcolithic where disarticulated remains were more frequently recorded than articulated burials. No clear patterning emerged at all in Phase 2 and early Phase 3. From 5000 BC onwards, there was greater differentiation of intra-mural burial practices, with geographical clustering of a preference for disarticulated burials over intramural burial of complete skeletons in Romania, Moldova and Ukraine. This distribution reveals a stable, cross-cultural pattern forming the cultural backdrop to the most extraordinary case of disarticulated burials yet known in the Balkans.

The multi-period, 40ha, flat Neolithic and Copper Age settlement of Alba Iulia-Lumea Nouă (Gligor 2009, 235-8) is the site of the largest known accumulation of primarily disarticulated human bone in Old Europe (Gligor 2009, Planşa CCIII – CCXI; Gligor & McLeod 2014, 2015; Lundberg & Gligor 2015; Gligor et al. 2018) (here Fig. 7.5). Dated to the 46th and 45th centuries BC, the mortuary area lay in the centre of the site inside a double-ditched enclosure. The bones were found in open areas and pits. In one pit, there was strong burning at the base and sides, leading to secondary burning of the bones. Mixed disarticulated human bones and almost complete bodies had been deposited in a second pit dug into burnt house remains (Lundberg & Gligor 2015). The bone deposits comprised a total of almost ten thousand bones – 1,225 animal bones, 5,509 human bones and the remainder unidentifiable (Gligor & McLeod 2014) (here Table 7.1). Burning was apparent on almost a quarter of the human bones, and almost 60% of the animal bones. Of the human bones, cranial fragments were 2 ½ times more frequent than ribs and 15 times more common than hand/foot bones. McLeod has estimated the minimum number of individuals at 101, with a descending frequency of adults, sub-adults, children and mature individuals (Gligor & McLeod 2014). The pathologies and traumas in the human bones suggested a population in moderate health, over a dozen of whom had suffered blunt force trauma to the skull. Only one object had been deposited with the human bones as a grave good (Lundberg & Gligor 2015, 77). These deposits indicate a deliberate emphasis on *both* the collective *and* the dividual, since the missing parts of the bodies must have been retained elsewhere[94]. The current interpretation focusses on a large-scale 'event', transporting many human bones from the sites of their primary burial to a central location for secondary burial. These events would have been extraordinary performances, involving large numbers of people, with lengthy processions carrying the bones of the newly-dead from their 'home burial' sites, the sacrifice and cooking of many animals and the climax of a ceremony of human bone deposition in the centre of the double-ditched enclosure at Lumea Nouă. These performances surely betokened a new form of corporate action, perhaps leading to the formation of a new Alba Iulia – based super-lineage, although there is no evidence from Lumea Nouă or any other local settlement in the Middle Mureş valley for any follow-up developments.

Summary of disarticulated bone burial

The apparently straightforward question of how to dispose of a deceased person in a single grave raises the possibility of a multi-stage, targeted sequence of practices. This multi-stage sequence led to enchainment of a larger group of persons and a wider range of places over a longer time-period than complete-body burial. It is now axiomatic that disarticulated mortuary practices imply a more complex suite of social relations than a 'straightforward' 'normal' inhumation (*contra* Chapman 2000a: 146-7).

The concept of dividual personhood is especially important in the interpretation of disarticulated human bone remains but is also relevant to other burial modes. While articulated burials can no longer automatically be taken to emphasise the individuality of a person, disarticulated bones referred preferentially to 'dividual' personhood, in which bone dispersion symbolized dispersed social relationships. The ancestral bones could have been used to presence the deceased in ceremonies, at remote locations in the landscape, and during inter-group exchanges through the principle of *pars pro toto*[95]. Wallduck expresses this neatly (Chapman et al. 2014c, 22): "ancestors (who) were mobile in death".

Complete bodies

The long-term predominance of 'normal' burials – viz., individual inhumations of single complete bodies[96] – may be contrasted with the 10% – 20% of 'non-normative' burials in Old Europe. Given that 'we are all dividuals'[97], it is perhaps surprising that there is a widespread form of 'normal' burial at all! Five forms of these 'deviant' burials are known, with fragmentation burial the commonest and the other four forms rare (additional body parts, the

94 Seven complete, articulated burials have been placed in one ditch at Alba Iulia (Gligor et al., 2018).

95 The principle of synecdoche – the part standing for the whole.

96 John Robb (2007: 61-3) has identified a similar form of standard burial in the Italian Neolithic – the single inhumation in a pit with no grave goods – while noting that the actual burial practice involved local re-workings of this general rule.

97 With apologies to Monty Python's 'Life of Brian'.

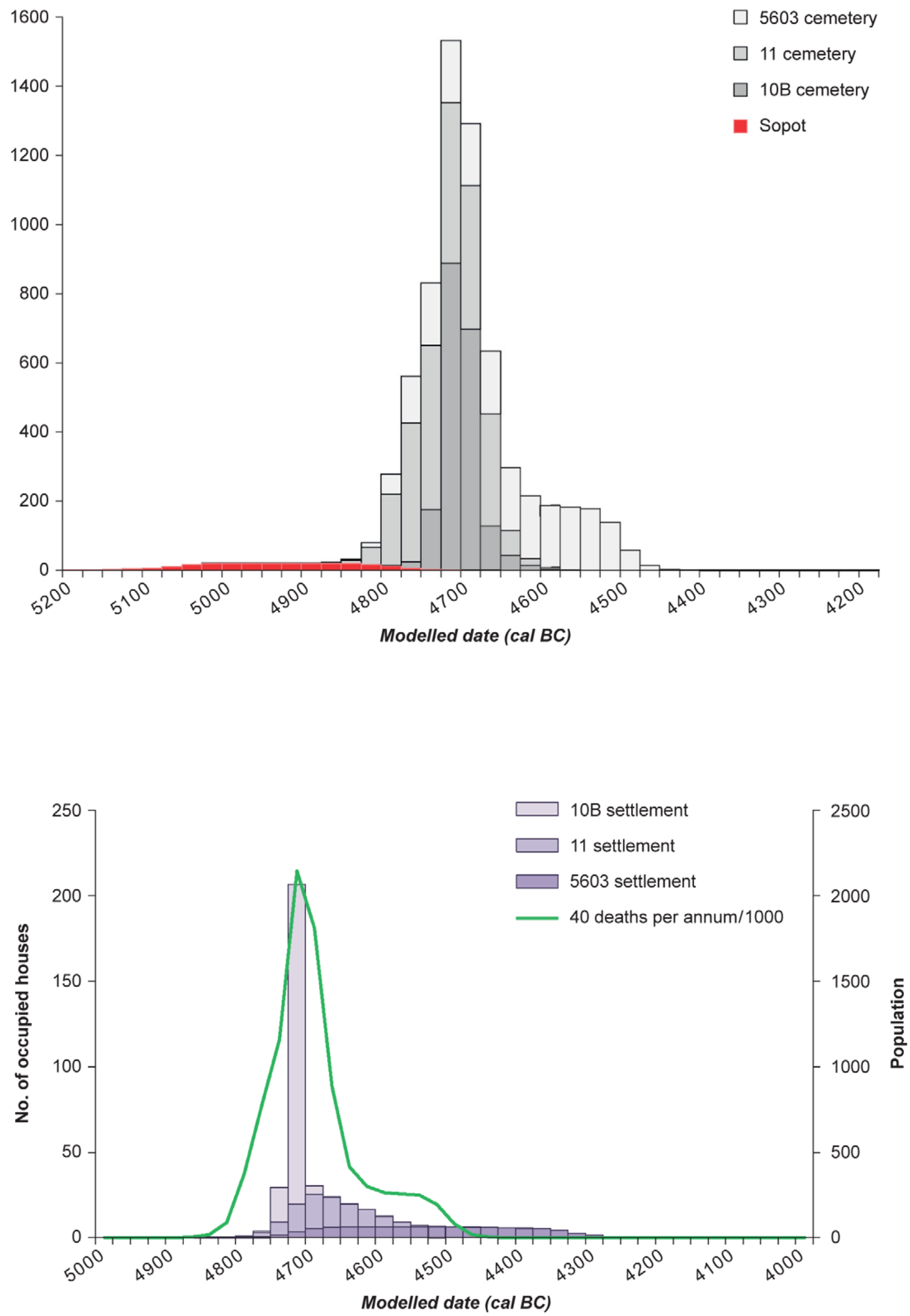


Figure 7.6. Demographic models for Phase 3 Lengyel settlement of Alsónyék: (top) estimated number of adult deaths; (bottom) estimated number of inhabited houses by subsite (Bánffy et al. 2016, Figs. 8 & 11: copyright – Römisch-Germanische Kommission) (L. Woodard).

Figure 7.7. deviant burials by neighbourhood burial group, Zengővárkony (source: Chapman 2010a, Fig. 4.19).

removal of minor body parts from an otherwise complete skeleton, the re-combination of more than one body as a hybrid burial and the substitution of objects or other bones for human bones: Chapman 2010a). Why was it that 'normal' burial was accepted as the commonest mortuary practice in Old Europe? I begin the study of complete body burial with its relation to house-burning.

House-burning and intramural burial

The study of complete bodies is best considered in relation to another frequent practice in Balkan communities – the deliberate burning of dwelling houses to terminate the life of the house – an act which Tringham (2005, 107) evocatively terms 'domicide' or 'domithanasia'. Two questions then arise: 'to what extent was house-burning always related to a mortuary act?; and were there other, non-mortuary kinds of ritual meaning materialized in house-burning?' Ruth Tringham (2005, 105) has extended Kruts' (2003) notion of the ritual burning of dwelling houses through the idea that, after the Early Neolithic, the burning of houses, without the deposition of the dead person in the house, and intra-mural burials on dwelling sites were potentially mutually exclusive practices. There are five implications of Tringham's striking idea. First, house-burning and intra-mural burial were, in some sense, structural equivalents of each other. Secondly, one sense of this structural equivalence is that house-burning materialized the death of an important household or community member, replacing the performance of an intra-mural burial by the more spectacular performance of a house-burning. Thirdly, the absence of the body of the deceased household leader from both the house and the site meant yet the minimum of a third extra-mural place linked to house and settlement in the sequence of mortuary practices. Fourthly, the death of a household or community leader in groups who practiced house-burning was celebrated by a long and complex, multi-stage sequence of mortuary practices. A fifth, more remote possibility is that the removal of the deceased's body from the house and the settlement to a place outside the settlement may have been one contributory factor to the emergence of extra-mural cemeteries. These implications make the assumption that all house-burning was a mortuary practice – a rather questionable assumption. The investigation of the co-variation between house-burning and burial practices is a good way to test the idea of structural equivalence (Chapman 2015).

Four important points emerge about Balkan burial practices. In support of Tringham's idea of mutual exclusivity, there were very few groups in which houses were burned but in which no intramural burials were found. There is an intermediate number of cases in which intra-mural burial is found on sites where there has been no house-burning, also supporting mutual exclusivity. However, this idea is contradicted by the presence of both house-burning and intra-mural burials on settlements in the vast majority of cultural groups, especially on tells. When intra-mural burial co-existed with house-burning, the complete corpse was the usual subject of mortuary rites. The final form of distribution – the association of extra-mural cemeteries linked to dwelling sites where burnt houses occurred – is neutral in respect of the Tringham hypothesis. These data do not prove that house-burning was consistently associated with burial practices but they do inform us on the degree of association between house-burning and intra-mural burial. Thus, Tringham's notion of the mutual exclusivity of intra-mural burial and house-burning is not fully supported by these data, especially on the Phase 3 tells of the Carpathian Basin and the Phase 4 tells of the East Balkans.

The spatial distribution of burial

The spatial distribution of intra-mural burials can be assessed according to their proximity to burials. Four spatial modes could be distinguished – individual burials separate from dwellings, household clusters with burials close to houses, single descent groups on settlements and two or more descent groups on settlements (Chapman 1983: 1994[98]).

Groups of burials in an unoccupied part of the settlement are known from all periods but rarely predominate over dispersed burial. The vast majority of Phase 2 intra-mural burials were placed individually, with no obvious relationship to coeval dwellings. Two distinctive Phase 2 collective burials have been found in the Starčevo group – the 'Ossuary' at Vinča – Belo Brdo (Schwidetsky 1971-2) and the collective grave at Velešnica (Vasić, R. 1986; Živanović 1986). By contrast, the Ajmana burial group of 17 graves, mostly with disarticulated, incomplete burials, lay outside the settlement, and was strictly an 'extra-mural' burial group (Radosavljević-Krunić 1986; Chapman 2000a, 141-142).

In early Phase 3, there was a varied distribution of 'normal' intra-mural burials on flat or tell sites (e.g., Tiszavasvári – Déak halom: Kurucz 1994) but mortuary practice became more structured after 5000 BC, especially in the Hungarian Late Neolithic (e.g., burials in household clusters at the Csőszhalom flat site: Raczky et al. 2007; grave lines related to houses at Kisköre-Damm: Korek 1960; see above, pp. 237-9). A different principle relating settlement and burial was developed in Phase 3 in the Lengyel group at Zengővárkóny and Alsónyék, involving the juxtaposition of burial groups with house clusters across the entire site (Dombay 1939: 1960; Osztás et al. 2012) (Figs. 7.6-7.7) (see below, pp. 261-2). There are many

98 Cf. a similar spatial – morphological typology in Băčvarov (2003).

examples of descent groups of burials on otherwise empty spaces on tells (e.g., the Late Vinča tell of Gomolava: Borić 1996: 2009) (here Fig. 7.8; see below, p. 250). A particularly 'deviant' burial concerns the collective burial at the Lengyel site of Esztergályhorváti, interpreted as a mass war-grave, with AMS dates for six bodies showing burial at the same time (Makkay 2000; Barna 2015).

In Phase 4, settlements with scattered intra-mural burials consistently outnumbered those with groups of burials, whether on tells or on flat sites. Groups of burials on tells included the Gumelniţa burials at Tell Ruse (Georgiev & Angelov 1952, 1957; Chernakov 2010), while Tiszapolgár settlements with grouped burials occurred on flat sites such as Hódmezővásárhely – Kotacpart II (Bognár-Kutzián 1972). The expansion of cemetery formation in Phase 5 coincided with a steep decline in intra-mural burials, especially grouped burials.

There are two sites where detailed analysis of groups or lines of intra-mural burials have been conducted – Kisköre – Damm, in Hungary and Gomolava tell, in Serbia. At neither site can the burials be described as a cemetery, since houses lay only metres away from some of the burials (Brukner 1988, Abb. III; cf. Borić 1996, Fig. 4; Chapman 2000).

The discussion of two grave lines at Kisköre – Damm (see above, pp. 237-40; Chapman 2000) gives the impression of the 'relative' autonomy of decision-making for household lines. The eight global 'rules' defined for the total sample emphasized fluid, cross-cutting categorization rather than binary distinctions. However, the analysis of all of the household lines reinforces local autonomy, showing the tension between the 'local' identities of the newly-dead and the overall ('global') group identity.

The detailed analysis of the group of intra-mural burials on tell Gomolava (Borić 1996) (here Fig. 7.8) indicated a strong contrast between the interment of adult males and children with copper, polished stone and lithic tools over adults with no grave goods (Borić 1996, Fig. 11; Jovanović, M. 2015). The discovery of copper and bone beads with infants indicates not inherited wealth but the assumption of parental status until adolescence (Chapman, R. W. 1981) or, perhaps, the indivisibility of an infant from their mother (p.c., Becky Gowland, 2016). Unusually, all 25 burials analysed for aDNA were male, including the seven sub-adults (Stefanović 2008). This shows a male ideological colonisation of the mortuary zone comparable to that of the central core zone of 'rich' burials at the Varna I cemetery (see below, pp. 262-7), given more prominence because aDNA analysis showed that all males were descended from a common ancestor (Čuljkovic 2000). While Stefanovic' suggested interpretation of a common descent group focussed on the tell is surely correct, this is not the whole story because females are part of each descent group. The burial of females off-tell or not at all decentres women and girls from the tell as the *axis mundi* of the group.

A comprehensive study of the almost 600 intra-mural Late Neolithic burials in Eastern Hungary provides a rich tapestry of mortuary variability, structured around differing practices on flat, tell-like and tell settlements in North-East Hungary, South-East Hungary and the Lengyel group in North and West Hungary (Siklósi 2013). Regional differences can be observed in overall grave good frequencies, as well as in specific types (red deer canine pendants – rare in Lengyel, common in North-East Hungary), although inter-site variability is also common (polished stone common in some Lengyel sites but not others; Aszód as the only site where grave orientation is linked to sex and gender differences). A major claim (2013, 196) is that Transdanubian mortuary practices were related to group identities – part of the same community buried together – whereas, in the Alföld Plain, burial was more important for the maintenance of lineage-based inequalities. Siklósi (2013, 262) interprets the contextual variations in mortuary and domestic zone practices, with prestige goods found mainly in houses on tells but in graves on flat sites and tell-like settlements, as a sign of household ritual in the latter and communal tell-wide ritual in the former. Her overall conclusions are that there was no evidence for consolidated hereditary rank but that the diversity of grave goods showed horizontal differences indicating competition between families and descent groups.

Summary of complete body burial

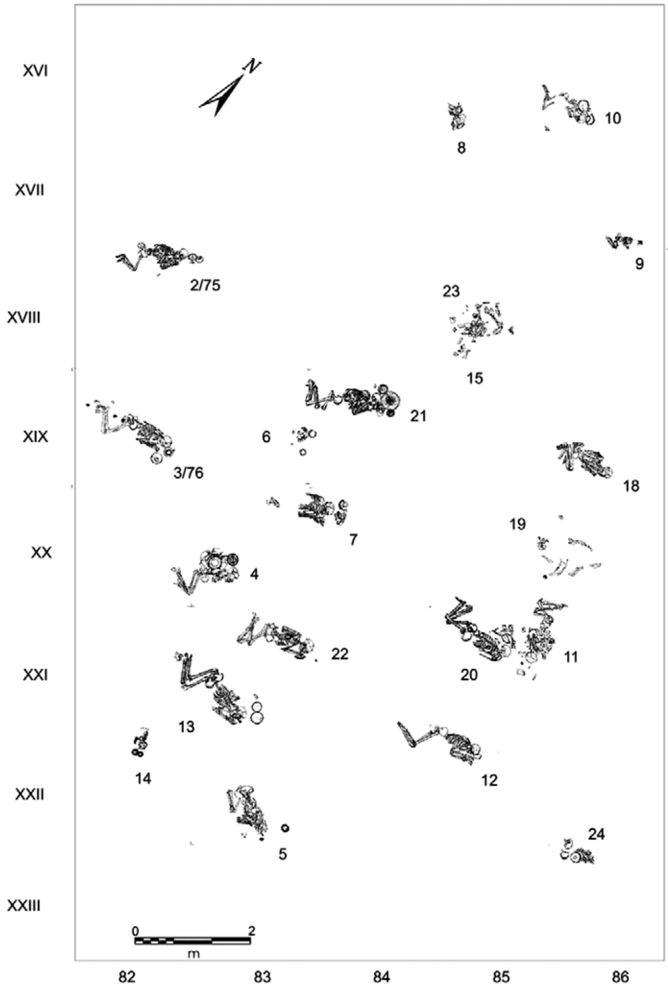
Inhumation burial of single, complete individual bodies became the 'norm' from 6000BC to 3000BC. Sometimes, there was a mutually exclusive relationship between intra-mural burials and house-burning but both practices co-existed in most groups in all Phases. Collective burials were rare in Old Europe – apparently a feature of Phase 2. There was a diachronic trend for a closer association between intra-mural burials and house clusters, culminating in the Lengyel complexes where groups of burials were interspersed between groups of houses. Analysis of intra-mural burial lines or groups show the autonomy of local burial lines at Kisköre-Damm and the colonization of mortuary space by male members of a descent group at tell Gomolava.

We now turn to the creation of extra-mural cemeteries in Old Europe – one of the most important developments of communal relations.

Cemeteries in Old Europe

Early cemeteries

Three long-term trends in Old Europe concern the targeted increase in house-burning (Chapter 5), the expansion and then contraction of tell settlement (Chapter 6) and the wider adoption of extra-mural burial. The few cemeteries



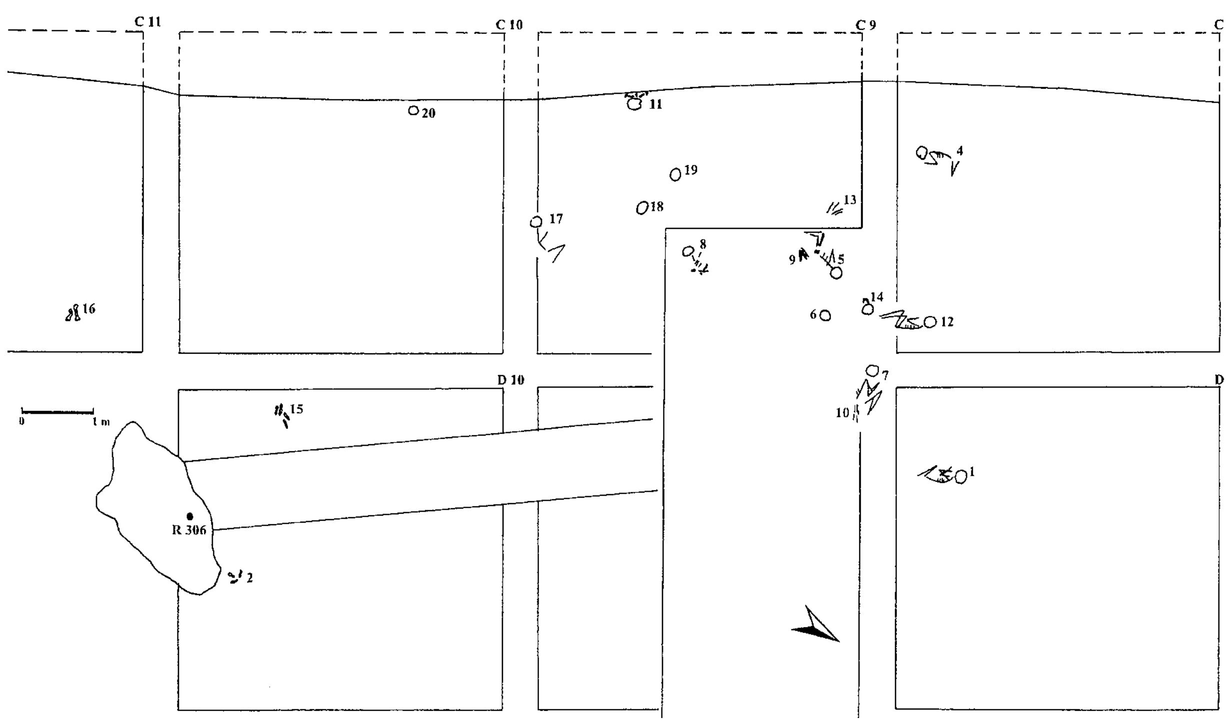


Figure 7.8. (top) Plan of intra-mural burials on Phase 3 tell of Gomolava (source: Borić 1996, Fig. 4) (L. Woodard); (bottom) Plan of Phase 2 Maluk Preslavets cemetery (source: Băčvarov 2003, Obr. 2.30).

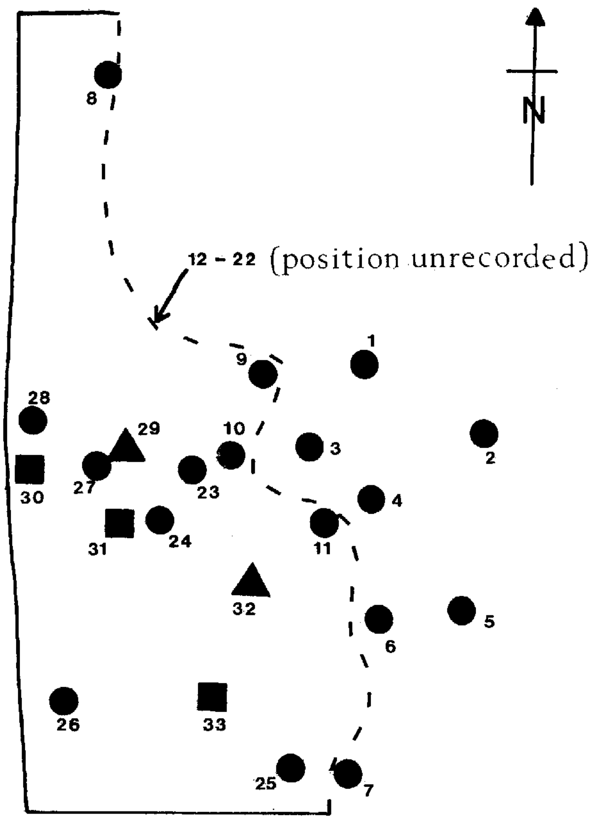


Figure 7.9. Plan of Phase 3 cemetery of Botoš (source: Chapman 1981, Fig. 79).

which have been excavated can provide evidence about the creation of personhood, the formation of ancestral identity in the space of the cemetery itself and aspects of social inequality related to grave good deposition. I have found categorical analysis of persons and grave goods to be a useful approach to these and later cemeteries.

The notion that it was proper mortuary practice to bury the dead of your community outside your settlement was rejected for many centuries in most groups, presumably because it contradicted the widespread 'Concentration Principle' – viz., that people consolidated the place-value of their settlements by local deposition of their material culture and even the burial of their community members (Chapman 1998: 2000c). Kienlin (2010, 97-101) makes the interesting, if undeveloped, suggestion that the increasing use of cemeteries in the Copper Age depended upon a new perception of death in relation to the built environment. This presumably related to the link between extra-mural burial and dispersed settlement strategies (Chapman 1983). The greater reliance of homesteads on wide kinship networks than the Period 3 nucleated settlements perhaps led to a more extended social space – akin to a micro-region – in which some of the newly-dead could find their places outside the immediate dwelling area but still linked to the *domus*, perhaps in liminal areas between homesteads. But we must remember that no cemetery is currently known for hundreds of dispersed communities. The two obvious exceptions – Maluk Preslavets and Botoš – appear to have been an interesting failure – a social experiment in lineage-building that did not find widespread favour. A single cemetery does not make the Vinča group a cemetery-based group, any more than the much larger, and therefore more successful, Cernica cemetery made the Dudeşti – Boian I group a cemetery-based group. The only Period 3 group in which cemeteries were a regular part of the cultural landscape was the Hamangia group (Haşotti 1997), with small clusters of graves, as at Mangalia, or large corporate cemeteries such as Durankulak or Cernavodă (Figs. 7.12-13).

The earliest known cemetery in Old Europe was located in the Lower Danube basin, near Maluk Preslavets and dated to 5800-5400 BC (Băčvarov 2003; Mathieson et al. 2018) (here Fig. 7.8). The small area of 15m x 8m included twenty burials – ten articulated, more or less complete, contracted inhumations and ten secondary burials of disarticulated bones – perhaps brought from outlying homesteads. More children were buried than adult females than adult males. While no pottery was deposited, Danube shells were found in four graves, while a cattle bone was placed under the head of one skull. A higher proportion of hunter-gatherer aDNA was found in the Maluk Preslavets group than at any other site hitherto in the Balkan Early Neolithic (Mathieson et al. 2018) – a finding perhaps related to the absence of ceramic grave goods.

The total of 30-40 graves found at the Botoš cemetery of the Early Vinča phase may be divided into a group of 'rich' burials in the Eastern sector and a group of 'poor' burials in the Western sector (Garašanin, M. 1956; Chapman 1981, 55-59; 1983) (Fig. 7.9). In the absence of age/sex data, and since there is no pottery evidence for sequential use of the cemetery, the presence of two lineal descent groups may be proposed, differentiated from each other by grave associations. An overlap in the grave goods from the Botoš cemetery and the two hoard finds and intramural graves at the slightly later tell of Čoka (Csóka) (Raczky 1994) (Table 7.2) suggest that *some* of the scarce resources controlled by corporate descent groups included objects made of non-local raw materials.

The preliminary publication of Cernica showed that this was one of the earliest and largest Neolithic cemeteries in the Lower Danube valley (Cantacuzino & Morintz 1963), with the "rich" graves leading Colin Renfrew (1969) to identify the cemetery as one of the key early sites for Balkan Neolithic copper metallurgy. The re-publication of the Cernica cemetery (Comşa & Cantacuzino 2001) facilitated analyses of the physical anthropology (Kogălniceanu 2005), categorical analysis (Chapman 2013a); and Bayesian modelling of AMS dates (Stratton et al. 2019).

A total of 378 Neolithic skeletons was excavated in the complete, 1 ha cemetery (Comşa & Cantacuzino 2001) (Fig. 7.10). Extended inhumation on the back was the standard form of burial at Cernica (n = 306), with AMS dates suggesting coeval use with the smaller number of crouched inhumations (n = 35 skeletons)[99]. In addition to 35 severely disturbed graves omitted from the analysis, a large number (n = 129) of moderately disturbed burials were still included in the analysis. New AMS dates for the cemetery indicate a duration of 140-270 years, beginning in 5355-5220 cal BC (95% probability) and ending in 5070-4940 (67% probability) (Stratton et al. 2019).

Only two-thirds of the Cernica graves have grave goods, usually those with better preservation. There are 10 categories of tools, 15 for ornaments, two for pottery and some food offerings. (Table 7.3). The commonest of the categories were cylindrical shell beads (33 graves), chipped stone (21 graves), and shell bilobates with polished stone axes (each 19 graves), while only three graves contained native copper or malachite beads. Exotic sources can be demonstrated for stone tools and copper, shell, marble and greenstone ornaments. The paucity of pottery grave goods at Cernica links it to the Maluk Presavets cemetery, in contrast to ceramic-rich later cemeteries such as Smjadovo (see below, p. 267).

Categorical analysis at Cernica showed few complex enchained networks connecting the deceased (one grave in 16), with up to nine object categories out of a total possible 11 represented. Cernica personhood had no neat division into female identities marked by ornaments and male identities defined by working tools. There was an relatively even spread of object categories across the range of age/sex categories, indicating an overlapping strategy of categorisation at Cernica, except for four Ornament categories – bone rings, shell cylindrical and barrel beads and bilobates – associated with all age/sex categories, indicating a lineage or community identity (Fig. 7.11a & c).

The predominance of extended inhumation at Cernica linked the cemetery to antecedents in the Mesolithic of the Iron Gates gorge (e.g., Vlasac: Srejović & Letica 1978) and the Dnieper Rapids (Zvelebil & Lillie 2000), as well as coeval cemeteries of the Hamangia group (Berciu 1966; Todorova 2002; cf. Borić 2015, 934-5 & Fig. 49.5). However, the use of contracted inhumations was related to the Maluk Preslavets cemetery as well as to the first farmers of the Lower Danube Basin. Cernica was created at a time of economic and social change, with an increased potential of sedentarisation (Bailey, D. et al. 2002), when new identities – both communal and (in)dividual – would have benefited from materialisation. Thus, the Cernica cemetery defined

Object Type	Botoš Cemetery	Čoka hoards	Čoka burials
Mineral			
Malachite beads		X	
Haematite lumps	X	X	X
Chalk lumps		X	
Stone			
Alabaster animal head	X		
Marble mushroom amulet	X	X	X
Marble button		X	
Limestone button		X	
Limestone beads	X		
Stone bracelet	X		
Shell			
Spondylus beads	X		
Dentalium beads			X
Cardium beads		X	
Cardium buttons		X	
Perforated *Cardium* pendants	X	X	
Tridachna bracelets			X
Shell beads	X	X	X
Shell bracelets	X	X	
Shell ornaments		X	
Bone		X	
Bone beads		X	
Single bone ring		X	X
Multiple bone ring		X	X
Perforated animal teeth		X	X
Boar's tusk fragments		X	
Bone ornaments		X	

Table 7.2. Finds in Čoka hoards and burials and the Botoš cemetery (source: author).

a new form of lineage-based community that may not have existed before in the Lower Danube Basin.

The Cernavodă – Columbia D site was a small multi-ritual cemetery, 90m x 30m, situated in the lower Danube valley on the edge of the Dobrudzha plain (Berciu 1966; Kogălniceanu 2014). While there were many 'normal' burials, as both extended and crouched inhumations, in two main areas – the Upper and Lower cemeteries (Kogălniceanu 2014, Fig. 1) (here Fig. 7.12), other parts of the cemetery feature disarticulated bones representing several dividuals. In addition, dispersed, disarticulated bones were encountered all over the

99 These figures differ slightly from those of Comşa & Cantacuzino (2001), which is based upon the number of graves.

Figure 7.10. Plan of Cernica cemetery (source: L. Woodard redrawn from Comşa & Cantacuzino 2001, Plan XXXVII).

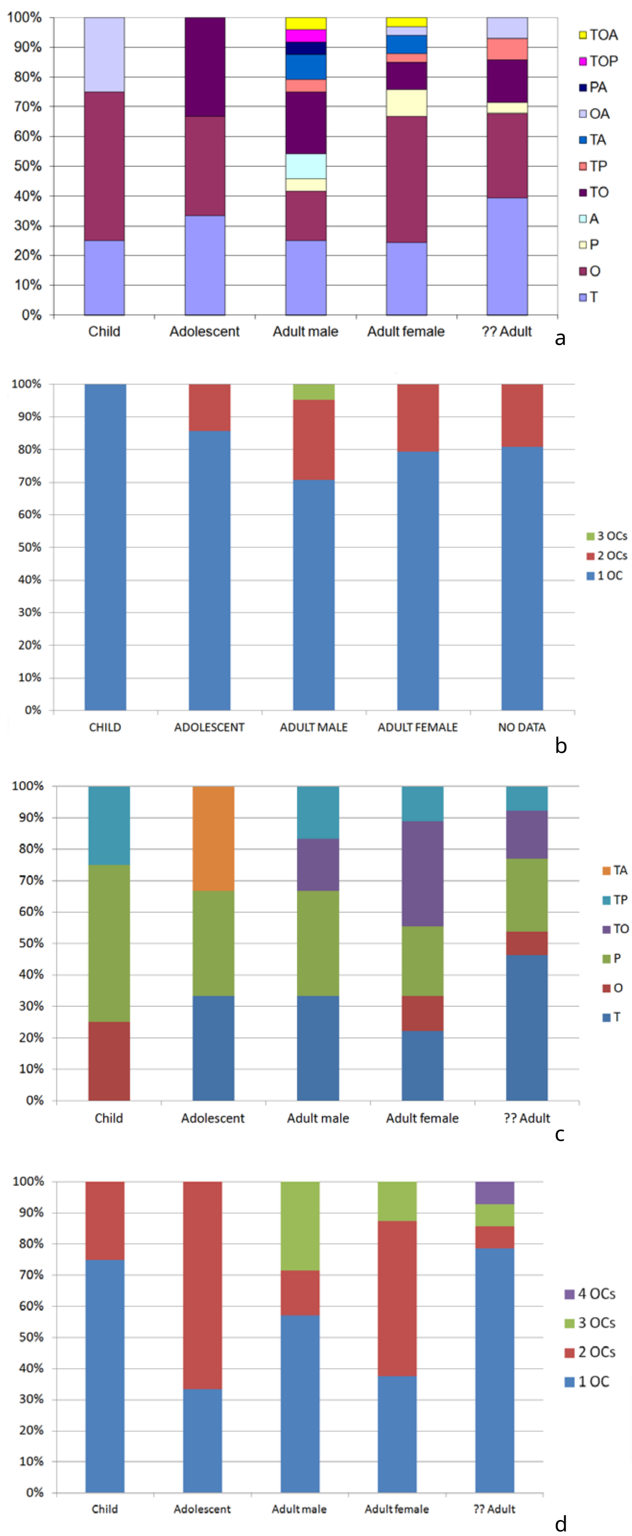


Figure 7.11. Categorical analyses for Phase 3 Cernica and Phase 4 Vărăşti cemeteries: number of category combinations for (a & c) Cernica and (b & d) Vărăşti; Key: T – tools; O – ornaments; P – pottery; A – animal bone (source: author).

	Cernica		Vărăşti	
Object category	No. of graves	% of graves	No. of graves	% of graves
Tools				
Lithics	21	19.3	14	38.9
Pebble burnisher	1	0.9	-	
Polished stone axe	19	16.5	-	
Polished stone chisel	9	8.3	-	
Bone point	11	9.6	-	
Bone needle	1	0.9	-	
Bone spatula	4	3.5	1	2.8
Bone plate	3	2.6	-	
Antler tool	4	3.5	-	
Horn tool	2	1.7	-	
Fired clay 'lamps'	-	-	13	36.1
Ornaments				
Bone ring	12	10.5	-	
Bone pendant	5	4.3	-	
Antler pendant	2	1.7	-	
Deer tooth pendant	6	5.2	-	
Ostrea shell	2	1.7	-	
Unio shell	-	-	1	2.8
Dentalium shell	-	-	1	2.8
Shell disc bead	5	4.3	-	
Shell flat bead	1	0.9	-	
Shell cylindrical bead	33	30.3	-	
Shell barrel bead	14	12.2	-	
Ostrea pendant	4	3.5	-	
Shell bilobate	19	16.5	-	
Shell trilobate	6	5.2	-	
Shell bracelet	8	7	-	
Stone bead	14	12.8	2	5.6
Amber	-	-	1	2.8
Copper	3	2.6	3	8.3
Gold	-	-	4	11.1
Pottery				
Whole vessel	2	1.7	5	13.9
Sherds	8	7.3	8	22.2
Ochre	-	-	3 or 4	8.3 or 11.1
Animal bone	5	4.3	1	2.8

Table 7.3. Percentage of object categories in graves with grave goods as a whole, Cernica (n = 115) and Vărăşti (n = 36) (source: author).

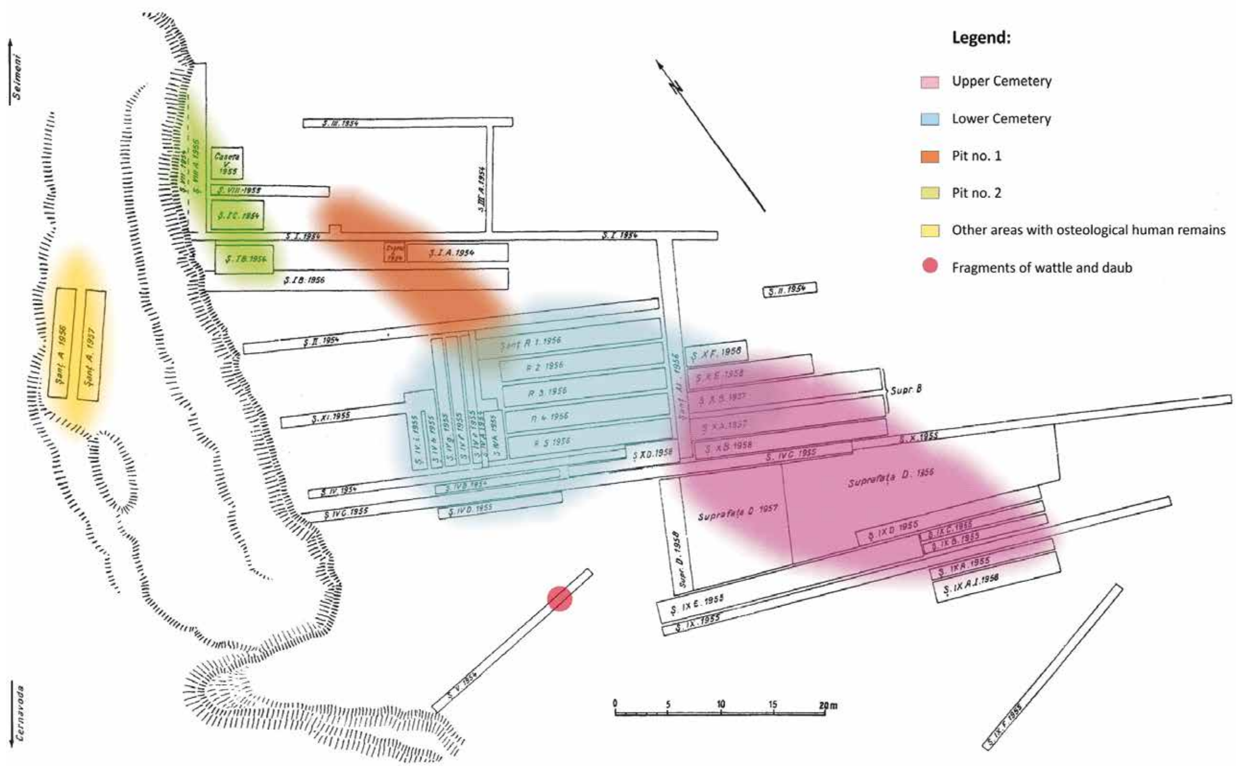


Figure 7.12. Plan of Cernavodă cemetery, South-East Romania (source: R. Kogălniceanu).

site, with intentional deposition only in the area of the two long pits in the North-East part of the cemetery (Kogălniceanu 2014, 52). Many deviant burials were also found, involving the removal of bones (usually the mandible or the cranium or both) from bodies and the addition of bones (long bones or skull fragments) to burials. Kogălniceanu has also identified burning of bones and the deliberate cutting of one skull as contemporary practices, with the additional possibility of de-fleshing cuts. The disposal of disarticulated bones across such a large part of a bounded mortuary space is, to my knowledge, unique in Old Europe.

Summary of early cemeteries

The early cemeteries occurred in two distinct Phase 3 contexts – emergent farming communities in the East Balkans and established farming groups in the Carpathian Basin. The only aDNA data from an early cemetery (Maluk Preslavets) showed persons with hunter-gatherer and farming ancestry buried in contracted inhumations but with no ceramic grave goods – a burial rite more connected to farming groups. A similar lack of pottery, but the presence of hunter-gatherer ornaments, in the Cernica cemetery graves is associated with extended inhumations alongside coeval contracted burials. The mixture at Cernavodă of extended and contracted inhumations and disarticulated bones, often found with ceramics, completes the picture of variability in these emergent mortuary traditions. This is in contrast to the only early cemetery in an established farming group – the Early Vinča Botoš cemetery, with a wide range of grave goods, including pottery, placed with contracted inhumations.

A long-lived, massive cemetery at Durankulak

The best-published and largest Hamangia cemetery – and the only example with all phases of the Hamangia group – is the Durankulak cemetery (Todorova 2002), with recent research on an AMS-based chronology and isotopic dietary studies (Honch et al. 2006: 2013) and a social analysis based upon Gini indices and Lorenz curves (Windler et al. 2013; for critique, see Chapman 2017). Modelling of the 14 AMS dates suggested that the cemetery was in use for over 500 years, from c. 5000-4450 BC, with good discrimination of the Hamangia I-II and Varna group phases but poor differentiation of the Early (Hamangia III) and Middle Copper Age (Hamangia IV) groups (Honch et al. 2013) (Figs. 7.13-7.14). The isotopic studies showed minor variations in diet with no obvious correlation with grave good variability (Honch et al. 2013).

In Windler et al.'s study, modern economic measures of inequality are applied to the values assigned to various grave good categories by Todorova (2002a, 267). The basic

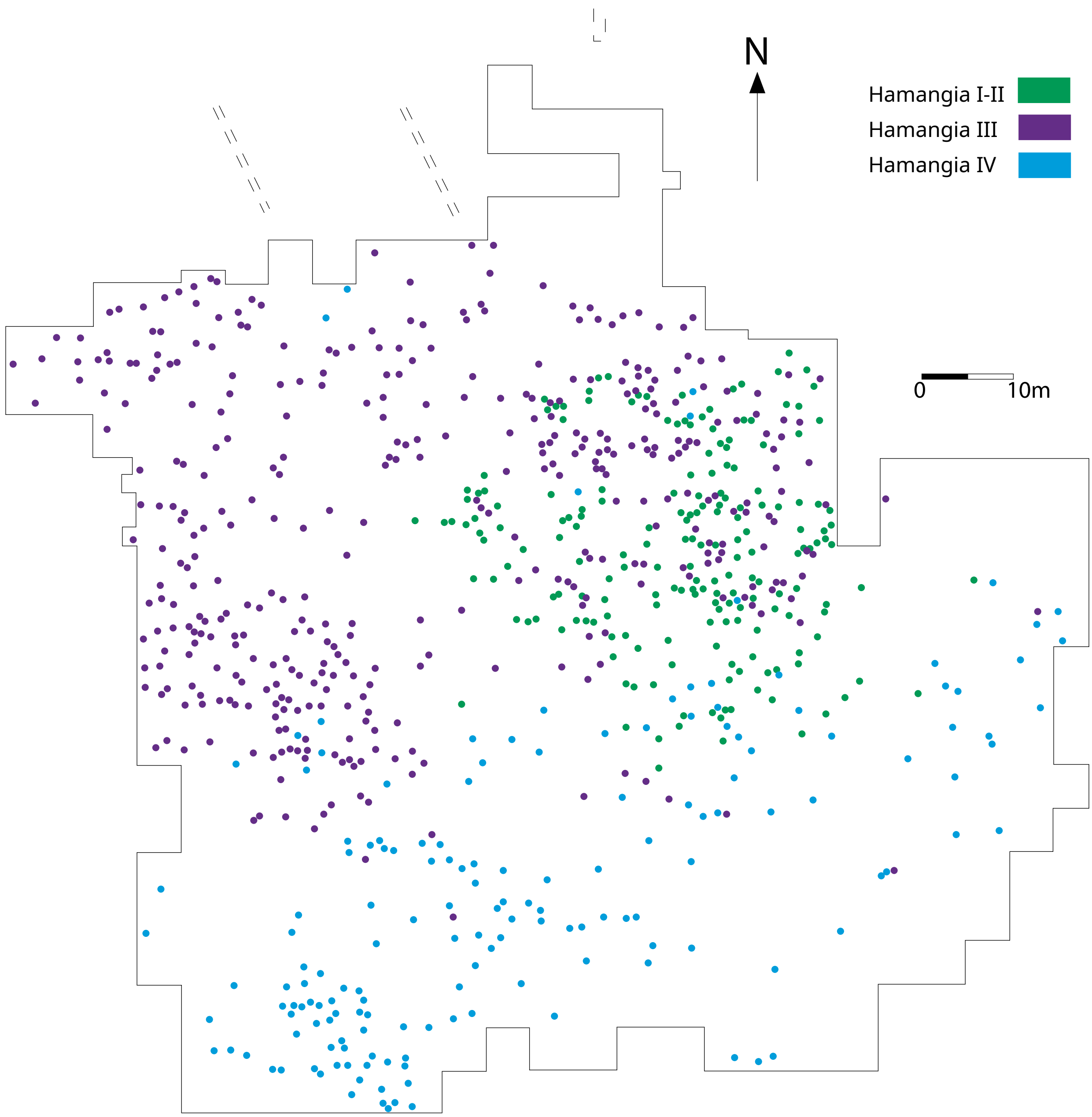


Figure 7.13. Plan of Hamangia graves, Durankulak cemetery (source: L. Woodard redrawn from Todorova 2002, Abb. 29).

idea can be encapsulated in the 90:10 rule – 90% of the wealth is owned by 10% of the people. If we accept the highly questionable assumptions that grave wealth is a direct reflection of social power in the living society, and that Todorova's indices of grave goods value are correct, the results of the analysis show an increase in both social prosperity (more grave goods) *and* social equality (a wider spread of grave goods) from the Hamangia I-II to the Varna I period, but a steep decline in egalitarianism in the Varna II-III period, marked by nucleation of grave goods, especially in adult male graves but with no corresponding decline in prosperity (similar numbers of grave goods). Windler et al. (2013)'s results support Hansen's (2010) argument that the principal reason for the decline of Phase 4 tell society in the Balkans is growing social inequality.

An alternative to a reflectionist approach to prehistoric cemeteries – categorical analysis – allows us to tell more nuanced stories about Durankulak, revealing the extent to which personal identities are shaped by specific categories or how objects can contribute to more widely shared identities (Chapman 2017). The principal changes in grave goods at Durankulak are here summarised (Table 7.4). The

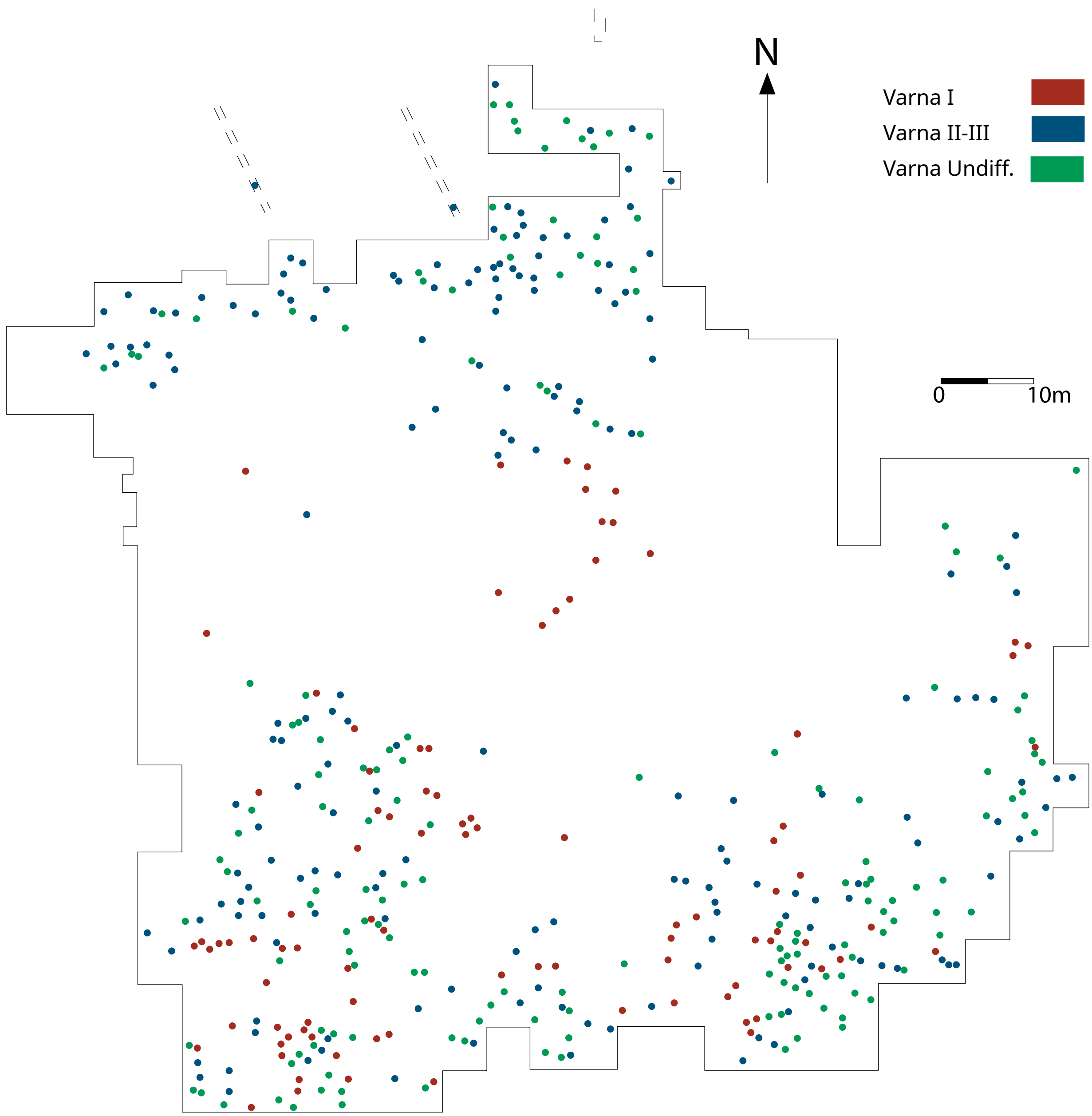


Figure 7.14. Plan of Varna-group graves, Durankulak cemetery (source: L. Woodard redrawn from Todorova 2002, Abb. 29).

importance of shared identity-building in the Hamangia I-II period (Fig. 7.15) was paralleled in the Cernica cemetery, while the rare concentrations of malachite and *Spondylus* beads and bracelets are reminiscent of the 'rich' graves in the Botoš cemetery. The occurrence of cenotaph graves and the practice of *trizna*[100] differentiated the Hamangia III burials, where the distinguishing feature of adult male graves was the high proportion of offerings of animal parts – often the skulls of the steppe ass but also the bones of red and roe deer, cattle and caprines (Spassov & Iliev 2002). This complex set of 'natural' objects defined a new relationship between the wild dividual, the cultured object and the human dividual. The major increase in copper objects as 'special' grave goods defines the Hamangia IV period as the real beginning of the Copper Age at Durankulak – a development also seen in first appearance of gold grave goods and in the large dry-stone-walled houses on the Big Island settlement (Todorova 2002:

100 The Bulgarian term 'trizna' refers to the smashing of material objects by the grave-side, with many fragmentary objects incorporated into the grave or its fill (Gaydarska 2007, 27).

Period	Mean No. of Categories per grave	Maximum No. of Objects in any Category	Special Grave Goods	Special Mortuary Rites	Exclusive Grave Goods	Combination Grave Goods	Key signs of gender importance
Hamangia I/II	Starts low	6	*Spondylus* bracelets; animal skulls and post-cranial parts		Few – mostly in adult male graves	important	
Hamangia III	increase	10	Animal parts (5 species), especially wild ass skulls; *Spondylus* bracelets; shell and bone figurines	Cenotaph graves; trizna deposition	Big increase – children's and cenotaph graves		
Hamangia IV	peak	Small increase	Major increase in copper objects (malachite beads, first tooth-rings); polished stone beads; first gold	Cenotaphs & trizna	Very important, especially in adult female graves	Big increase	Importance of adult females
Varna I	decline	Peak	Decline in 'special' finds, except for copper tooth-rings and malachite beads	Cenotaphs & trizna	Peak		
Varna II/III	decline	Fall	Major increase in copper objects (especially tooth-rings); first flint macroblades	Cenotaphs & trizna	Very important in both adult male AND female graves		Adult female graves + greatest variety of material groups

Table 7.4. Principal diachronic changes in mortuary practices, Durankulak cemetery (see also Fig. 7.15) (source: author).

Boyadzhiev, Y. 2004; Chapman et al. 2006). The important age-sex observation is the relative insignificance of adult males in Hamangia IV depositional strategies. The Varna I phase at Durankulak was coeval with the Varna cemetery, yet the trends in object deposition could hardly have been more contrasting: there was a major fall in all of the 'special' grave goods – especially copper objects – at the former. Was the Varna I phase at Durankulak a time of increased stress and uncertainty over metal supplies or a time when more stable dividual identities did not require so much material signaling – or both? The final period in the Durankulak cemetery – the Varna II-III phase – shows strong gender contradictions. Although adult female graves contained the greatest variety of objects by material grouping and the highest number of exclusive grave-good categories, there was a big switch of exclusive single objects and grave-good categories to adult male graves.

Summary of Durankulak (Table 7.4)

The results of this categorical analysis explain diachronic changes not simply in terms of the 'economy' but also in terms of the creation of different identities through time, using the deposition of animal parts as well as objects and special grave goods. The categorical analysis has also been able to integrate gender relations into the diachronic picture, with adult females associated with the prominence of the new material of copper in the Hamangia IV phase and major tensions in age-gender identities as well as the use of newly-created wealth in the Varna II/III phase. Life and death at Durankulak were surely more than simply an 'economic' phenomenon – but involved the ways that persons saw themselves in relation to animals, objects, culture and nature.

Other 5th millennium cemeteries

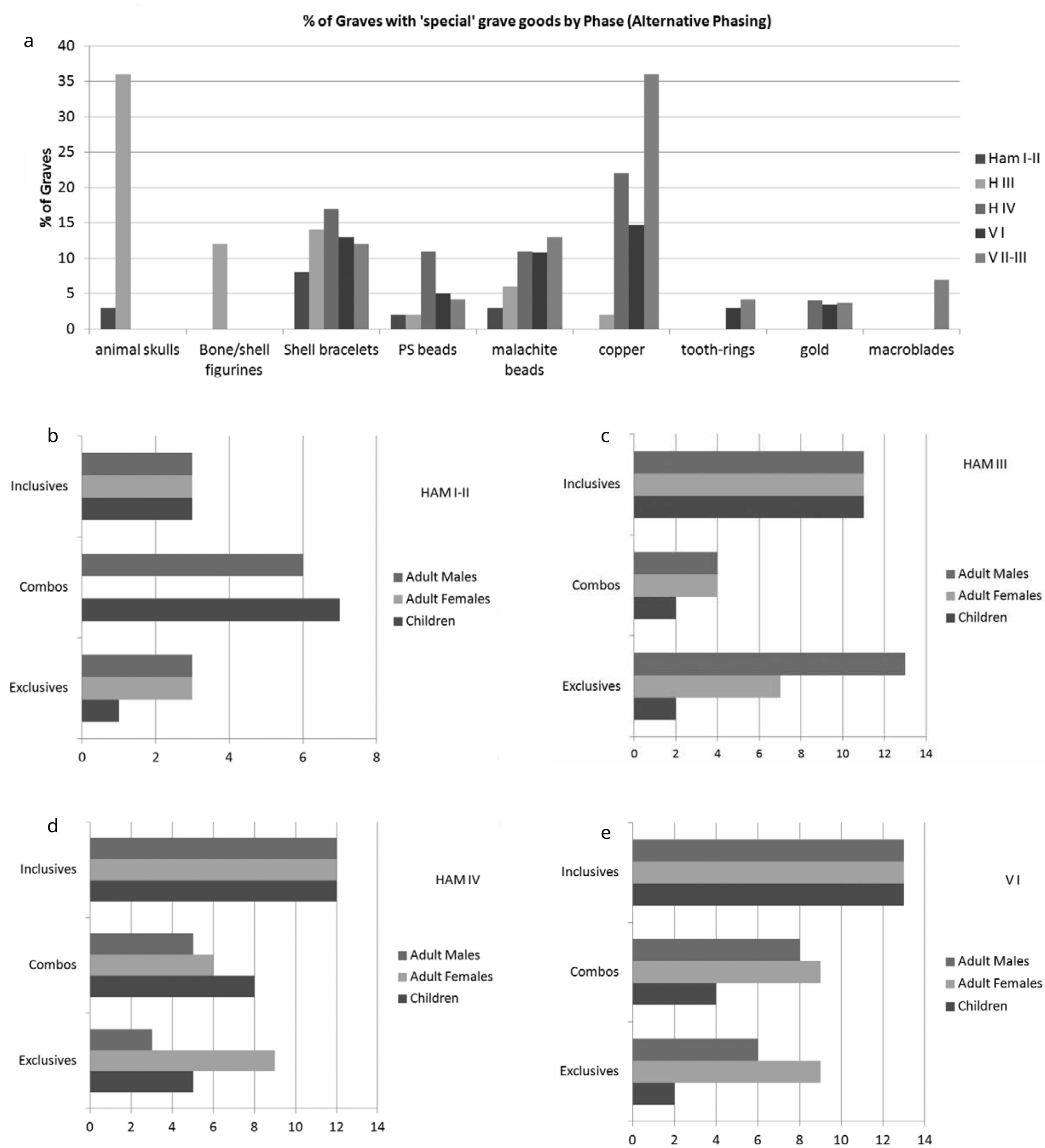
The creation of cemeteries in the 5th millennium BC was most prominent in two regions – the Lower and Middle Danube basins. The most complex mortuary site in Transylvania was at Iclod, with two cemeteries – Iclod A with 40 graves and Iclod B with 50 graves – integrated into a multiple enclosure (Lazarovici Gh. 1991)[101].

In the Lower Danube basin, two types of cemetery can be distinguished: small cemeteries associated with flat sites such as Andolina or Popeşti or tells such as Ovcharovo; and larger cemeteries such as Sultana – Valea Orbului with over 250 graves, linked to flat sites (Lazăr 2012; Kogălniceanu 2012; Gligor 2014). Three cemeteries are now associated with Tell Sultana (Lazăr 2012) (Fig. 6.2c). The lengthy periods of use at several Wallachian cemeteries (e.g., Vărăşti) emphasise the ancestral significance of these sites in the landscape. The dual form of ancestral enchainment, through the settlement *and* the cemetery, meant that the cemetery was not the only place where people could create and maintain ancestral relations or underline the importance of the lineage.

A study of the mortuary costumes[102] used in seven of the North-Eastern Bulgarian cemeteries (Chapman 2012a) underlines the existence of an overall 'regional mortuary tradition', despite the striking lack of shared mortuary costumes and the presence of individual costume elements specific to each cemetery – showing a social identity specific to each place. One of the main sources of variability is the preferences for different decorated body zones; another is the varied combinations of individual ornaments in a set. Three contributory factors concern social structure, local identities and the tensions between dividuals and individuals.

The largest Gumelniţa cemetery in the Lower Danube basin was Vărăşti, with 14 earlier (Boian-group) graves

101 Unfortunately, the Iclod cemeteries have been published in a schematic manner, impeding a full analysis of mortuary practices.
102 for a definition of 'costumes', see above, p. 107.



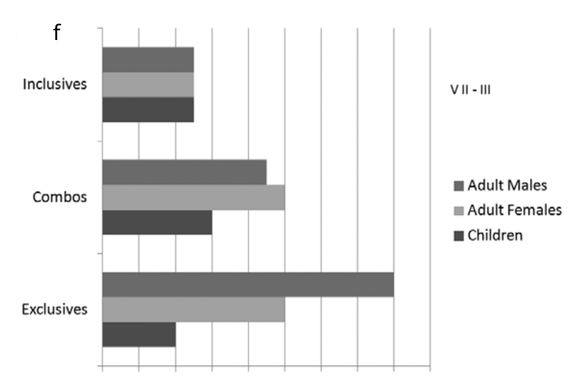


Figure 7.15. Categorical analyses, Durankulak cemetery: (a) special grave goods by Phase; (b – f) object inclusivity, exclusivity and combinations by Phase (source: author).

and 122 later (Gumelniţa-group) graves. The cemetery was established on the island of "Grădiştea Ulmilor", near several foci of earlier settlement (Comşa 1995, 190-191; Chapman 2013a). Presumably most of the buried persons had lived on the nearby long-occupied Boian B tell (Christescu 1925). Limitations on the study were caused by the absence of ^{14}C dates for the Vărăşti human remains and the lack of a modern physical anthropological report.

A striking observation from a categorical analysis is that approximately two-thirds of all graves at Vărăşti have no grave goods at all (Table 7.3 & Fig. 7.11b & d), linking the cemetery to the Maluk Preslavets and Cernica cemetery patterns. The remaining 36 graves collectively contained 12 grave-good categories, with lithics, fired clay lamps and sherds the commonest offerings. The fact that a far wider range of objects and raw materials was available at other sites than were deposited at Vărăşti suggests that the community followed egalitarian, ancestral principles. The paucity of ornaments in adult graves differentiated Vărăşti from most other Balkan Copper Age cemeteries (Chapman 2013a), indicating the importance of cross-cutting modes of categorisation and a prioritisation of collective identities.

The relatively high number of children at Vărăşti emphasises the childhood stage more than at Cernica – the stage when gender identities were differentiated. The Vărăşti community likely adopted the 'Dolnoslav' form of personhood (see above, p. 146). As a small cemetery in close proximity to a Phase 4 tell, Vărăşti was grounded in a dual form of ancestral enchainment. The low frequency of the admittedly more valued exotic grave goods at Vărăşti suggests that the cemetery was a guardian of the *status quo* rather than the harbinger of change that characterized Cernica.

Summary of other 5th millennium cemeteries

While flat sites related to the ancestors through their local cemetery, more complex ancestral relations – through the tell as well as the cemetery – were developed at complexes such as Vărăşti. It is perhaps this strongly egalitarian ancestral influence that helped to constrain the diversity of mortuary costumes, and especially personal ornaments, at this cemetery.

The Lengyel mixed mortuary domain

Turning to the Middle Danube basin, the emergence of mixed domestic-and-mortuary zones was firmly associated with late Phase 3 in the Late Neolithic of Western Hungary (4900 BC onwards), several centuries before the emergence of extra-mural cemeteries at the start of the Copper Age in Eastern Hungary in Phase 4 (4500 BC onwards). The three key Lengyel mortuary sites in Transdanubia were Zengővárkony (Dombay 1939: 1960; Zoffmann 1972-3; Chapman 2010a; Zalai-Gaál 2003: 2010; Bertók & Gáti 2014), Mórágy (Zalai-Gaal 2001: 2002) and Alsónyék (Osztás et al. 2012; Zalai-Gaál et al. 2012; Bánffy et al. 2016).

The first major excavations of the domestic-and-mortuary complex was at the 40ha site of Zengővárkony. The excavations revealed 379 bodies in 368 graves, divided into 21 spatial groups (Zalai-Gaál 2003). Most of the clusters included burials from both the Early and Late stages of the Lengyel group (Zalai-Gaál 2007). Only some of the grave clusters showed weakly developed differentiation of grave goods quantity and diversity. In categorical terms, age-gender differentiation was found equally for both adult males (more tools) and adult females (more ornaments). Ornaments were concentrated in graves, while different metal tool types were found in the mortuary and domestic domains. One striking mortuary practice at Zengővárkony was the high proportion of graves (10%) with deviant burials (Chapman 2010a). The deviant burials were concentrated in two areas – Trenches VI and IX – the former close to the central *Rondel* with its focus on communal relationships (Fig. 7.7).

There were two mortuary zones at Mórágy, with a total of 118 burials in 108 graves grouped into 'neighbourhood' clusters, located between the remains of houses and pits. The mortuary plan shows a gradual spread of the burials from an early focus in the Eastern part to the main concentration of later graves in the central and Western areas (Zalai-Gaál 2007, Abb. 11). The earlier grave group – Mórágy B_2 – was dated to the Lengyel II phase and contained 24 burials, showing no strong preference for sidedness (Zalai-Gaál 2001). In contrast to the sole grave with an ornament, there was a great variety of body, leg and hand arrangement in the contracted inhumations – a variability echoed in the number and types of ceramics selected as the predominant grave good. The overall impression of Mórágy B_2 is of a small, relatively undifferentiated mortuary group with few differences between male and female burials.

A rather different pattern emerges in the larger and later (Lengyel Phase III) Mórágy B_1 mortuary site, with its 94 graves distributed in at least three clusters – a Northern, East Central and Southern (Zalai-Gaál 2002). In strong contrast to Mórágy B_2, almost half of the graves contained ornaments – mostly copper / malachite, *Spondylus* or *Dentalium*, found in both female and male graves.

The site with the largest number of burials in the Balkan Neolithic and Chalcolithic is currently Alsónyék, with almost 2,500 graves from all phases and 2,300 from the Lengyel phase alone (Osztás et al. 2016). AMS dating of the Lengyel graves shows that mortuary activities at the site lasted 330-400 years (4950/4840 BC – 4505/4400 BC), or 22-27 generations, with a high burial peak centred on 4700 BC (Bayliss et al. 2016); the three major areas started and finished burial at different times. Of the 92 Grave Groups located between houses and pits, the largest contained c. 100 graves (Group 59), with smaller groups containing 25-30 graves (Group 13). Some groups organised graves in rows (Group 61), while a few groups were aligned with former houses (Group 56). There was a standard East – West orientation for the contracted burials on the left side, with the head to the East facing South. Four-poster graves occurred for the first time in a Lengyel context, always with a suite of rich grave goods (*e.g.* Grave 5603). The overall mortuary profile showed a dominance of mature individuals, with fewer than expected children, adults and seniles and more females than males. The massive peak c. 4700 BC is interpreted as a coalescence of people from several sites coming to Alsónyék to display individual and group positions in a competitive mortuary environment (Bánffy et al. 2016; Regenye et al., 2020).

In the preliminary report on almost 1,000 graves, Zalai-Gaál et al. (2012) provide a highly gendered account claiming six main grave types based upon the tools which were overwhelmingly found in adult male graves (2012: Tab. 5), to which can be added a further four ornament types, found largely in adult female graves (2012). Categorical analysis shows there were relatively few classes or combinations of classes that excluded any age/gender category, with the exception of the 'Tools + Ornaments' class, not found in any children's graves. The tendency for preferential placement of tools in adult male graves and ornaments in adult female graves echoes the pattern found at Zengővárkony and is exemplified by the varied grave goods in Grave 5603/927, containing the burial of an arthritic adult male aged 45-55 years with a lifetime of hard physical work behind him, and including several exotic finds betokening extensive exchange networks – a Volhynian flint blade from the East, Southern lithics and a perforated jadeite axe from the French Alps. The relative paucity of ornaments, found in only 15% of the Alsónyék graves, not to mention copper, deposited in only 6% of all graves, presents a dramatic contrast to the richest cemetery in the East Balkans, which immediately post-dates the Lengyel complex at Alsónyék – the Varna cemetery.

Summary of Lengyel mortuary practices

The burials at each of the three key Lengyel complexes formed major mortuary concentrations – in the case of Alsónyék many more burials than any other cemetery in Old Europe. Indeed, the number of graves in the largest Alsónyék group was larger than in most coeval cemeteries! The scale of these burials allowed spatial planning in two ways – grave lines (comparable to cemeteries such as Tiszapolgár-Basatanya) and the alignment of graves on houses (as in the intra-mural burials at Kisköre-Damm). Despite the lack of full publication of the Alsónyék graves, the general depositional preferences of ornaments with females and tools with males are found there and at Zengővárkony, though without exclusive distributions, but not at Morágy, with its increasing grave-goods differentiation through time.

The Varna cemetery

The delayed appearance of the final publication of the Varna I cemetery (Slavchev, in prep.) precludes a comparable categorical analysis to that completed for Durankulak. Instead, a more general account is offered of a cemetery which outstrips all other cemeteries in Old Europe in terms of grave good quantity and diversity. The Varna cemetery was discovered by accident in 1972; by 1991, the excavation of an area of 7,500 m^2 had yielded 308 Late Copper Age graves, 12 structured deposits and over one hundred single finds (Fig. 7.16c). Since then, new excavations in 2017 have uncovered a further 15 graves, five of which were cenotaphs, belonging to a mortuary focus (Varna III) some 2km from the main Varna I cemetery but with identical mortuary practices (Slavchev 2018).

What marked the site as truly significant for world prehistory was the earliest accumulation of gold objects recovered, amounting to over 3,000 gold objects representing a wide range of designs and weighing 5.675 kg (Ivanov 1978) (Figs. 2.7a & 7.17); also deposited in the Varna I graves were more than 240 copper objects, 230 flint artifacts, about 90 stone objects and more than 650 clay products, as well as over 12,000 *Dentalium* shells and about 1,100 imported *Spondylus* shell ornaments (bracelets, necklaces and appliqués) (Fig. 7.17). Amongst the burials were 43 graves with no human remains. Some of these so-called 'cenotaph' graves contained clay heads[103] with gold objects placed on the eyes, mouth, nose and ears.

A dating programme and Bayesian analysis of 71 AMS dates from 53 graves, with a correction for a small marine reservoir effect for some of the graves, showed that the most probable dating of the cemetery was from 4580 to 4380 BC, with a probable duration of 150-200 years (Higham et al., 2018), or 10-13 generations (Fig. 7.16b). Because of the short duration of the cemetery, we are still seeking a valid method for an internal seriation of the graves, with Correspondence Analysis failing to differentiate between chronological and social variables (Krauß et al. 2017). There are two important implications:- (1) the AMS dates put the Varna I cemetery at the beginning of the Bulgarian Late Copper Age rather than the middle or the end (*contra* Ivanov & Avramova 2000); and (2) the start of the East Balkan Late Copper Age must be dated earlier than we had supposed (Gaydarska 2011). These chronological conclusions have yet to be fully integrated into East Balkan prehistory. A third conclusion is that most of the object types were in use at the same time, although copper ornaments started earlier than others, miniature

103 Three-D scanning of the so-called 'clay masks' has shown that these features were originally clay heads (Etzel et al., n.d.).

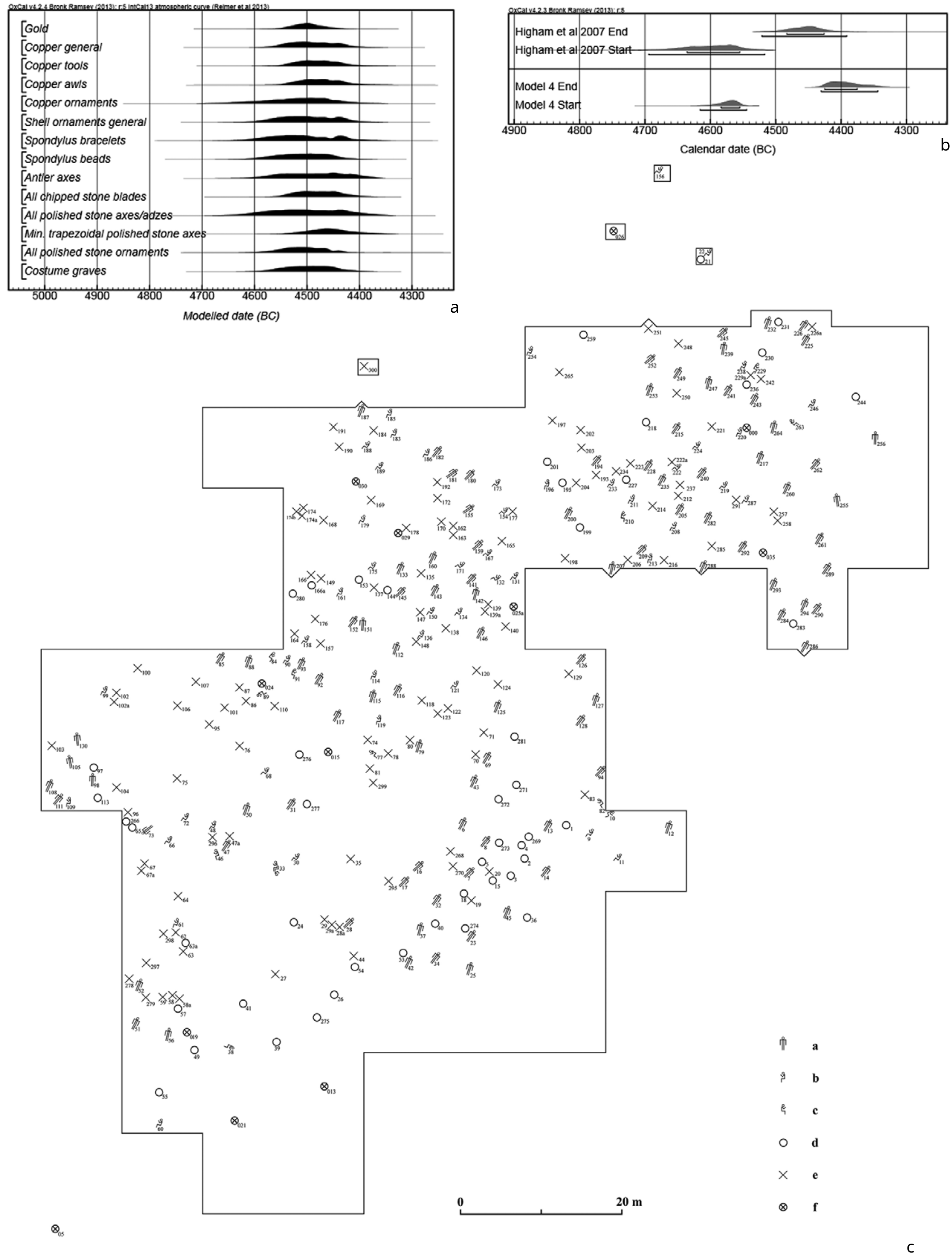


Figure 7.16. Varna I cemetery: (a) AMS dates for use-duration of selected artifact types; (b) AMS Dating of cemetery duration; (c) plan (source: Higham et al. 2018, Figs. 1, 9 and 16).

a

b

c

Figure 7.17. Grave goods from the Varna I cemetery: (a) copper and flint: longest superblade – 30.4cm (source: Ivanov 1988, Abb. 22); (b) gold-painted dish: rim diameter – 52cm (source: Georgiev 1988, Abb. 19: copyright – National Archaeological Museum, Varna); (c) gold pendant with carnelian and gold beads: outer diameter of pendant – 2.9cm (source: B. Armbruster, in Leusch et al. 2014, Fig. 3b).

trapezoidal polished stone axes started later than most types and polished stonework continued in use longer than the majority of types (Fig. 7.16a).

The re-analysis of the Varna skeletal remains was hampered by poor bone preservation. The findings include a social selection of more than double the sexed male skeletons than sexed female individuals and an unusually low representation of sub-adults (cf. Yordanov, Y. 1978). The population had an average life expectancy of 35 years, with males, at 40 years, ten years longer than females at 30 years. Two exceptions to an otherwise reasonably healthy population include the adult male in the famous Grave 43 (an arthritic warrior?) and the re-arranged bones of an adult male in Grave 63 with possible encephalitis (Marinov & Ivanov, n.d.). The deposition of exceptional grave goods with two males with serious medical conditions suggests parallels with the old lady from Tărtăria (see above, pp. 99-102). It is worth noting that the richest adult male burial at Alsónyék (grave 5603/927) also consisted of a well-connected but arthritic individual.

In the last decade, scientific studies have provided many insights into the Varna phenomenon, including characterization of raw material sources and technological analyses. The lack of a settlement on the Varna Lakes which is demonstrably contemporary with the Varna I cemetery[104] makes the discussion of production networks difficult, since it is likely that many of the objects buried as grave goods were locally produced[105]. By contrast, characterization studies indicate the long distances which other objects travelled before their deposition at Varna.

Recent research shows that much of the Varna gold was alluvial (Leusch et al. 2014), but the amount of labour involved in panning for gold suggests major organisation, perhaps through specialized lineage workforces. David Redfern (2007) has shown the existence of standard gold alloys at Varna, probably made through the refining of gold. Four forming techniques have been identified: open-mould casting of semi-finished products beaten into sheets or wire, ready for serial production of beads; open-mould casting of finished objects such as bracelets, ring pendants and biconical beads; closed-mould *cire perdue* casting of complex shapes, such as the gold astragalus and large spherical beads; and fine gold plating of other objects, such as sceptre handles (Dimitrov, K., n.d.) (Fig. 7.17). The diversity of techniques used for gold objects underlines the craft specialization at Varna, whether full-time or even sedentary craft specialization; however, the gold-worker's equipment was sufficiently light to have been moved from site to site.

The production of copper objects was potentially more complex than for gold, since the majority of the copper objects were made of smelted copper. Two-piece moulds were probably used for the shaft-hole copper axes, with objects finished with cold or hot hammering (cf. Kienlin 2010). Dimitrov (2007) rests the likelihood of a Varna metallurgical centre (Fig. 7.17) on the size of the Varna copper assemblage and its technical complexities.

Two aspects of stone production reveal high levels of specialization – flint superblades and facetted carnelian beads. There were no traces of local flint-working at Varna – only blanks or finished tools (Manolakakis, n.d.). The majority of chipped stone tools at Varna were 'domestic' products, such as scrapers and truncated blades, made by indirect percussion. Specialist techniques, such as standing-pressure using a copper-tipped antler punch (Pelegrin 2006), were reserved for the superblades.

The carnelian beads were found in only 21 graves. Gemmological analysis by Ruslan Kostov showed the existence of fine facets, up to 16 on each half of a barrel bead, whose sole purpose was to increase the brilliance of the already polished surface (Kostov 2007, 66-77, Tablitsa 26 & Fig. 26).

Alongside unworked *Dentalium* shells, *Spondylus* and *Glycymeris* ornaments formed the three main elements in Varna costumes: rings, beads and appliques. More unworn than worn, curated ornaments were found. Shell ornaments showed the materialisation of two contrasting aesthetics – the preference for brilliant, colourful, highly crafted ornaments and the selection of worn, cracked or rough, dull ornaments[106] (Fig. 2.7c).

The bone and antler objects in the Varna graves were all in the late stages of their biographies and comprised special objects, such as antler axes and large bone figurines possibly made of aurochs tibiae (Fig. 4.13a – e), as well as 'domestic' tools such as bone awls (Zidarov, n.d.). Serial production was found for the flat polished bone figurines, which were also deliberately fragmented for re-cycling as smaller objects.

The differences in grave goods between the richest and poorest graves is best shown by the gold finds. Ten times

104 Despite the presence of a row of 'Late Copper Age' sites along the Varna Lakes shore (Ivanov 1993), only one of these sites has been stratigraphically excavated (Arsenal, by I. Ivanov: unpublished). Neither AMS dates from the settlements nor AMS determinations dating the peaks of human impact on the vegetation from the Varna Lake pollen diagrams show any sign of contemporaneity with the Varna I cemetery. By contrast, the 'inland' settlement of Povelyanovo – 18 km from the cemetery – has AMS dates in the 46th – 44th centuries BC, coeval with Varna I (Boyadzhiev 1995, 183).

105 An obvious exception to local production is the superblades which would have been made using lever-pressure or chest-pressure on sites near to the flint outcrops in North-East Bulgaria (Manolakakis 2005) and imported to Varna. Other possible exceptions include the shell ornaments and the carnelian beads.

106 For a discussion of the ways in which shell ornaments could have become worn before burial and post-depositionally, and the reasons why all of these alternative pathways can be rejected, see Chapman & Gaydarska (in prep.).

the number and weight of gold finds were concentrated in four graves than in the remaining 67 graves with gold finds (Ivanov 1991). There was a large number of so-called ‘poorer’ graves, where mourners had either no splendid items to bury or had rejected the ideology of conspicuous display by placing no or very few grave goods in the graves. This is equally true when it comes to shell ornaments, with only 40% of the burials containing shell ornaments, half with ornaments and the other half with full mortuary costumes. There was a higher proportion of costume graves at Varna than at any other cemetery in East Bulgaria; the most elaborate Varna costumes comprised up to 12 costume elements or sets, with an inverse relationship between the frequency and complexity of the 22 different mortuary costumes (Fig. 4.7).

In the rich and diverse mortuary assemblage at Varna, three kinds of identities were materialized in multiple ways: individuality, dividuality and communality. One of the most compelling aspects of the Varna I cemetery was the appearance of a small number of exceptional objects whose burial pertains to a specific individual or social identity (e.g, the most sophisticated gold items: Dimitrov, K., n.d.; goldwork with excised decoration: Armbruster, n.d.; sophisticated bone and antler objects: Zidarov, n.d.; unused projectile points: Gurova, n.d.). The correlation of superblades with heavy copper tools and/or gold ornaments (Krauß et al. 2017) also points to individual grave good differentiation. This trend is found in the inverse relationship between the number of graves and the number of raw materials found in the graves (Chapman & Gaydarska n.d.). A high proportion of costumes are found in only one grave, suggesting a strong degree of individuality in this medium (Chapman & Gaydarska, in prep.).

The notion of enchained social relations reinforcing dividuality (Chapman 2000a) is also strongly exemplified in the Varna cemetery. The source areas of the exotic grave goods were ‘presenced’ by the deposition of objects made from parts of those remote places (e.g., the inclusion in the same grave of gold ornaments probably from different batches of gold: Leusch et al. 2014; cf. copper: Gale et al. 2000). Local enchainment was also common, not least in the deliberately fragmented *Spondylus* rings, with one part in the grave and another part in the land of the living (cf. fragments of flat bone figurines: Zidarov n.d.; sherds of pottery vessels: Chapman & Gaydarska 2007). Another example is the way that many shell necklaces were composed of both highly worn and highly polished beads, probably coming from two or more necklaces (Chapman & Gaydarska, n.d.). An intriguing example of enchainment was the re-creation of a ‘fake’ superblade by placing fragments of three different small blades together in a grave (Manolakakis 2005).

Exotic persons are rarely represented at Varna, with the aDNA of only one out of eight individuals showing North Pontic heritage (an *Infans I* from the rich inhumation Grave 158: Mathieson et al. 2018). This remarkable result implies that the parents of this child were brought up on the steppe and that the mother, and possibly also the father, had moved to and were living in the catchment of the Varna cemetery at the time of the birth, with the possibility that one or both of them were buried in the same cemetery.

Communality in the graves was materialized as part of cultural memory and produced with reference to cultural traditions. One vital issue is how the community characterised the value of gold (Dimitrov n.d.) but also the principal traditions of burial (symbolic, extended and crouched inhumations) (Marinov & Ivanov n.d.). Other more specific communal ritual practices include the selection of gold labrets to reference rites of passage or the deposition of flat bone figurines to reference deities (Etzel et al. n.d.).

The overall social structure underpinning the Varna cemetery continues to be strongly disputed – from non-hierarchical, egalitarian community (Price, R. 1993; Whittle 1996; Bailey, D. 2000; Kienlin 2010) to chiefdom (Renfrew 1978; Chapman et al. 2006; Anthony 2010; Slavchev 2010) to early state formation (Todorova 1978; Ivanov 1988: 1991)[107]. Price’s (1993) argument that gold was not a sign of wealth but rather just another shiny substance, like carnelian, has not convinced many scholars, who do not see a contradiction between the two positions. D. Bailey (2000) uses his insight that “in the 5th MBC, burial had become a stage for performance, upon which was developed a double-exposure combining community cohesion and intra-group distinction” to develop a non-hierarchical interpretation, in which Varna’s *extra-ordinary* mortuary behaviour was unrelated to everyday life as documented from settlements. But this is not an argument against mortuary hierarchies at Varna. Kienlin (2010) considers extra-mural cemeteries as a response not to social change but to changing perceptions of death and its appropriate treatment, where cemeteries became alternative communal foci to tells and houses – an argument echoing Chapman’s (1991) arenas of social power narrative. Kienlin emphasizes the tribal / kinship-based structure of Varna, where the manipulation of exchange and aggrandizing behavior was set in the context of communal ethics. These interpretations echo those of Whittle (1996), who maintained that mortuary rites emphasised gender differences and celebrated the community’s ability to provide hospitality and exchange, and behave in socially valued ways. Whittle saw the richest graves connected to ancestral worship, with Varna more about spiritual wealth than secular riches and only Grave

107 The case for early states in the Varna Lakes area has not been persuasively argued in recent years.

43 at Varna having religious or symbolic significance for the whole community.

Many of these arguments against a mortuary hierarchy at Varna apply to a wide variety of Phase 4 cemeteries in the East Balkans and the Lower Danube basin. But there is a fundamental weakness in the argument for ancestral values at Varna[108]. Ancestral values on East Balkan tells were already egalitarian and opposed to accumulation but could not cope with the potential for social differentiation of the new metals of gold and copper which exemplified the pre-existing ideology of colour, brilliance and exoticity. Hence, these new materials stimulated the development of an alternative mortuary arena of social power where the constraints on material accumulation could be transcended, often through novel ritual performances (Chapman 1991) centred on both symbolic and inhumation graves. Lichardus (1988) recognized that the top two grades in his five grades of grave-good wealth were present only at Varna. The tensions between dividual, individual and communal identities at Varna does not vitiate the evidence for 'individuals' of differing status – rather that these high mortuary statuses were partly created through enchained, dividual relations. The distribution of so many individual costumes, with fewer examples the more complex the costume, is but one example of the hierarchical patterning of grave good deposition.

Summary of the Varna cemetery

In comparison with the strong egalitarian, dividual ethos of coeval settlements, Varna represented a peak of individualizing tendencies in tension with the normal dominance of dividual relations. Materialization on a large scale, especially in the Varna goldwork, was required to overcome the egalitarian ethos so strong on coeval settlements. However, the political structure of Varna communities was insufficiently developed to sustain the dominance of individuality in life, leading to the collapse of the newly developed mortuary *personae*, which did not recur in post-Varna cemeteries. However, the values of new materials and the practice of accumulation itself had become part of 5th millennium BC lifeways, potentially a threat to the traditional values of egalitarianism and ancestry which remained pre-eminent on many settlements in the late 5th millennium BC in the East Balkans, as well as into the 4th millennium BC in the Trypillia mega-sites. However, the dispersed, more flexible settlement alternative to nucleated tell settlements was increasingly selected through the late 5th and 4th millennia BC, based as it was on the rival ideology.

108 In his most recent writing, Whittle has rowed back from a strictly egalitarian version of Varna, admitting that he had flattened the hierarchy too much (Whittle 2015, 1059).

The post-Varna centuries in the East Balkans and Ukraine

One of the greatest problems in the study of the small cemeteries established near tells in the Lower Danube basin and in North-East Bulgaria is the absence of AMS dates (Lazăr 2012). It would be tempting to propose that these moderately differentiated cemeteries were used in the post-Varna period, viz., between 4400 and 4000 BC, but we cannot be certain. Only at Smjadovo do seven Chalcolithic AMS dates put episodic use of the cemetery before, during and after the dates for the use of the Varna cemetery, with the latest dates around 4300 BC (Chohadzhiev, S. & Mihaylova 2014: 19-22).

The chronology of barrow burials in Eastern Europe and the East Balkans is complex, with continuous use of barrow graves in the North Pontic steppe corridor from the mid-5th millennium BC onwards and earlier barrow burials in the East Balkans occurring a full millennium before the principal appearance of barrow cemeteries in the Lower Danube basin, Southern Bulgaria (Panayotov 1989) and Transylvania (Lazarovici, Gh. 1995), as well as in the Carpathian Basin (Ecsedy 1979) (cf. more generally Harrison & Heyd 2007). The dates of the first group of barrow graves created in the East Balkans overlap with those of the Varna cemetery, suggesting that one of the impacts of the 'Varna effect' (Chapman 2013: 2013b) was the attraction of the colourful, shiny Varna I grave goods for the steppe communities. The barrow graves at Suvorovo, Casimcea & Giurgiuleşti (the 'Suvorovo – Novodanilovka group': Bicbaev 2010; Anthony 2007) contained extended inhumations sprinkled with red ochre, with varied weaponry and gold, copper and *Unio* shell jewellery. The copper in these graves came mostly from the Balkans – either the Ai Bunar mine or the Medni Rid source near Burgas but with two arsenical copper objects at Giurgiuleşti coming from a different source – possibly the North Caucasus (Ryndina 1998; and *contra* Anthony 2010). The weapons consisted of macroblades used as stilettos, zoomorphic mace-heads and, in the case of Giurgiuleşti, two composite weapons interpreted as lances by Bicbaev (2010) but as 60-cm-long swords by Hansen (2013). The exotic grave goods attest to active participation in the Varna exchange network.

However, other mortuary finds closer to the Varna I cemetery cast doubt on the Pontic incursion hypothesis. One of the graves in the small Varna II cemetery, dated to before the Varna I cemetery, contained similar grave goods to those in the Suvorovo group. Moreover, the Reka Devnja grave, supposedly part of a larger cemetery but separate from the Devnja complex (Margos 1978, 147), contained a crouched inhumation bedecked with *Spondylus* beads, both more in the local burial mode than the extended inhumation and *Unio* necklaces found in Suvorovo graves but also with a sprinkling of red ochre.

Rather than a raiding incursion, it is possible that these graves related to long-distance specialists of the kind discussed by Mary Helms (1988; cf. also Jones, A. 2002; Chapman 2008), whose ancestral mortuary practices were fused with local rites in a synergistic performance and who may even have been buried at Varna (see above, p. 266). Anthony (2007, 252) accepts that the early low Suvorovo barrows were a visual response to Balkan tells. Clearly, such a scenario does not work for the Transylvanian *flat* cemetery of Decea Mureşului (Govedarica 2004, 62-76) – interestingly, coeval with the predominantly *flat* sites of the Petreşti group (Paul 1992). Decea Mureşului was a small cemetery with perhaps 20 graves, 15 of which were preserved. The graves showed signs of three grave rows, with all adults in two of the rows and the two cases of the trepanations adjoining in the middle row (2004, Abb. 6). There were more adult extended inhumation graves than children (a ratio of >2:1), with children's grave goods limited to *Unio* shell ornaments, cups and flint points. Red ochre was strewn in a majority of graves, often in concentrations. Although flint blades and occasionally macro-blades and copper awls were often found, the predominant grave good was a belt-decoration of *Unio* mussel shells, up to 1.2m in length, once in five strands and once covering the whole body. Rare, special grave goods included a polished stone porphyry mace-head, a necklace of 310 copper beads and a copper torc. Almost all of the vessels were fragmentary, indicating dividual links between the cemetery and the land of the living. Stray finds from the general area included two more mace-heads, one Jászladány-type copper axe-hammer and macro-blades up to 26cm in length. The extended inhumations, the strewing of ochre and the grave goods from this small cemetery – with echoes of the Vinča cemetery of Botoš in its size and variable distribution of 'rich' and 'poor' grave goods – share many features with the Suvorovo – Novodanilovka graves combined with a local pottery tradition.

Large cemeteries were rare in the early 4th millennia BC in the East Balkans. One possible candidate with both settlement and burial evidence was excavated near the village of Brăiliţa at the toponym *Vad Catagaţei*, located above a Gumelniţa settlement. In the earlier publications, 125 out of the 370 excavated graves were assigned to the Phase 5 Cernavodă I group, in the Lower Danube basin (Harţuche & Anastasiu 1968; Harţuche & Dragomir 1959; Harţuche 2002). The first investigations targeted the 20 graves covered by a barrow, which included inhumations sprinkled with red ochre. The grave goods were remarkably rich for this Phase, including tubular copper beads, strings of limestone, *Spondylus*, *Dentalium* and greenstone beads, askoi and a vessel imported from the late Trypillia Usatovo regional group[109]. In other parts of the cemetery, both crouched and extended inhumations were found, with the latter having an even greater diversity of grave goods, including over 50 graves with *Spondylus* necklaces, greenstone beads, *Cardium* necklaces, two graves with a marble pendant (Harţuche & Anastasiu 1968, Pls. 41 & 43), an alabaster amulet (Pl. 41) and belt-toggles of bone, marble or alabaster (Pl. 43), as well as the well-known marble sceptre with a zoomorphic terminal (Gr. 214: Pl. 41 top).

The concentration of exotic, brightly coloured and shining costume elements is reminiscent of a Neolithic or Early Copper Age tell cemetery in the Black Sea zone or North-East Bulgaria rather than an early 4th millennium cemetery, as is the close association of the cemetery with an ancestral settlement. Igor Manzura (p.c., 2015) has proposed that many of the extended inhumations were probably dated to the Hamangia group. However, in addition to the 4th millennium grave goods which undoubtedly existed (e.g., the marble sceptre, the askoi and the Usatovo pottery import), the site lies far North-East of the usual Hamangia distribution and the site stratigraphy places at least some of the burials after the Phase 4 (Gumelniţa) settlement. It seems most likely that this is indeed a Phase 5 mixed flat-and-barrow cemetery with some of the richest, curated grave goods in Old Europe, continuing the North Pontic ideology of accumulation of bright, colourful exotica.

In the North Pontic steppe corridor up to 100km North of the Black Sea, barrow cemeteries remained in use throughout the 4th millennium BC, with cemeteries associated with Mikhailovka-type finds located in the same areas as Cernavoda I flat cemeteries near the Danube Delta up to 3300 BC. However, the distribution of so-called Yamnaya (or 'pit-grave') barrow burials after 3300 BC showed a hitherto unrecognized degree of mortuary uniformity across the Pontic – Caspian steppe zone (Anthony 2007; Ivanova, S. 2010, 2013; Roe 2013). Anthony (2007: 307) claims that all previous North Pontic groups "rapidly accepted, in varying degrees, the Yamnaya lifestyle" prior to a massive invasion of Yamnaya people into the Lower Danube valley and ultimately Eastern Hungary between 3100 and 2800 BC (2007: 361-3). We shall return to this diffusionist account at a later stage (see below, pp. 270-2).

One impact of the persistent mortuary domain in the North Pontic steppe corridor was felt in the southernmost forest-steppe communities of the Trypillia group, who

109 Even the dating of the Brăiliţa cemetery to the 4th millennium BC is controversial, since the ^{14}C dates for the Usatovo imported vessel fall within the 2nd half of the 4th millennium BC (Rassamakin 2012, Table 5) but the 14C dates for Cernavodă| I fall several centuries earlier.

began to create their own inhumation cemeteries in the CII phase, after 3300 BC (Kruts 2012). The group of four presumably coeval cemeteries located around the dry-stone-walled settlement of Usatovo, near Odessa, combined flat cemeteries and barrow cemeteries, with arsenical-copper daggers and axes found only in the adult male graves of only one of the barrow cemeteries (Petrenko 2008). Similar dagger graves were found in other barrow cemeteries in the steppe, such as at Mayaki on the Dniester, although poorly furnished barrow graves also occurred, as in graves 9/4 and 9/5 in the Dubossary barrow cemetery (Ketraru et al. 2014, 145-6). The inhumation graves in flat cemeteries of forest-steppe Trypillia communities such as Vykhvatinci and Golerkany contained fired clay figurines in the typical Trypillia style, as well as pottery, anthropomorphic bone plaques, flint sickles and blades and perforated stone axes but very little copper (Kruts 2012).

Summary of Lower Danube burials in the post-Varna period

We can now discern a long period of interaction between the North Pontic steppe groups and the East Balkan communities, lasting some 1,500 years (4500-3000 BC). At the time of the most widespread network peak of the Varna period, objects and a few people moved East and West in the steppe corridor over 300 years, including one family of steppe origin whose child was buried at Varna (4650-4450 BC). There ensured a period with continued interaction but at a lower level, which was ended by the major Yamnaya expansion c. 3100 BC and later. In this intermediate period, barrow burials spread through the steppe zone at cemeteries such as Usatovo and Mayaki but the latest Trypillia groups in the forest-steppe were burying their dead in flat cemeteries, such as Vykhvatintsi.

Cemeteries and barrows in the Middle Danube basin

Further West, the proponents of a recent AMS dating programme for late 5th millennium Eastern Hungary have argued that the two phases of the Early and Middle Copper Age – once thought to be sequential – were, in fact partly overlapping (Raczky & Siklósi 2013). Although not totally convincing on Bayesian grounds, this claim would make for a more complex mosaic of coeval groups (? lineages) using overlapping but contrasting styles of pottery, metal and other materials and interacting in the same parts of the Plains landscape. A good example of a cemetery with Bodrogkeresztúr pottery with AMS dates apparently overlapping with cemeteries with Tiszapolgár pottery is the site of Rákóczifalva near Szolnok (Csányi et al. 2010). Here, a cemetery of 79 graves in use for c. 125 years, or only eight generations, was laid out in regular rows in two sectors, with 64 and 11 graves respectively, linked by a line of four graves (Fig. 7.18a). The excavators interpreted the paucity of children's graves as a sign that the buried population may have represented only a segment of the total population, selected on the basis of narrowly defined criteria and including "distinguished members" of the community whose metal grave goods, made from metal probably from Ai Bunar and/ or Majdanpek (Siklósi & Szilágy 2019), materialised the symbolic expression of an elite (Csányi et al. 2010). As with Durankulak (see above, pp. 256-9), categorical analyses of the Rákóczifalva cemetery contributes a gendered perspective to a site with perhaps an unsuspectedly high frequency of copper and gold finds in female graves (Fig. 7.18b – f).

The deposition of grave goods at Rákóczifalva was skewed in favour of adult males, with a higher mean number of grave-good categories per grave combined with more objects in most categories. There was a strong sense of individual identities, with over 40% of graves with grave goods showing exclusive grave-goods categories. There were, however, as many combination object categories as exclusive (n = 7), with only pottery found as an inclusive category. The distribution of materials contrasted strongly between sexed graves, with the far wider range of material combinations found in female graves betokening a richer picture of identities. Over half of the objects had an exclusive distribution, mostly with adult males but gold ornaments with females. But there were also shared distributions of single objects, notably copper and stone found mostly with adult males. The Rákóczifalva pattern of a tension in grave-good deposition between sexed graves resembles that of the Varna I phase at Durankulak (see above, pp. 256-9), suggesting that gender tension may also have played a role in this site. The Hungarian cemetery practices are, however, sharply differentiated from those of the broadly coeval Vărăşti cemetery (see above, pp. 260-1), with its dominant cross-cutting categorization of persons and shared community identities in the mortuary domain.

The tendency to small, dispersed settlements in the Carpathian Basin in the 4th millennium BC was matched by the creation of nodal cemeteries burying the dead from dozens of hamlets in the surrounding landscape. The largest excavated cemetery, at Budakalász, on the Danube banks North of Budapest, has recently been fully published (Bondár & Raczky 2009; cf. Banner 1956; Chapman 2000). The total of 436 graves (Fig. 7.19) includes varied burial practices, with a majority of inhumation graves, some cremations, including some of the earliest inurned cremations in the region, a small number of symbolic graves and some paired animal graves – all in all, an indication of the varied social groups buried there. The AMS dates suggest a duration of 100-150 years, or six – ten generations, at the turn of the 4th – 3rd millennium BC. Unlike in the Tiszapolgár and Bodrogkeresztúr cemeteries,

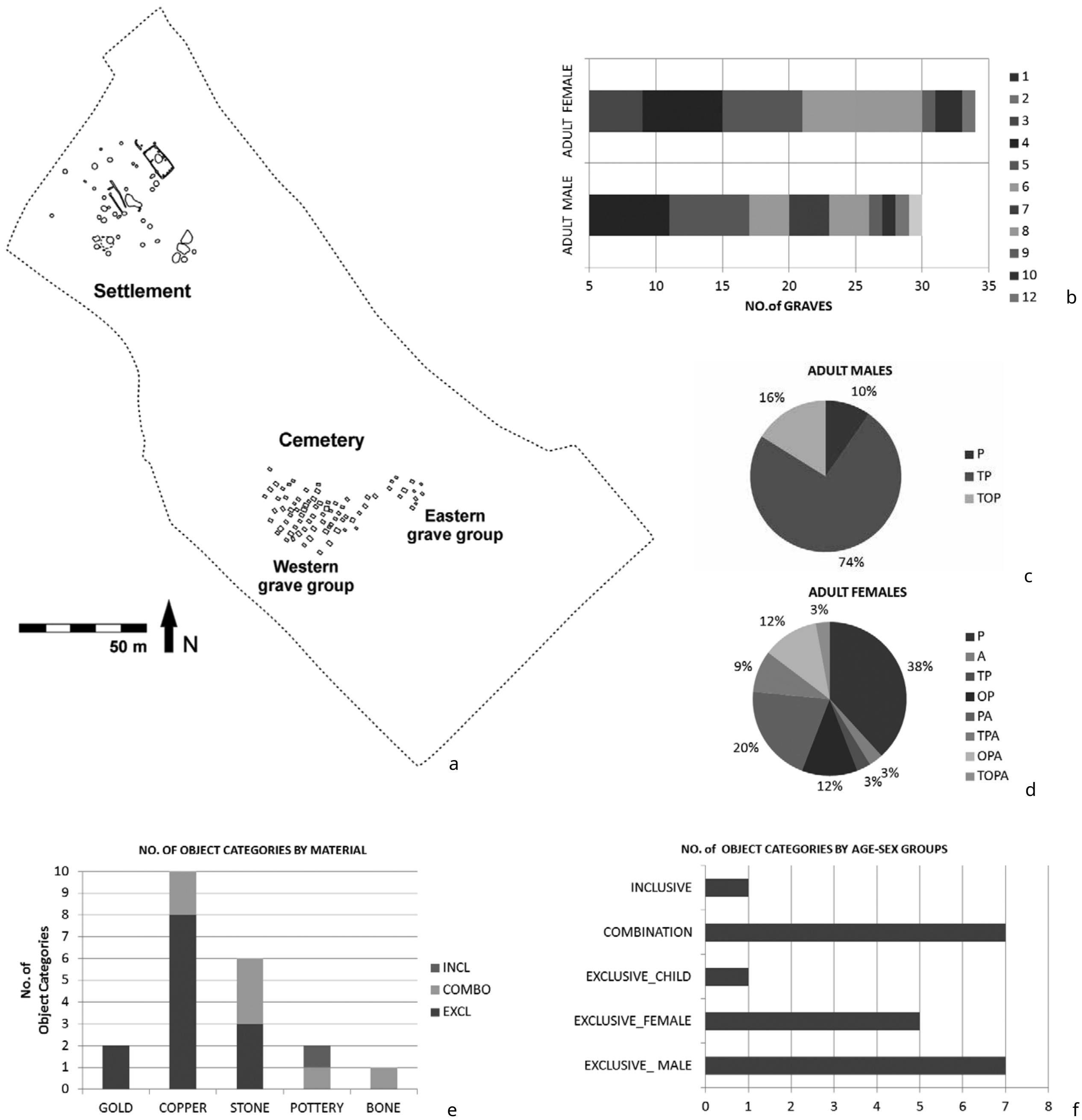
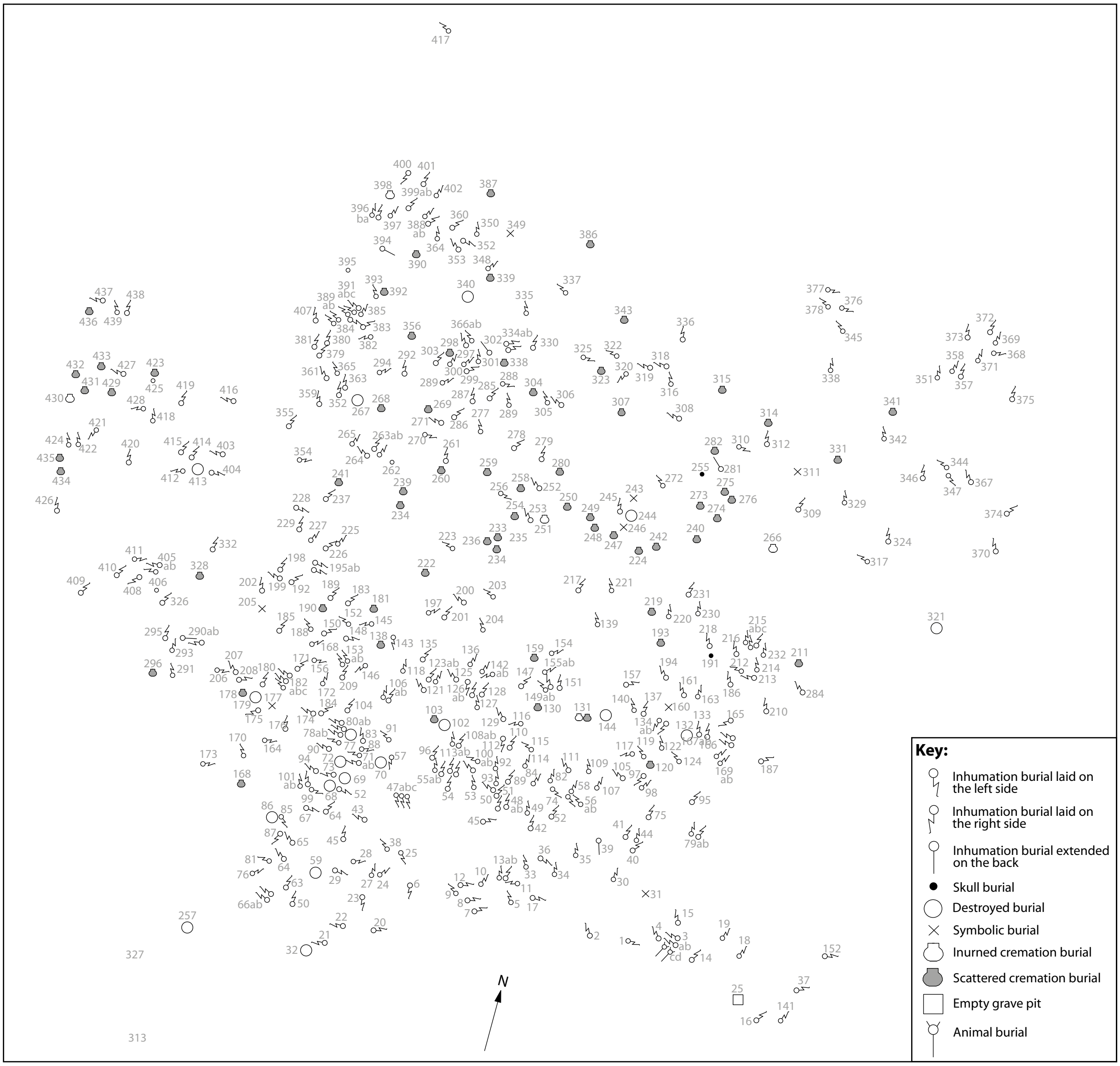


Figure 7.18. Rakoczifalva cemetery: (a) plan (source: Csányi et al. 2010, Abb. 4) (L. Woodard); (b-f) Categorical analyses (source: author).

there was no strong correlation between sex and right- or left-sidedness in the inhumations. Although there were no drinking sets, as in the Baden deposits near Belgrade (Spasić 2010), drinking vessels comprised the majority of grave pottery, with each of the 43 goblets an individual form and two graves with goblets also including fired clay model carts (Figs. 3.8b & 7.19b). The mutually exclusive patterns of goblets and copper finds or other drinking vessels suggest ritual consumption rather than accumulation of metal as a guiding principle for significant adult female as well as male graves at Budakalász. Raczky interprets this pattern as the rise of a new elite based upon 'the new reality of individualisation' developed out of increasing reliance on secondary products, and with cemeteries as large as Budakalász acting as a supra-regional centre, as at Varna, for a supra-regional complex. Similar practices, with the exception of the deposition of goblets, were found at the smaller cemetery of Alsónémedi – a centre for a regional group (Korek 1951; Whittle 1996).

Near the end of the 4th millennium BC, this pattern changed abruptly with the appearance of barrow burials in this region. Most commentators view the *kurgan* as the



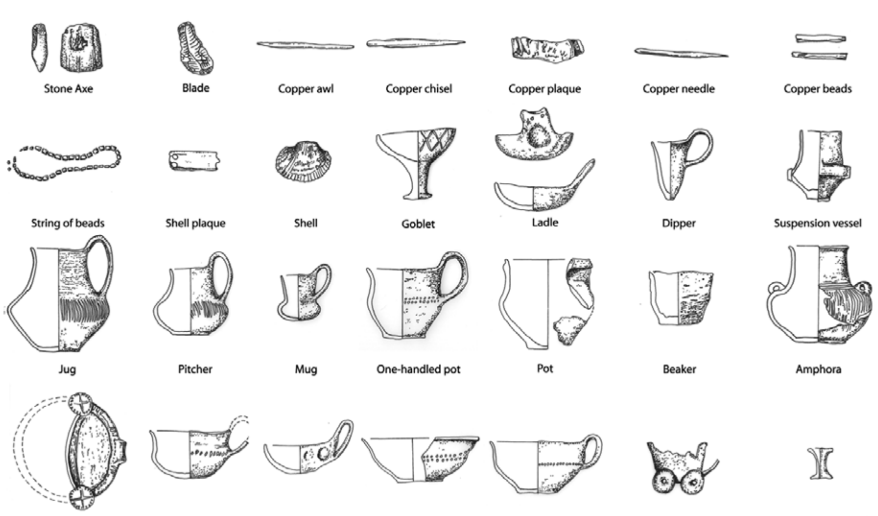


Figure 7.19. Budakalász: (top) plan: size – 110 x 105m (source: Bondár 2009, Fig. 8); (bottom) grave goods: various scales (source: L. Woodard re-drawn from Bondár & Raczky (eds) 2009, Fig. 26).

outward sign of an invasion or migration of north Pontic nomadic pastoralists into an ecological zone of rich pasture land not dissimilar to their steppe homeland (Ecsedy 1979; Gimbutas 1977: 1978: 1979; Sherratt 1982a; Anthony 2007: cf. reply by Chapman and Dolukhanov 1993). The distribution of burial mounds is indeed strikingly broader than the typical site clusters occupied since the start of the Neolithic, dispersed far out into the interfluves (Sherratt 1983, Fig. 16). Ecsedy calculates a total of 3,000 barrows in eastern Hungary, found occasionally in twos and threes but mostly in extensive, dispersed barrow cemeteries with hundreds of metres separating pairs of barrows (Ecsedy 1979: 14). However, in the Hungarian Ministry of the Interior's Kurgan Survey of 2002, 1,649 were identified as surviving, with the extraordinarily high estimate of an original total of 40,000 kurgans based upon archival and cartographic evidence (Tóth, Cs. & A. 2011).

The kurgans cover individual inhumation burials of articulated, complete male skeletons (Fig. 7.20a), furnished with a narrow range of specific grave goods (lumps of red ochre, the remains of blankets and mats, caprine astragali, perforated dogs' teeth, rare silver earrings and copper beads) (Fig. 7.20b – d). All of these undisputed facts would seem to be sufficient to convince readers that we are in the presence of that rare prehistoric specimen – a well-attested migration. However, such a proposal would now require supporting evidence from aDNA and strontium isotope analysis, as well as physical anthropological data. What do the scientific data tell us?

The aDNA analysis of the supposedly ancestral populations of the Hungarian barrow-builders – the Yamnaya group – shows a distinctive aDNA profile with virtually no overlap with Phase 2 early farmers in Hungary (Haak et al. 2015). However, until extensive aDNA analysis is carried out on a large sample of individuals buried in Balkan or Carpathian barrows, I reserve judgment on the existence or scale of population movement into Old Europe. Equally, there have been few isotopic analyses of the barrow and related populations in Eastern Hungary and Western Romania (Gerling et al. 2012; Gerling & Cuigudean 2013). In the earlier paper, Gerling et al. demonstrated that the earlier, late 4th millennium BC burials from Sárrétudvari – Őrhalom were drawn from a local population, while the later, 3rd millennium BC burials were non-locals, probably from a cooler, upland area. The 12 individuals from nine other kurgans also appeared to have derived from local populations. The second study was a comparison of the Sárrétudvari and Kétegyháza kurgan results with barrow burials from the Livezile group in the Apuşeni Mountains of Transylvania. It showed no overlap between the Plains and the upland isotopic values, although the Livezile values, which showed a burial of a local population, fell between the Sárrétudvari and Kétegyháza clusters (2013, Fig. 11). Interestingly, the isotopic values of a cattle bone from a coeval Apuşeni site of the Coţofeni group was so different from the human values that transhumance was suggested. These results showed that some of the earliest burials under kurgans were from the local population, using local (non-Yamnaya) burial rites (e.g., the earliest burial at Sárrétudvari Grave 12: Gerling et al 2012). In summary, there is as yet no isotopic data to link Hungarian kurgan burials with long-distance mobility from the North Pontic steppe but, rather, local transhumance movements linking Transylvanian groups to local populations living in the winter / spring in the Alföld Plain[110].

The alternative view of kurgans is that most of the elements defining the phenomenon have already occurred, singly or jointly, in the earlier Copper Age and that the 'kurgan package' (Harrison & Heyd 2007) is a strikingly novel arrangement of local forms legitimated by symbolic associations with the past. The visual similarity in size and shape between barrows and tells leads one to the hypothesis that kurgans were built to reincorporate the ancestral place-values of tells and their ancestors into the mortuary domain. The impetus for this imitation was local – those abandoned mounds so rich in oral tradition and folk memory, the locus of the tribal ancestors whose ways were not necessarily followed by the acquisitive Copper Age households. The burial form of the kurgans was also not novel, since individual inhumation of complete skeletons was the standard rite for the newly-dead of the earlier Copper Age (Bognár-Kutzián 1963), although, admittedly, extended inhumations were rare (Tiszapolgár-Basatanya and Srpski Krstur: Bognár-Kutzián 1972, 153). The grave goods of the barrow graves also had parallels in earlier Copper Age graves, whether red ochre, copper beads, perforated animal teeth or macroblades. Moreover, some excavated kurgans in Hungary and Bulgaria, though not in Romania, reveal successive burials, with the height of the barrow increasing with each burial, after the fashion of the growth of tells (Ecsedy 1979; Horváth, T. et al. 2013) (Fig. 7.20a). It can thus be demonstrated that many of the elements of the 'kurgan package' were available for combination and recombination in the mortuary arena of the earlier Copper Age of eastern Hungary[111]. It is therefore difficult to differentiate between the two opposing hypotheses: whether 'outsiders' moved into the Alfö1d plain and marked their dominance with monumental barrows, which were then imitated by local elites; or 'local' elites using their skills in bricolage to exploit traditional and well-understood mortuary

110 There is ethnographic evidence for the Moţii pottery-making group, whose 'home' settlements are located in the Apuşeni Mountains and who used to descend to the Plain in late autumn to sell their vessels (Goia & Borlan 2005).

111 This pattern of combination and re-combination is also found in Bulgaria: Gaydarska 2007

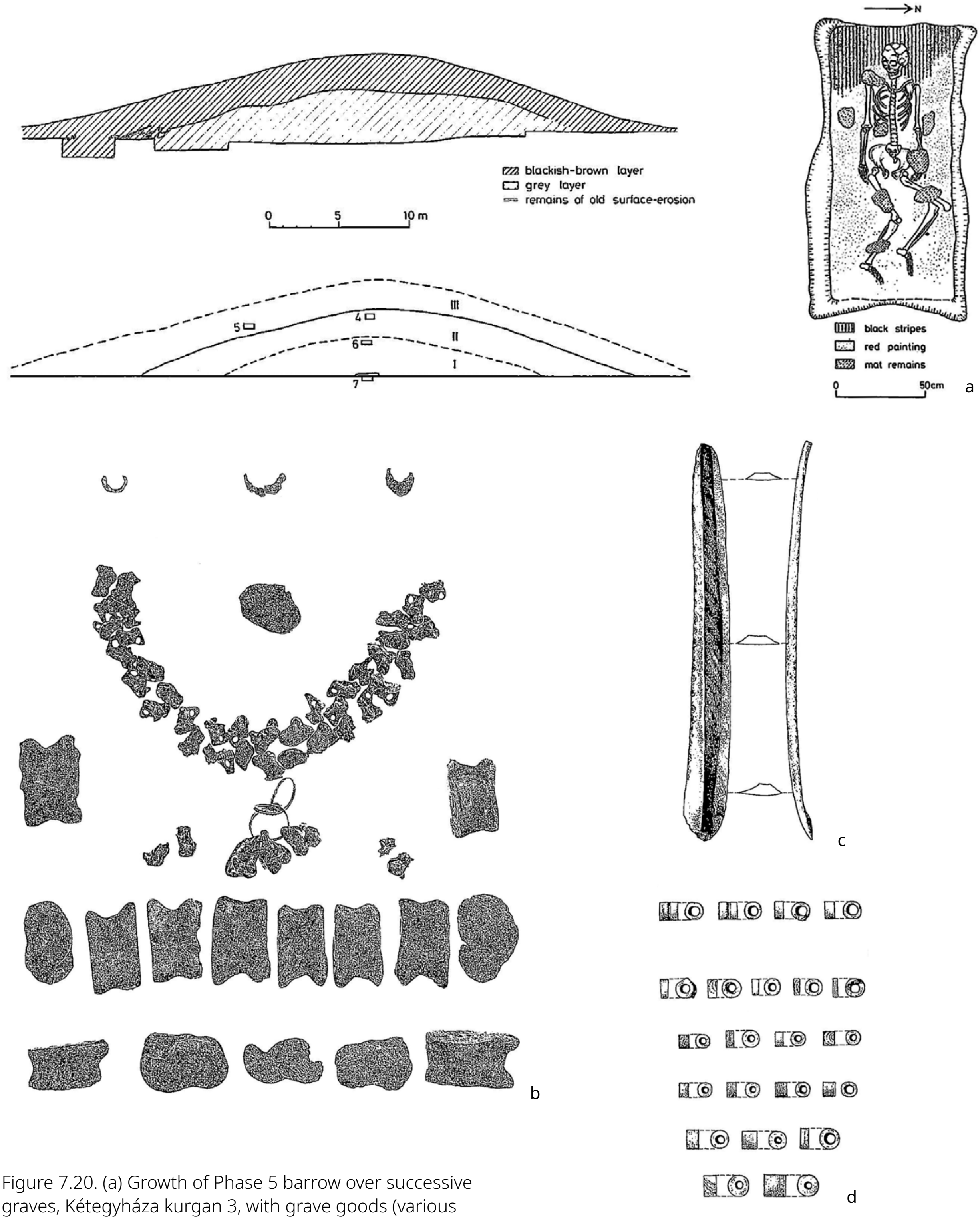


Figure 7.20. (a) Growth of Phase 5 barrow over successive graves, Kétegyháza kurgan 3, with grave goods (various scales): (b) astragalus necklace; (d) bone beads; (c) obsidian macro-blade, Csóngrad single grave; (source: Ecsedy 1979, Figs. 2/1 & 12-13).

symbols, in order to underscore their success in regional alliance and breeding networks. Even as strong an advocate of this folk movement as David Anthony (2007, 361-3) found it difficult to suggest a motive for such a movement! Whatever the case, barrows joined tells as key ancestral foci in the landscape. Unlike partial burials after exhumation in the Hungarian Neolithic, barrow burial represented the end of burial rites, whether it concerns a primary or a secondary burial. There is, however, a paradox here: the full, open, public burial rites in front of the grave of a prominent male, set against the concealment of the body so deep in a 'communal' individual monument as to deny their death. By the same token, the colonisation of the landscape 'settled' by those who built the kurgans is an extension of ancestral land, a legitimation of settlement expansion in a period of agronomic change – the full implementation of the secondary products scenario after its initial fifth-millennium impact on eastern European communities (Sherratt 1981: 1997).

Summary of Middle Danube burial in the post-Varna period

There could hardly be a greater contrast between the two successive modes of burial in the Middle Danube plain – the nodal flat cemeteries from the Early – Late Copper Age (phase 4 and early Phase 5) and the barrow cemeteries of late Phase 5. The flat cemeteries showed variable burial modes through time, with a strong male-female dichotomy in sidedness in the Phase 4 giving way to more mixed sidedness practices in Phase 5, combined with deposition of the most distinctive grave goods with both adult females and males throughout both Phases. Archival studies reveal an estimate of the massive construction of 40,000 barrow burials in Eastern Hungary, with less than 1% survivorhood. Once thought to offer clear support for the incursion of a steppe population, the data are now much more equivocal, with aDNA and isotopic data from barrow burials emphasizing local populations rather than steppe visitors and visual imitation of local tells stimulating the barrow form. With many of the elements of what was once thought to be the 'kurgan package' shown to be local in origin, the main evidence for inter-regional contacts is now the isotopic evidence for cattle transhumance from the Alföld to the Apuşeni Mountains of Transylvania.

Summary of Chapters 6 and 7: the mortuary and domestic domains

In most discussions of Balkan prehistory, the 'mortuary' and 'domestic' zones have been treated as if hermetically sealed from each other. Although some authors cite social anthropologists who emphasise the way that the recently dead continue to fulfill important roles in the community, these insights are rarely transferred into settlement studies with a view to integrating mortuary practice into intra-mural and extra-mural social space. It is time to integrate the mortuary and domestic domains that we have discussed in this chapter and the previous, beginning with the Phase 2 Iron Gates gorge sites.

At first sight, there would appear to be a major change in mortuary practice between foragers and farmers, with the Late Mesolithic pattern of the predominance of disarticulation over complete skeletons being reversed. However, both patterns continued into the farming period (Wallduck 2013). There is a strong case that any complex multi-stage mortuary practices which culminated in the deposition of disarticulated remains had an origin in the Late Mesolithic. The long, if discontinuous, occupation at Lepenski Vir suggests a settlement form not entirely unlike a tell, with vertical expansion of settlement and regular house superposition. Borić' (2016) account of Lepenski Vir deathways demonstrates different functions, group diets and origins for each of the four phases of occupation – Early Mesolithic, Middle Mesolithic, Mesolithic-Neolithic transition and Early Neolithic. A key finding is the abandonment for almost one millennium of the site in the Late Mesolithic – just before the flowering of trapezoidal structures and boulder sculpture. This means that the reasons for this transformation, which Borić does not explain, must lie in other Iron Gates Gorge settlements, in which the development of kin groups, in some cases bounded, led to a focus on specific persistent places identified with the kin groups (Thomas, J. 2013, 20-28). The historical importance of both Lepenski Vir, and to a lesser extent Padina, as ancestral centres made them particularly potent places for new forms of descent-group practices, notably those focussed on the sandstone sculptures and in-house burials, which in turn created central places for the whole Gorge and led to the concentration of exotics from outside the gorge at Lepenski Vir.

In Phase 2 farming sites, Tringham (2005) noted that there was a regular association between the dual practices of house-burning, sometimes as a mortuary ritual, and intramural burial and tell sites in the Macedno-Bulgarian transition zone and occasionally North Bulgaria, as well as on multi-layer sites in the Rhodope foothills. This dual practice was also found in Southern Serbia and the Struma valley, as well as North of the Danube, in settlements better described as multi-layer settlements than tells. It was in early farmers' dispersed flat settlements that house-burning declined in favour of intra-mural burial of complete and disarticulated bodies near houses, in pits and in the occupation layer. However, regional variations occurred with the combination of both mortuary practices – burnt houses on which the dead were placed after the house fire had died down – at two small, dispersed Late Körös sites near Szolnok.

There is a strong relationship between settlement in dispersed hamlets or homesteads and the earliest use of extra-mural cemeteries in several parts of our study region in Phase 3. In each case, the major landscape focus was the cemetery, with a series of homesteads or hamlets bringing their dead to the central place for lineage ceremonies. While there are examples of sites with intra-mural burial at the same time as the use of the cemeteries, it is rare to find sites with burnt houses within 50km of the early cemeteries.

In areas without Phase 2 or 3 extra-mural cemeteries, we observe, *contra* Tringham (2005), the continued use of the dual mortuary practice of combined house-burning and intra-mural burial on tells and the preferential use of intra-mural burial in groups characterized by dispersed settlement on flat sites. The two mortuary trends found among the first farmers continued with the addition of a spatial strategy of the establishment of extra-mural cemeteries in areas with dispersed settlement.

In the first three – four hundred years of the 5th millennium BC, two major intertwined expansions occurred in both the East and the West Balkans, as well as the Carpathian Basin – the expansion of tell lifeways and the wider use of extra-mural cemeteries. In the Lower Danube basin, large extra-mural cemeteries were founded near flat sites. In other areas, such as the Middle Danube basin, tell settlement was not complemented by off-tell cemeteries, while descent-group burials occurred within tells (e.g., Gomolava) and cemeteries were found inside enclosed sites (e.g., at Iclod). A more widespread trend is the continuation of the dual ritual practices of house-burning and intra-mural burial from Phase 3 settlements in all of the tell communities, irrespective of whether they additionally used extra-mural cemeteries or not. In this time of greatly increased regionalization, most areas where cemeteries had been founded also used house-burning as a further element of mortuary diversification. Conversely, the Trypillia A / Pre-Cucuteni groups marked the start of a two-millennium tradition in house-burning complemented with the occasional addition of disarticulated human bones.

There was a striking regional contrast between the Lower and Middle Danube Basins in Phase 4. In the former, even more tells diversified their off-tell space through the creation of small cemeteries than before, as at Radovanu – La muscalu (Comşa 1990). In the latter, there was a tendency to create a wider range of extra-mural cemeteries integrated to networks of dispersed flat sites – homesteads and hamlets. This contrast led to a second difference between the two areas – the continuation of the dual ritual practice of house-burning and intra-mural burial in the former, while relatively few Middle Danube groups practised house-burning alongside the use of extra-mural cemeteries. This trend in the increasing domination of extra-mural cemeteries in the mortuary domain continued on into the late 5th millennium BC East Balkans groups. The single major area which resisted the trend towards cemeteries until the latest phase was the Trypillia-Cucuteni group. A variant development in the Lengyel group in Western Hungary consisted of an alternation between extra-mural cemeteries and large neighbourhood burial groups juxtaposed with zones of dwelling, with both practices associated with house-burning.

The declining significance of the domestic domain in the succeeding Baden period was accelerated still further in the late 4th millennium BC with the extension of barrow cemeteries in several parts of our study area. The Baden flat cemeteries – whether large regional central places as Budakalász or local centres such as Alsónémedi – maintained the tradition started in the 5th millennium BC at Botoš and Cernica, as major foci in the landscape, whose nucleated burial practices integrated many dispersed homesteads. The later barrow cemeteries formed monumental landscape foci in their imitations of tells – another example of the way that mortuary communities drew upon the symbolic resources of the domestic arena in Balkan – Carpathian prehistory.

Was there any sign of long-term changes in the gendered identity of burials? An initial observation is that mortuary practices were summary statements of forms of a complex relational calculus in which many factors other than age, sex and gender were played out. Secondly, most archaeologists analyzing the mortuary domain consider only the ‘global’ rules of burial practices rather than seeking to identify ‘local’ rules which were related to narrower spatial and temporal agendas. Thus, at Phase 3 Kisköre-Damm, there was a ‘global’ preference for ornaments in adult male burials but this was contradicted in several of the ‘local’ burial groups, providing a sense of dynamics that is often missing in Balkan mortuary studies.

Nonetheless, the identification of certain gendered trajectories in mortuary practices may be observed despite local complexities. One basic long-term regularity was the ‘normal’ burial, given to adult males, adult females and children throughout all Phases, of the inhumation burial in a separate grave of an articulated, complete body. Although so-called ‘deviant’ burials are known from all phases and all regions of Balkan prehistory, their frequency rarely exceeds 25% on any single site and their cumulative frequency is often far lower. The rite of normal burial linked adult males, adult females and children together in an overarching mortuary belief system that was drawn upon and played out in different ways in local circumstances. Recent studies of disarticulated burials, especially in Phase 2 in the Iron Gates, show that there was no particular bias towards either adult males or adult females.

The patterns of gender representation in Old Europe are so strong that we can probably exclude the issue of differential preservation of human bones. If there is any gender preference in the selection of intra-mural burials characteristic of Phase 2, it was in favour of adult females – the most common age/gender category found buried on settlements; the same was true for the Phase 3 cemeteries of Maluk Preslavets and Cernica. However, in the Copper Age, adult males began to control the mortuary domain through the burial of far more adult males than females. This pattern occurs in the Phase 3 intramural burials on the Gomolava tell, where no females were buried at all, and was dramatically manifested at the Varna cemetery, where not a single female inhumation was found in the central 'core' zone of rich burials. The most striking example comes from the barrow burials of Phase 5 where the mortuary norm was single inhumations of adult males. The sense of the materialization of gender tensions through opposed burial positions is well illustrated in Eastern Hungary and on into Phase 4, only to be abandoned in the less structured Phase 5 Baden cemeteries. This sense of gender opposition would have been an important aspect of the 'Tiszapolgár' form of personhood, formed when children grew up in the Basatanya hamlets and beyond.

Long-term changes in the use of categorization practices can also be detected in intra-mural and cemetery burials. In the Phase 3 Cernica cemetery, relatively few grave good categories were exclusively associated with adult males or females or children; there was no neat division into the association of ornaments with females and tools with males. Instead, people used overlapping categorisation, with special regard to elaborate ornaments, suggesting that personal identities were not as strong as communal identities. People made similar choices in the earliest (Phase 3) stage of the Durankulak cemetery but, in subsequent phases, adult males were predominantly associated with wild animal remains (Hamangia III period), adult females were frequently associated with the first copper ornaments (Hamangia IV period), while there was a decline in special grave goods in Phase 4 (Varna I period). The most pronounced gender tension may be observed in Phase 4 (Varna II-III period), when the highest number of exclusive grave good categories was found with adult females. This pattern was also found at the Phase 4 cemetery of Rakoczifalva, where gold objects were usually associated with adult females and copper and stone with adult males.

A marked increase in the gendered difference in grave good attribution can be observed in late Phase 3 and Phase 4, where the preferential association of tools with adult males and ornaments with adult females was widespread. The greater the degree of gender polarisation as expressed in the position of the corpse, the more probable was the development of a tool / ornament contrast. The increasing claims that adult males made to the mortuary domain was a long-term trend that, while not necessarily 'reflecting' real power relations, indicated an ideological practice of mobilizing key resources of objects and memory in a domain of steadily increasing importance in the 5th millennium BC. This scenario collapsed in the 4th millennium BC (Phase 5), with mortuary practices leading in two different directions: male-dominated barrow burial and more inclusive cemetery burial with overlapping categorisation involving both adult males and females. These observations serve to challenge Robb and Harris' (2018) notion of a Copper Age transition from a fuzzy set of gender relations in the European Neolithic towards more stable, dichotomous Bronze Age gender principles.

Thus, one of the key elements of a diversity of answers to Tuan's question "What time is this place?" concerns human bodies buried in specific places. The biggest long-term change was the shift from burials within the settlement to burials in separate cemeteries. The temporality of the home was gradually rivalled by the alternative temporality of the ancestors living in their own special place. We now turn to the settlement patterns of Old Europe in order to put these places in a broader social context.

Chapter 8

Long-term settlement dynamics

> "When I finish the ephemeral work, it decays, whereas the moment the permanent projects are finished is the moment they begin. There's an enormous unpredictability about what kind of life they will have" (Andy Goldsworthy, Guardian Reviews, 4/VIII/2018).

Introduction

One of the key research questions in this book is why there were so many settlements in comparison to mortuary sites in Old Europe or other regions of Central and North-Western Europe. It is the aim of this chapter to provide an overview of the settlement trajectories of the major regions of Old Europe. This, in turn, will offer a sound basis for the reconstruction of the social networks which related people and communities to each other within and between regions (Chapter 9).

The basic data for settlement pattern studies comprise the combination of more extensive, landscape-based information from fieldwalking programmes with more detailed site-based information often from excavations. While the former can offer spatially extensive information at a regional level, the latter can provide ways of understanding the material culture (often only pottery and lithics) found through fieldwalking. It will be useful at the outset to consider the range of fieldwalking methodologies currently utilized in Old Europe and identify their biases, potential and limitations.

The basic goal of modern fieldwalking research is the collection of a representative sample of data on site distributions of all periods from a region (Haselgrove et al. 1985; Cherry et al. 1991; Bintliff 1999: 2000; Chapman 1999). Traditional fieldwalking up to the late 1960s and 1970s in much of Europe consisted of small teams walking in areas already rich in sites and finding more sites, leading to major biases. Janusz Kruk's (Kraków) field research in Little Poland identified these biases and implemented strategies for transcending them (Kruk 1973: 1980; Sherratt 1981). Kruk recognised the two most important sampling issues for fieldwalking – the systematic coverage of the whole of the sample area and the intensity at which fieldwalking was carried out. Such sampling questions have been implemented in all major surveys of the Mediterranean zone (e.g., Keller & Rupp 1983; Alcock et al. 1994; Barker 1995; Bintliff & Sbonias 1999).

Until 2000, most fieldwalking programmes in Old Europe fell into two major categories: traditional data collection at the local or regional level and national initiatives. Before 2000, many countries had worked on national 'Archaeological Maps' of their territory. The oldest and most complete is the 'Magyar Régészeti Topográfia' (henceforth 'MRT'), started in 1964 with the aim of completing detailed fieldwalking of all of the 28 counties, often with repeat fieldwalking (Laszlovszky with Chapman 2004).

Other countries have developed their own fieldwork programmes, administered in different ways. In Slovenia and Albania, the programmes were organised centrally for the whole territory (Bolta & Gabrovec 1975; Përzhita et al. 2006), while, in Bulgaria, regional museum data collection was managed centrally, through the Archaeological Map of Bulgaria' (AKB) and the 'National Institute of Cultural Monuments' (NIMK) and now an online service for researchers and cultural heritage practitioners (for a full discussion, see Nekhrizov 2018). In the Central and Western Balkans, most of the data on site distributions and locations have been published in the form of national or regional gazetteers, with very few studies checking the results with supplementary fieldwork (an exception is the Kolubara Survey: Arsić 2011). In Romania, the vast majority of fieldwalking data is presented in the form of online county gazetteers, in which all sources of field data are collected, with limited new fieldwalking to check site information (e.g., the Hunedoara survey: Luca 2005). In Moldova and Ukraine, fieldwalking projects at a local and, more rarely, regional scale were based on decisions by the respective Institutes of Archaeology to cover areas near important settlements currently under excavation (e.g., the South-East Vinnitsya survey: Rud 2015).

With the exception of the Hungarian Archaeological Topography, the recording techniques of all of these national, regional and local fieldwalking programmes were relatively basic, with a 'site' identified in terms of a distance and a compass direction measured from a village (e.g., Site 24 with Trypillia sherds, location 2.3km North of Nerubaika). The scarcity of information on total site size or the size for different temporal components made it difficult to validate the results of the fieldwalking programme. Two programmes introducing intensive, systematic fieldwalking were the Neothermal Dalmatia Project in Croatia (Chapman et al. 1996) and the Upper Tisza Project in North-East Hungary (see below, pp. 293-9).

There has been a major increase in the diversity of sources of fieldwalking data since AD 2000, leading to a far broader picture of settlement trends in almost every part of Old Europe. The two reasons are the increase in large-scale, destructive, essentially linear infrastructural projects (motorways, railways, fuel pipelines) and a renewed commitment to archaeological mapping as a management tool for cultural resource management. Thus, in a ten-year period of Croatian field reports (2001-2010)[112], two-thirds of the fieldwalking projects arose from motorway developments[113]. The fieldwalking programmes covering the line of the six major motorways constructed in Hungary from 1990-2013 – a total length of over 1,000 km – diverted all available archaeologists away from the languishing MRT programme. In his summary of this rescue programme, Raczky (2007) showed how 250 archaeologists and 500 students of archaeology managed to excavate an area of over 7 million m^2 on almost 700 sites. This effort resulted in a massive increase in field data, which we are still digesting today over a decade later (for a summary of publications, see Ilon 2013a). Much of the new data has been integrated with GIS studies and remote sensing data at the local or regional level (e.g., for the M3 motorway in Hungary, Czajlik et al. 1997) To summarise, the massive diversity of fieldwalking data sources has been rarely synthesised, let alone put in a wider prehistoric context. Are there specific biases that we can attribute to the fieldwalking data now available? And what questions can we answer from the sum total of fieldwalking data in terms of long-term settlement trends?

While the development of national and regional programmes for gazetteers and/or fieldwalking could alleviate the biases in selection of study areas, the unfortunate fact remains that there are strong biases in almost all kinds of study areas. The most obvious biases in fieldwalking coverage concern the neglect of the upland zone and the preference for lowland-zone terrain. Part of the problem is the lack of plough-zone archaeology in upland areas dominated by forests or pastureland (e.g., Sample Block 3 in the Zemplén Mountains, Upper Tisza Project: Chapman 2004). The traditional bias towards sites on the first terrace of major river valleys is reinforced by the construction of most railway lines and motorways on those terraces and the selection of lowland valleys near to museum towns (e.g., the Struma valley, Bulgaria: Chokadzhiev, S. 2007; Grębska-Kulow 2011).

In the main part of this chapter, I present summaries of over 40 mapping / fieldwalking projects from all parts of Old Europe[114] (Table 8.1). Regrettably, the number of high-quality projects with intensive, systematic data collection remains fewer than 10. Many of the regional gazetteers from Bulgaria and Romania have yet to see publication, in contrast to the general gazetteers from six areas of Serbia and the general account of Neolithic and Eneolithic settlement in North Macedonia. It has not been possible to synthesise the fieldwalking results of motorway fieldwork in either Croatia or Hungary or site-focussed surveys in Ukraine. I have selected for detailed discussion two or three important fieldwalking programmes from each nation state, putting the results into a wider context. I am confident that this approach provides results representative of prehistoric settlement patterns in the study region. So – what research questions can we pose using this diminished data set?

112 This literature review was based on two leading journals the 'Prilog' and the 'Annual' of the Zagreb Institute of Archaeology.

113 Local political factors notwithstanding, there is an unfortunate contrast between the lack of a fieldwalking and rescue excavation in advance of the construction of the Beograd – Niš motorway in Serbia and the extensive programmes in neighbouring Hungary and Croatia.

114 The selection of fieldwalking programmes for discussion here has been severely limited by available space.

Survey No.	Country	Region / area	Chronological coverage	Spatial extent (km^2)	Reference
1	Bulgaria	Nova Zagora	Neolithic – Copper Age	600	Yordanov, I. 1999
2	Bulgaria	Drama Basin Survey	Neolithic – Roman	50	Lichardus et al. 2000
3	Bulgaria	Mirkovo Basin Survey	Neolithic – modern	20	Dumanov, Gaydarska & Chapman, unpub.
4	Bulgaria	Maritsa Iztok	Neolithic – Early Bronze Age	220	Gaydarska 2007
5	Bulgaria	Tundzha Basin	Neolithic – Early Bronze Age	29	Ross et al. 2018
6	Bulgaria	Struma valley	Neolithic – Copper Age	2,000	Chokadzhiev 2007; Grębska-Kulova 2011
7	Bulgaria	Orlovo area	Neolithic – Copper Age	300	Chapman 2010
8	Bulgaria	Yantra survey	Neolithic – Early Bronze Age	1,000	Krauß 2006; Conrad 2015
9	Bulgaria	Targovishte Gazetteer	Neolithic – Copper Age	2,000	Angelova 1991
10	North Macedonia	National gazetteer	Multi-period	25,700	Koco 1994
11	Kosova	National Gazetteer	Multi-period	10,000	Përzhita et al. 2006
12	Croatia	North-West Croatia Gazetteer	Multi-period	9,500	Šimek 1997
13	Slovenia	National Archaeological Map	Multi-period	20,000	Bolta & Gabrovec 1975; annual site gazetteers in Poročilo 1990-2010
14- 19	Serbia	6 Regional Gazetteers (see Table 8.2)	Multi-period	Various (2,667-3,865)	Bulatović 2007; Bulatović & Jović 2010; Davidov 2004; Stojić & Čadjenović 2006; Stojić & Ilijić 2011; Stojić & Jacanović 2008; Stojić & Jocić 2006.
20	Serbia	Middle Morava valley	Neolithic	4,000	Chapman 1981; Vetnić 1974: 1998; Perić, Slaviša 2004
21	Serbia	Šumadija survey	Neolithic	2,000	Chapman 1990
22	Serbia	Kolubara survey	Neolithic	2,500	Arsić 2011
23	Serbia	Middle Sava survey	Neolithic	2,000	Chapman 1981
24	Serbia	Middle Tisa survey	Neolithic	2,000	Chapman 1981
25	Bosnia	Okolište survey	Neolithic – Copper Age	130 (30 intensive)	Müller et al. 2013
26	Croatia	Čepić Polje survey	Palaeolithic – Neolithic	0.7	Balbo et al. 2004
27	Croatia	Neothermal Dalmatia Survey	Palaeolithic – modern	110	Chapman et al. 1996
28	Eastern Hungary	Békés I survey	Palaeolithic – Mediaeval	2,000	Sherratt 1982: 1982a: 1983
29	Eastern Hungary	Békés II survey	Palaeolithic – Mediaeval	1,225	Jankovich et al. 1989
30	Eastern Hungary	Körös Region Archaeological Project	Neolithic – Copper Age	2,000	Parkinson 2002: 2006; Parkinson et al. 2010: 2017
31	Eastern Hungary	Upper Tisza Project	Palaeolithic – modern	33km^2 (forest survey) & 0.012km^2 (intensive field-walking)	Chapman 2004; Chapman et al. 2010: 2010a: 2010b
32	Romania	Southern Romania Archaeological Project	Neolithic – Chalcolithic	12	Bailey et al. 2002
33	Romania	Caraş-Severin Gazetteer	Mesolithic – Mediaeval	8,500	Luca et al. 2011
34	Romania	Hunedoara Gazetteer	Mesolithic – Mediaeval	7,000	Luca 2005
35	Romania	Sibiu Gazetteer	Mesolithic – Mediaeval	5,400	Luca et al. 2011
36	Romania	Mesolithic Gazetteer	Mesolithic	470,000	Chirica et al. 2013
37	Romania	North Muntenia Gazetteer	Neolithic – Chalcolithic	9,600	Frînculeasa 2010
38	Romania	Argeş-Dîmboviţa Survey	Neolithic – Chalcolithic	5,100	Ştefan & Florea 2011
39	Romania	North Dobrudja Survey	Neolithic – Chalcolithic	12,800	Carozza et al. 2011
40	Romania	Cucuteni Gazetteer	Neolithic – Chalcolithic	55,000	Monah & Cucoş 1985; Popovici 2000; Bem 2007
41	Ukraine	Trypillia Encyclopaedia	Neolithic – Chalcolithic	200,000	Videiko 2004; Nebbia 2020
42	Ukraine	Vinnitsya survey	Neolithic – Chalcolithic	26,500	Rud 2015
43	Ukraine	Nebelivka survey	Neolithic – Chalcolithic	180	Nebbia 2020
44	Western Hungary	M7 motorway, County Somogy	Neolithic – Chalcolithic	60km linear	Belényesy et al. 2017
45	Western Hungary	Little Balaton survey	Neolithic – Chalcolithic	600	Költő & Vándor 1996
46	Western Hungary	Hahót Basin survey	Neolithic – Chalcolithic	120	Szőke 1995
47	Western Hungary	Kerka microregion survey	Neolithic – Chalcolithic	320	Bánffy 2005

Table 8.1. Fieldwalking programmes in Old Europe, 1960s – present (see also Fig. 8.1) (source: author).

The first point is the importance of the landscape scale of enquiry, in which local and regional settlement patterns are not only set within the physical context of the landscape but can be related to the active agency of the landscape. Although the majority of fieldwork is concentrated in the lowland zone, Old Europe is essentially a mountainous region dominated by the Dinaric Alps and the Carpathian range. At the same time, far fewer areas of Old Europe were covered by Pleistocene glaciers, providing a different set of affordances – whether soils, vegetation cover, plants or animals – for Holocene settlers in comparison to Central Europe. These features define a key set of affordances which could have been taken up or ignored by human and indeed plant and animal communities. A basic distinction for the landscapes of Old Europe is that between lowland zones and upland zones. The centrality of fertile arable soils to Neolithic and Copper Age dwelling is shown by the high concentrations of settlement in the principal lowland zones and main valleys. The conclusion that soil scientist Robert Shiel reached for the Dalmatian landscape – that the best arable soils in the Altithermal period were also the best pastureland (Shiel 1996, 28-29, 254-5 & Tables 30-31) – resonates across all of Old Europe. It will be important to discover the temporal characteristics of dwelling in the lowlands and the uplands and to check if 'continuous' settlement occurred only in the lowland zone and 'punctuated' settlement was typical of the upland zone only.

To summarise the results of the analysis of palaeo-environmental sequences discussed in Chapter 1 (pp. 17-20; cf. also Chapman 2018), the study region can be divided into two broad lowland vegetation zones: (a) a large mixed deciduous forest zone from the Mesolithic period onwards, whether dominated by oak, hazel or elm trees; and (b) a drier zone where there were more open-country herbs and grasses, often with high levels of natural fires, in which open steppe was found in Crimea and the West Pontic coast, forest steppe in Bulgarian Thrace, evergreen oak forests in Northern Greece and open parkland in North-East Hungary. This basic division continued into the 7th and 6th millennia BC, with steppe prevalent in smaller areas (e.g., the West Pontic coast), evergreen parkland in the Crimea, Northern Greece and Dalmatia and deciduous forest replacing forest steppe in Bulgarian Thrace and the South-West Pontic. Although most areas were covered in mixed deciduous forest, there was an increasing vertical zonation of trees, with more hornbeam, beech and ash than earlier. The greater affordances for farming provided by the more open zone created differentiated landscapes across the study region, to which early farmers responded with varied settlement strategies.

The second question concerns the definition of a settlement pattern (Kowalewski 2008) through the identification of recurrent combinations of the eight site types used in Chapter 6 (see above, p. 199 ff.)[115]. Overlaid on this typology of sites is a social categorization of settlement units usually based on the size of the artifact scatter forming the 'site' – homesteads (or farmsteads), hamlets, villages and, uniquely in the Trypillia case, towns or 'proto-cities' (for definitions and discussion, see Chapter 2, p. 45).

A further general point is the use I make of the term 'nodal' settlement. In terms of a network approach (see Chapter 9), it is important to identify network centrality and, in archaeology, the only level at which this is currently possible is the site level. Hence, my use of the term 'nodal' settlements does not prejudice the type of central site that emerges from the network analysis (Chapter 9) but merely flags up a potentially significant site in a local area or a region.

The third question that we can answer relates to the degree of site dispersion, nucleation or strong aggregation. Ultimately, this question refers to 'living well together' (Whittle with Bartosiewicz 2007) and, more particularly, how many people could manage to live well together. The site types often stand as proxies for differences in settlement size, which could range from a dispersed homestead of 10-15 people to the maximum estimates published so far for a Ukrainian Late Neolithic Trypillia mega-site (46,000 people: Rassmann et al. 2014)[116]. Archaeologists may be poor demographers (the only archaeologists who now believe the diffusionist slogan of "pots equal people" are fieldwalkers or devotees of Big Data!) but fieldwalking data can often provide reliable evidence about where most sites fall along the nucleation – dispersion continuum (henceforth, 'NDC'). For inter-regional comparative purposes, while acknowledging that there is no formal mathematical basis for the determination of such values, site classes will be assigned a notional value from 1 (strongly dispersed homesteads) to 10 (highly nucleated Trypillia mega-sites).

The fourth question relates to the degree of settlement clustering, whether in time or space. Temporal clustering of sites refers to the degree to which the same parts of the landscape are settled in the long-term, manifesting a concentration of a high proportion of settlements in a small proportion of the landscape. These temporal site clusters, termed 'multi-community zones' (henceforth 'MCZs': Chapman 2003) – mark a long-term commitment to

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115 To recapitulate, in parallel to burial sites such as cemeteries and mortuary barrows, there were eight principal site forms: occupation sites (tells, flat sites, enclosed sites and lake-dwellings) and specialised sites (pit sites, extraction sites (flint or copper mines, quarries, salt exploitation sites, etc.), cave sites and landscape deposition sites).

116 Most prehistorians, including Rassmann's German colleagues and Rassmann himself, would now opt for an estimate considerably smaller than this figure (Gaydarska 2020).

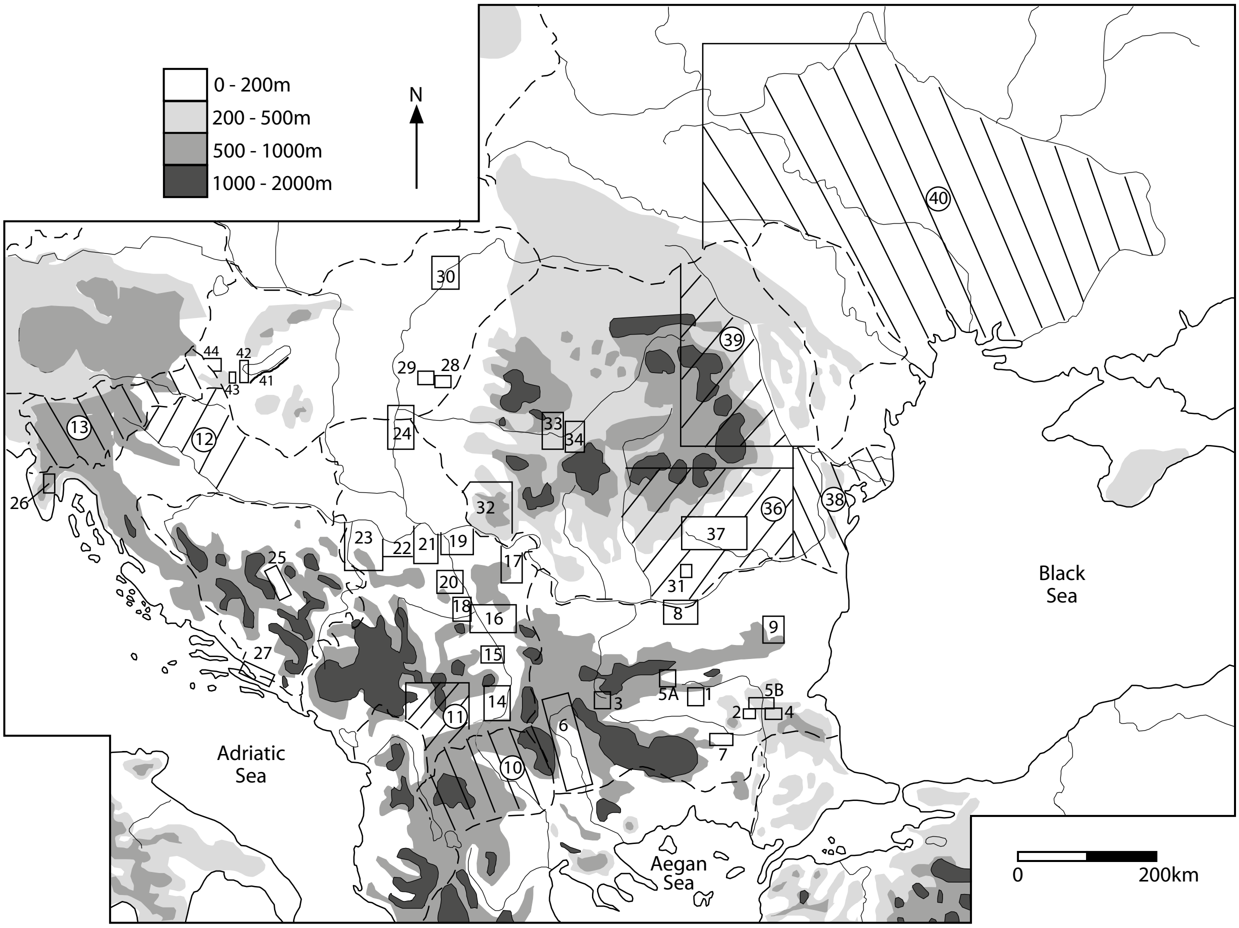


Figure 8.1. Location of fieldwalking surveys and gazetteers: 1 – Nova Zagora Survey, Bulgaria; 2 – Drama Basin Survey, Bulgaria; 3 – Mirkovo Basin Survey, Bulgaria; 4 – Maritsa Iztok Survey, Bulgaria; 5 – Tundzha Basin Survey, Bulgaria (A – Kazanluk area; B – Yambol area); 6 – Struma valley gazetteer, Bulgaria; 7 – Orlovo gazetteer, Bulgaria; 8 – Yantra Survey, Bulgaria; 9 – Targovishte gazetteer, Bulgaria; 10 – National gazeteer, North Macedonia; 11 – National gazeteer, Kosova; 12 – North-West Croatia Gazeteer; 13 – National Archaeological Map, Slovenia; 14 – Regional Gazetteer, Vranje, Serbia; 15 – Regional Gazetteer, Leskovac, Serbia; 16 – Regional Gazetteer, Niš, Serbia; 17 – Regional Gazetteer, Knjaževac, Serbia; 18 – Regional Gazetteer, Kruševac, Serbia; 19 – Regional Gazetteer, Požarevac, Serbia; 20 – Middle Morava valley Survey, Serbia; 21 – Šumadija Survey, Serbia; 22 – Kolubara Survey, Serbia; 23 – Middle Sava Survey, Serbia; 24 – Middle Tisa Survey, Serbia; 25 – Okolište Survey, Bosnia & Hercegovina; 26 – Čepić Polje Survey, Croatia; 27 – Neothermal Dalmatia Survey, Croatia; 28 – Békés I Survey (coterminous with the Körös Regional Archaeological Project Survey), Hungary; 29 – Békés II Survey, Hungary; 30 – Upper Tisza Project; 31 – Southern Romania Archaeological Project Survey, Romania; 32 – Caraş-Severin Gazetteer, Romania; 33 – Hunedoara Gazetteer, Romania; 34 – Sibiu Gazetteer, Romania; 35 – Mesolithic Gazetteer (from the Dniester to the Tisza: not marked on map); 36 – North Muntenia Gazetteer, Romania; 37- Argeş-Dîmboviţa Survey, Romania; 38 – North Dobrudja Survey, Romania; 39 – Cucuteni Gazetteer, Romania; 40 – Trypillia Encyclopaedia Gazetteer (after data cleaning by M. Nebbia); 41 – M7 County Somogy survey; 42 – Little Balaton survey; 43 – Hahot Basin survey; 44 – Kerka microregion survey (source: author) (L. Woodard).

a limited landscape area, often no larger than 20km^2 and with relatively empty places between the MCZs. The MCZ refers to a spatially more inclusive area than the term 'persistent place', with its significance for group identity through time (Bánffy et al. 2016; Schlanger 1992). The MCZ is the social equivalent of the spatial term 'micro-region', just as the social term 'community area' relates to the spatial term 'site' (Kuna 1991). In some areas, 80% of the sites are concentrated into 20% of the landscape (e.g., the Great Hungarian Plain: Chapman 1999), while, in others, one-period nodal monuments do not attract later deposition in such a focussed way (e.g., North Bulgaria). Some MCZs are centred on a key resource, such as the Lengyel sites clustered around the Szentgál radiolarite source (Regenye 2001). Spatial clustering refers not only to the topographical and altitudinal contrasts in site location but also to the ways in which large core sites structured their peripheries through networks of smaller, dependent sites.

A central feature of each settlement type is their development of what Gudeman (2001:29-30) has termed their 'commons' – a material thing, such as land, or knowledge that people had in common, what they shared. "A commons is maintained as the affirmation of community itself." Whatever kind of settlement network or form of land tenure was in operation, each settlement had a 'commons', which helped to unite the residents and differentiate them from other communities.

I have not attempted to answer a potential fifth question – how many people lived in Old Europe in the different Phases? In an attempt to plot the population densities and estimates of millions of people for South-East Europe in our period of interest, Johannes Müller (2015, Fig. 17.3) hazards a guesstimate of 1-1.3 million early farmers in Phase 2, living at 1-1.2 persons/km2, with a decline of half a million people by 3800 BC. But these are, frankly, meaningless figures that are so general that they cannot impact on the political organization of local communities or their settlement patterns. In my opinion, it may be more feasible to attempt such a palaeo-demographic guesstimate after the analysis of regional settlement patterns, to which we now turn.

In the regional studies of settlement patterns that follow, I shall attempt to gain a better understanding of settlement strategies across the study region through the use of comparative interpretations linking two or more regions wherever possible. The location of fieldwalking study regions is presented below (Fig. 8.1; Table 8.1). However, the structure of the data sources makes it inevitable that the account is written according to current national boundaries.

Settlement patterns by modern state

Bulgaria

Nine mapping / fieldwalking projects have been completed in Bulgaria, ranging from small micro-regional surveys to larger-scale rescue surveys or traditional county surveys (Nikolov V. et al. 2006) (Fig. 8.1; Table 8.1). It is frustrating that, in the only systematic, intensive fieldwalking survey in a core area of Thrace (the Middle Tundzha), no tells were identified, while, in an area full of tells (Nova Zagora), no intensive, systematic fieldwalking has been completed. The story in the Nova Zagora district (Yordanov, I. 1999) (Fig. 8.2) was that the first farmers founded only one tell (Karanovo, a persistent place occupied in Yordanov's phases I, II and II-III) (Fig. 6.3). By Phase 3 (Karanovo III), the three sites under occupation – the higher part of the Karanovo mound, the low mound of Ezero and the flat site of Nova Zagora-Komunalni uslugi – defined the core area of Neolithic settlement. In Karanovo IV, all three Karanovo III sites were re-occupied, with one new flat site at Nova Zagora – Hlebozavoda. In the Early Copper Age (Karanovo V), there was an expansion of territory settled through the founding of five more sites. In Phase 4 (Karanovo VI), there was a contraction of the settled area as the number of sites fell by three. The summary picture is of two key tells – Karanovo and Ezero – with the area between these two tells constituting the core settlement area for the whole Neolithic – Copper Age. The faunal spectrum from the Ezero tell in Phase 4 showed little game meat and a strong preference for beef. Expansion both East and South of the core area occurred late in Phase 3, with a retraction in Phase 4. The Nova Zagora example shows an overall dispersed distribution of tells, with an NDC score of 5 on the nucleation-dispersion continuum and temporal clustering in the core area based upon two nodal tells – persistent places in an otherwise fluctuating settlement landscape.

The palaeo-environment North of the Stara Planina was likely to have been more temperate and more forested than in the Thracian lowlands. The more extensive forest cover in North Bulgaria certainly indicated higher energy levels required for forest clearance than in the more open Thracian valley to the South and may have favoured the keeping of cattle and pigs over sheep and goats. The Yantra Project was located in the North Danube lowlands. The settlements of the first farmers were very few and dispersed, with no obvious clusters of sites (Fig. 8.3a). However, the Early Neolithic sites had a pronounced founder effect (Krauß 2006), with clusters of Late Neolithic settlements near each Early Neolithic site (Fig. 8.3a). This pattern produced social relations prioritising the earliest ('founder') sites with their lineage heads and linking all later sites to these lineage origins. The three Late Neolithic clusters reveal an expansion of the settled area and a growth in site numbers. There was a further expansion of settlement in the Copper Age, with six settlement clusters, including one in each core Early Neolithic area but mostly focussing on different areas than were settled in the Late Neolithic (Fig. 8.3b). There was a major concentration of tells in the South-East zone, with no tells in four of the Copper Age clusters. Of the six clusters of Early Bronze Age sites, three matched the Early Neolithic core areas, while overlapping with Copper Age clusters, especially those with tells. Thus, there was a settlement contraction in some areas, with settlement expansion into unsettled areas, or areas not settled for several millennia, in others. A total of 260 Early Bronze Age mortuary barrows was found in this region (Conrad 2015), many West of the river Lom, outside the Copper Age and Early Bronze Age clusters (Fig. 8.3c). However, linear barrow groupings were found in five Copper Age clusters (clusters 1, 3, 4-6), including both clusters with Copper Age tells, and three Early Bronze Age clusters (clusters 1, 4 and 5).

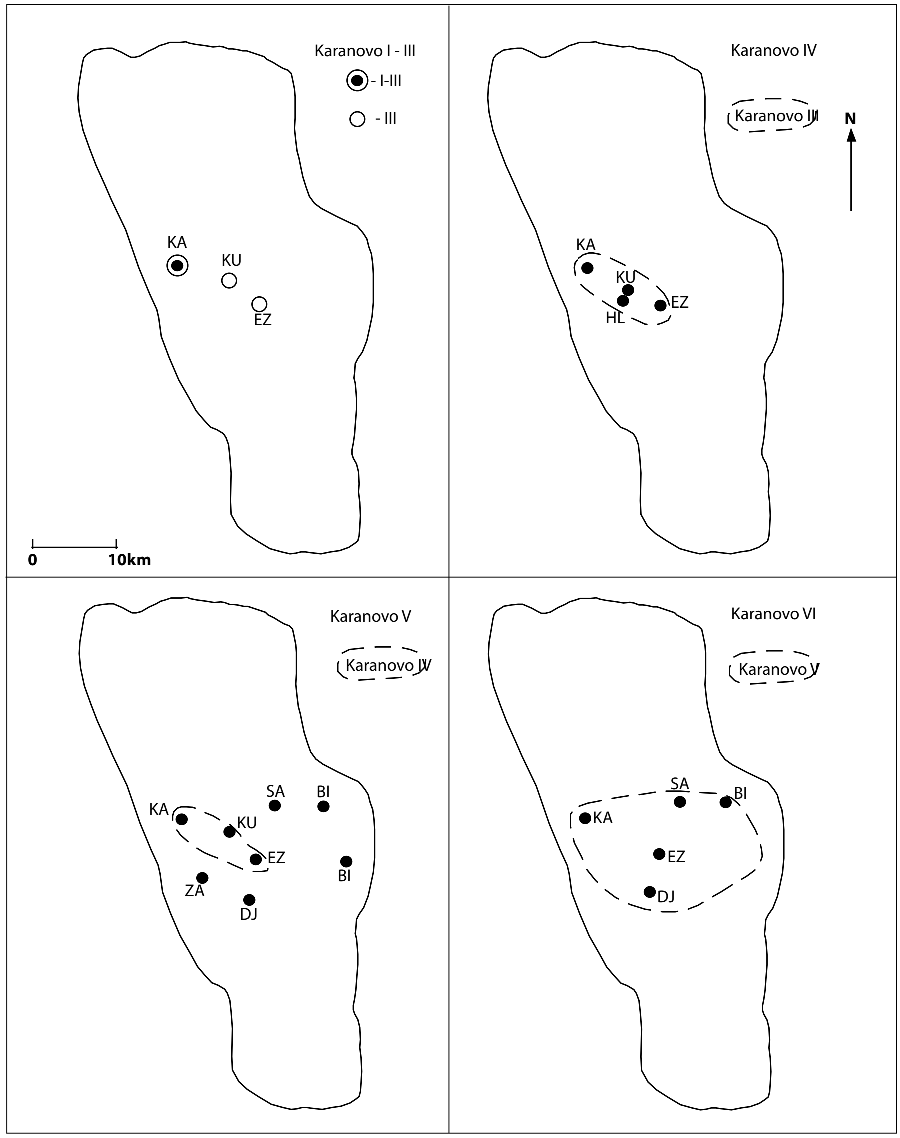


Figure 8.2. Site distribution by period, Nova Zagora area (source: L. Woodard, redrawn from Kuncheva-Ruseva 1999, Obr. 1).

With the re-settlement of the core areas, the Early Neolithic founder effect in the Yantra region was palpable, lasting, perhaps unexpectedly, into the Early Bronze Age. With each settlement expansion into a new valley, there was the potential for new founder sites preferentially linked to the earliest nodal sites, which then replicated the lineage relations in later settlements. Krauß has constructed a complex settlement structure for Phase 4 (2010, Abb. 16: here Fig. 8.3d). This spatial clustering suggests a hierarchical structure, with tells at the pinnacle and flat sites, workshops and cemeteries all connected to the tell rather than to each other. This structure implies an NDC score of 5 for Phase 4 (the Late Copper Age). However, a more fluid network may have existed, with differential kinship relations between sites based upon their proximity to the founding lineage and tensions developing between nodal founding sites – often tells – and later foundations – often flat sites.

General conclusions for Bulgarian settlement patterns

The analysis of the settlement data sets currently available – both the studies discussed here and other research mentioned in Table 8.1 – confirms the established picture of the development of tells in Thrace in the Neolithic and a later expansion of tell lifeways into Northern Bulgaria in the Copper Age. While there was an overall tendency for an increase in site numbers in the Copper Age, especially in the Targovishte district, site numbers and site sizes in other areas (e.g., the Struma valley) actually declined in the Early and Late Copper Age after a Late Neolithic peak. Yet other areas, such as the Yantra Basin and several Thracian areas, were characterised by long-term low

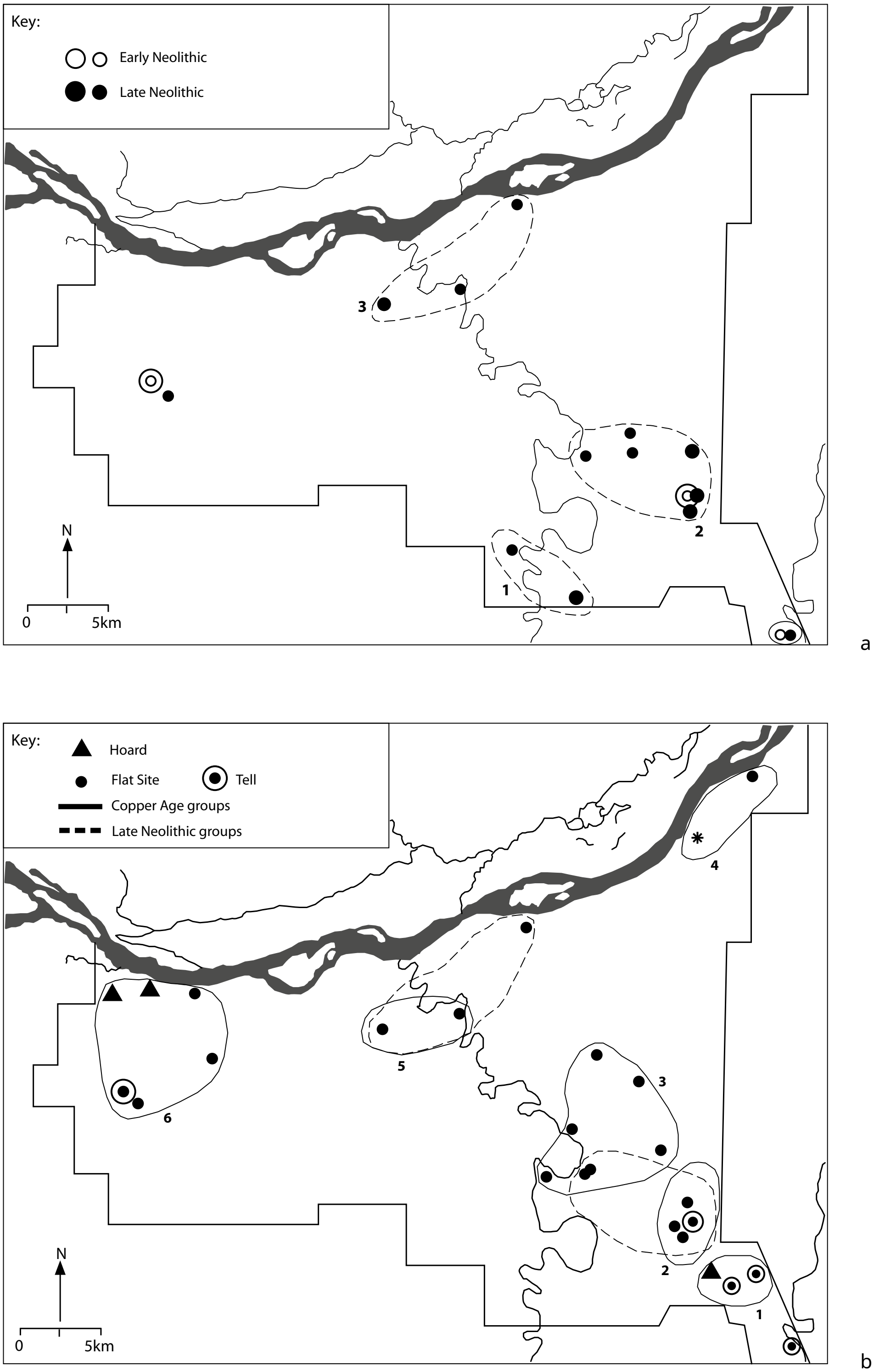
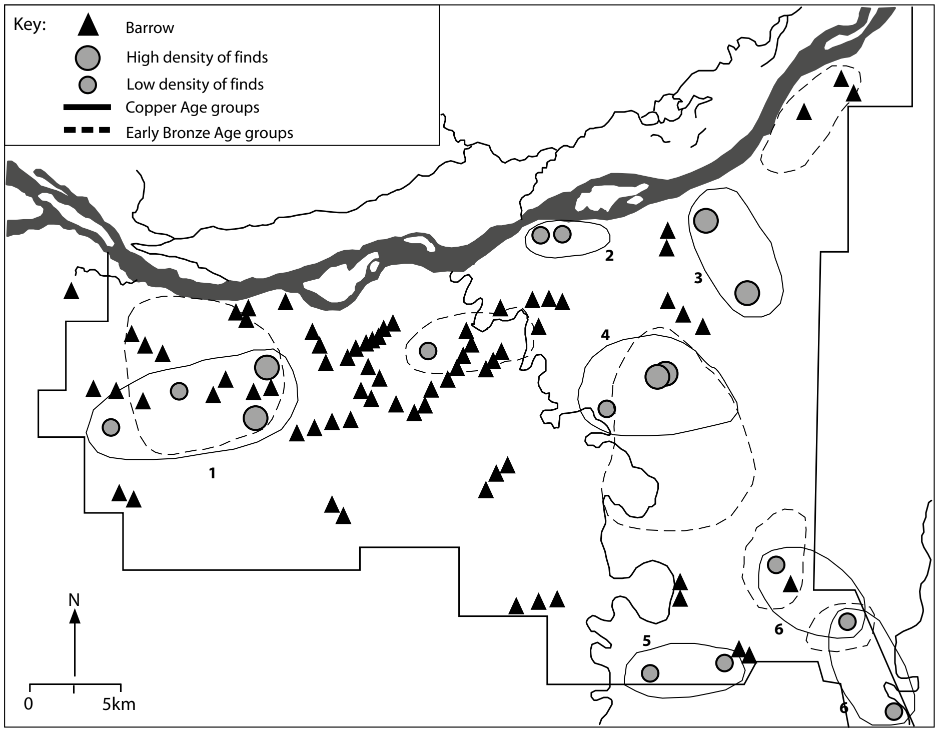


Figure 8.3. Site distribution by period, Yantra Survey: (a) Early and Late Neolithic; (b) Chalcolithic; (c) (opposite above) Early Bronze Age barrows; (d) (opposite below) settlement model (L. Woodard redrawn from Krauß 2006, Abb. 73, 89 & 98; 2010, Abb. 16).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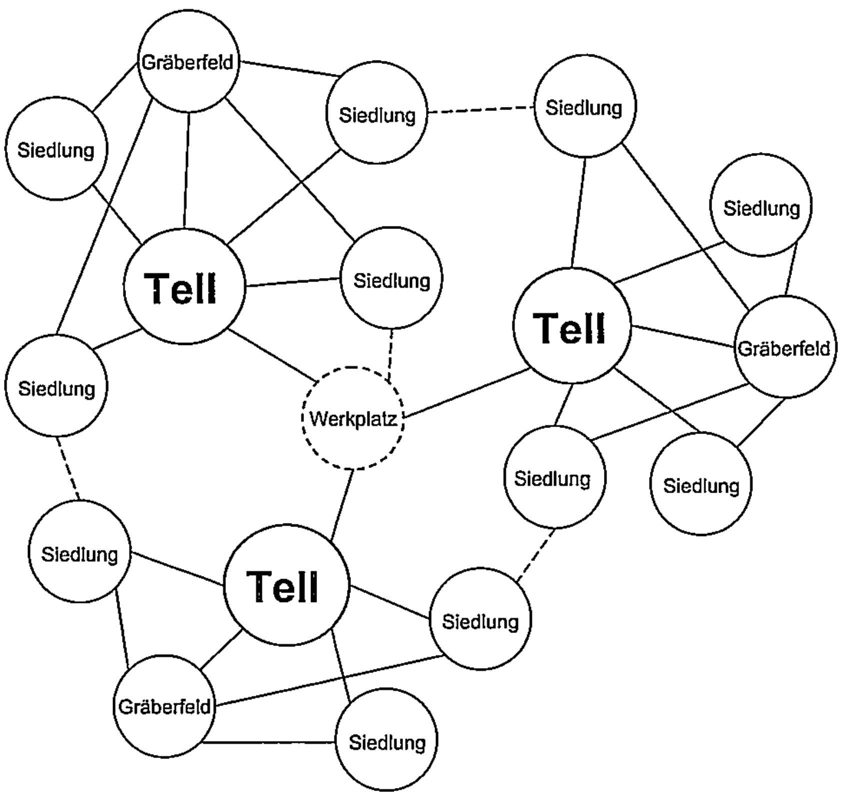
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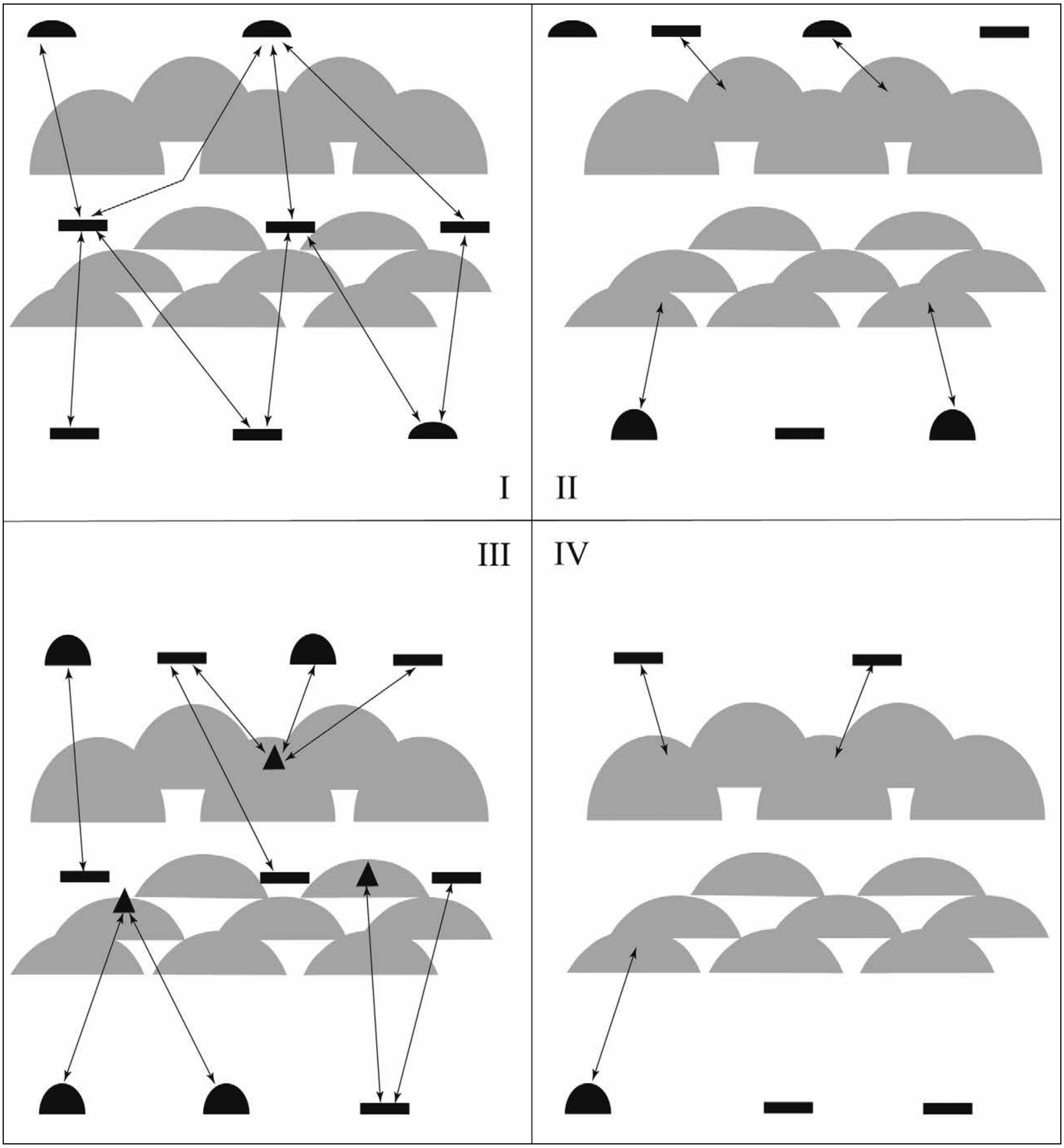


Figure 8.4. Site distributions by Period, Eastern Rhodopes (source: Chapman 2010, Fig. 6.1).

densities of sites – a finding that perhaps correlates with the continuous but low-level cereal pollen curve in the Straldzha core, located in the lowlands to the East of the Nova Zagora survey (Connor et al. 2013). These variations on a theme of focussed settlement indicate an emphasis on local, sustainable dwelling practices with no attempt at maximizing local resource potential.

Despite the fieldwalking bias towards lowland settlements, it is intriguing that high-altitude sites, even some over 800masl, were located in all parts of Bulgaria from the Early Neolithic onwards. In the Targovishte district, both Neolithic and Copper Age settlements were located in the uppermost valley catchments as well as in interfluves. This is the only survey area where site excavations have produced large faunal spectra. While both communities preferred beef over pork, the resulting contrast between the lowland Poljanica and Targovishte tells, with little game meat, and the upland Ovcharovo tell, with a strong penchant for game meat, suggests that one reason for upland settlement was the upland hunting potential. In the Struma valley, upland, potentially defensible sites with high hunting potential were chosen in the final phases of three periods – the Late Neolithic and the Early and Late Copper Age; signs of low-level human impact have been detected in the Pirin Mountain pollen diagram. This upland settlement in Struma is a good example of punctuated upland settlement. There is equally good evidence for punctuated settlement in the Eastern Rhodopes, with Phase 2 early farming sites in upland basins, a diffuse network of Phase 4 sites in rocky landscapes and very little evidence for settlement in the intervening Phases (Fig. 8.4).

In all parts of Bulgaria, there was a strong tendency towards settlement dispersion, dominated by small flat sites as much as small tells and showing NDC scores of 3-5, with lower scores in North Bulgaria. The Targovishte district shows this pattern most strongly, with relationships between small sites cemented by wild boar, venison and beef feasts, while the occurrence of a few large lowland sites in each period of the Struma sequence mitigates the tendency towards dispersion. A new pattern of large, flat, off-tell Karanovo IV pit sites marks a break from tell dwelling by focused, large-scale deposition. Here the contrast in social practices was the visits of homestead members to depositional centres for gift exchange with other homesteads rather than the ritual integration and visual effects of tell centrality.

Two ways of combining small, dispersed settlements were encountered – temporal and spatial clustering. Temporal clustering in core settlement areas was found in both Thrace (Nova Zagora, Drama and Orlovo) and North Bulgaria (Yantra survey), in each case beginning with the first settlement and continuing until the end of the Copper Age or indeed into the EBA. These examples constituted the first examples of multi-community zones in Bulgarian prehistory; in Thrace and the Yantra Basin, nodal tells defined the core area, as with the tells of Karanovo and Ezero in the Nova Zagora district or the single Neolithic – Copper Age tell in each of the Kremikovci, Mirkovo and Chavdar basins along the Southern edge of the Stara Planina. These early centres developed as lineage points of origin with kinship ties of dominance over later settlements.

Spatial clustering of sites was not an evident characteristic of the first farming settlements but, rather, began in Phase 3 and diversified into a series of local networks in the Copper Age. This pattern is found in both North and Western Bulgaria (Yantra and Struma valleys); by contrast, the dispersion of the Copper Age flat sites and tells in the Targovishte district was hardly mitigated by settlement clustering, which occurred but once, suggesting that household ideologies remained important on the many dispersed sites of this area.

On a larger scale, contrasts in the preferred settlement unit were noted in different river valleys (Maritsa Iztok), different catchments (Targovishte district) or between sectors of the same valley (Struma). In the first, the earlier tell settlement of the Sokolitsa valley contrasted with later flat and enclosed sites in the Ovcharitsa valley, which went on to form the focus for a landscape of mortuary barrows in the EBA. In the Copper Age of the Targovishte district, communities living in the Danubian catchment favoured tells over flat settlements, while those in the Pontic catchment selected an equal number of tells and flat sites. In these cases, communities built their own identities through the selection and maintenance of different site types and the creation of relations to local places which slowly grew into ancestral relations. The differences between social practices better suited to tells or to flat sites (see above, pp. 233-5) would also have encouraged various groups to grow the settlement form best suited to their lifeways.

The lands of 'former Yugoslavia' (Serbia, Republic of North Macedonia, Croatia, Slovenia, Kosova and Bosnia – Hercegovina)

The study of Neolithic and Eneolithic settlement patterns in this large part of the Central and West Balkans is encumbered by different and generally non-comparable national modes of research as well as an aversion to intensive, systematic survey and fieldwalking. Indeed, the latter activity was illegal under Serbian republican law well into the 1980s[117].

In the eighteen published examples, there are three spatial levels at which settlement data have been collected: the gazetteers at the national or regional level, with very generalised results (Table 8.2); regional studies of specific periods (e.g., Chapman 1981: 1990 and Vetnić 1998 for Starčevo and Vinča sites); and detailed studies covering the smallest areas (e.g., the Neothermal Dalmatia Project: Chapman et al. 1996; the Okolište Project in Central Bosnia: Müller et al. 2013). Two examples have been selected for more detailed discussion: the Slovenian Archaeological Map and the Middle Morava valley Neolithic survey.

Further West, it is hardly surprising that the meeting of the Balkans and the Alps has produced the largely mountainous country of Slovenia. However, there is considerable topographical variability outside the principal lowland valley of the Upper Sava, with the karstic limestone belt dominating Istria and the inland Kras (Slovenian for 'karst') and older mountains further to the North and West. Two well-dated pollen diagrams are located in Slovenia – Griblje and Mlaka (Andrić 2007).

The Slovenian national gazetteer (Bolta & Gabrovec 1975) required updating with a two-decade sample of reports on new investigations appearing in the annual

117 Thus, a planned intensive fieldwalking programme for the Selevac Project, Šumadija, in 1977 had to be abandoned in favour of visits to *known* Neolithic settlements (Chapman 1990).

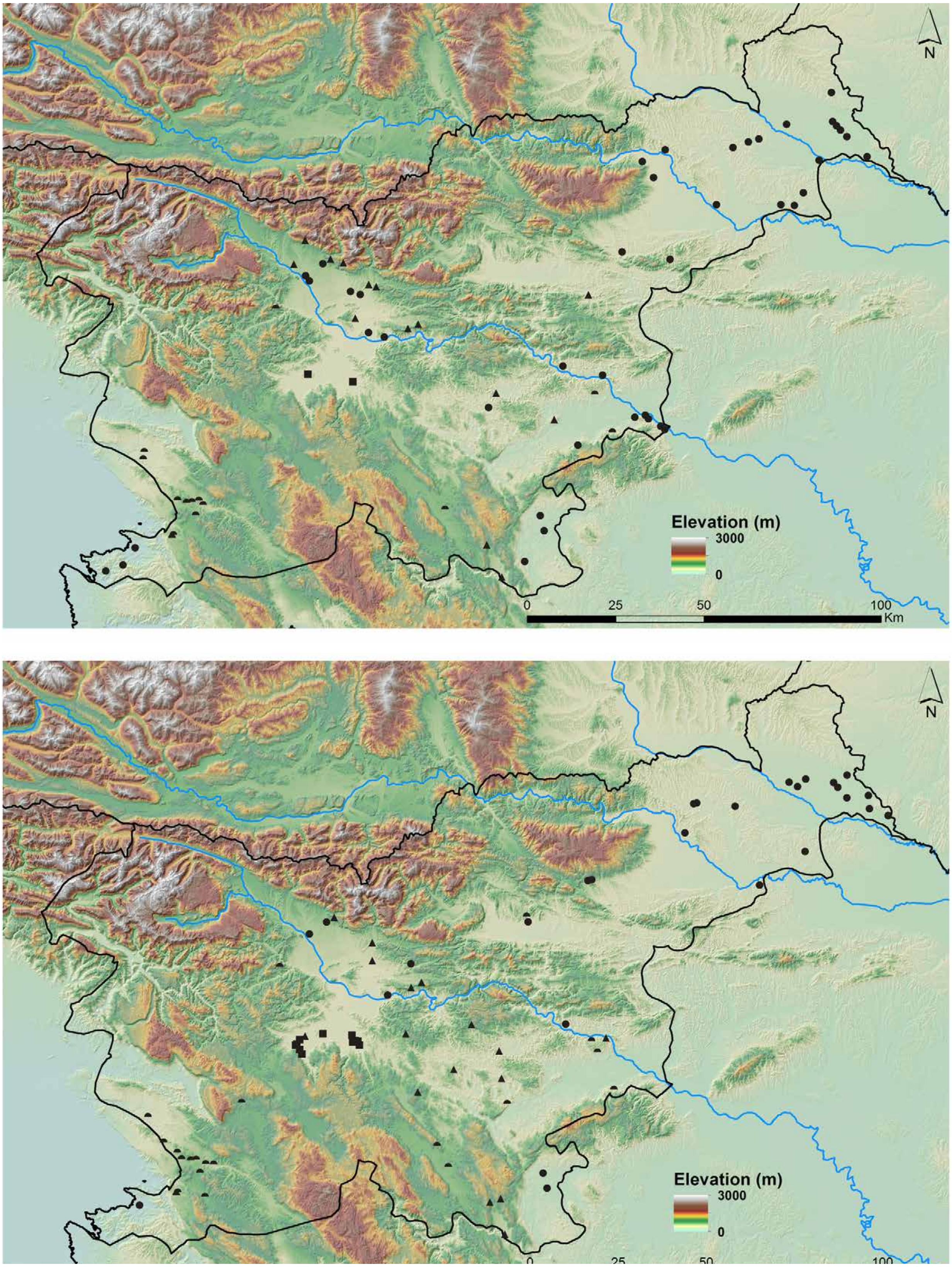


Figure 8.5. Site distribution by Period, Slovenia: (top) – Late Neolithic; (bottom) – Copper Age. Key: black circle – site; triangle – stray polished stone axe; square – flint scatter; half-circle – cave (source: Agni Prijatelj).

Region	Main valley	Tributaries	Interfluves	Widest range of locations	Settlement expansion phases
Vranje	Dominant in all Phases	Settled in each Phase	Some sites in Phases 2 and 3	Phase 2	3-4
Leskovac	Settled in Phases 2-4	Dominant in Phases 2-4	Dominant in Phases 4 & 5, settled in Phases 2 & 3	Phases 3 and 4	High sites settled in Phase 3
Niš	Settled in all Phases	Important in Phase 2, settled in other phases	Dominant in Phases 2,3 & 5: important in Phase 4	Phases 2 and 4	2 and 4 (high sites)
Knjaževac	Important in Phase 2, settled in Phase 4	Dominant in Phases 3-5	Settled in Phase 2 only	Phase 2	
Kruševac	Dominant in all Phases except Phase 4	Dominant in Phase 4, settled in other Phases	Important in Phases 2 & 3	Phase 2	2 and 5
Požarevac	Important in Phases 3 & 5	Important in all Phases	Dominant in all Phases except 4	Phase 3	3 and 5

Table 8.2. Diachronic trends in regional settlement, Serbia (source: author).

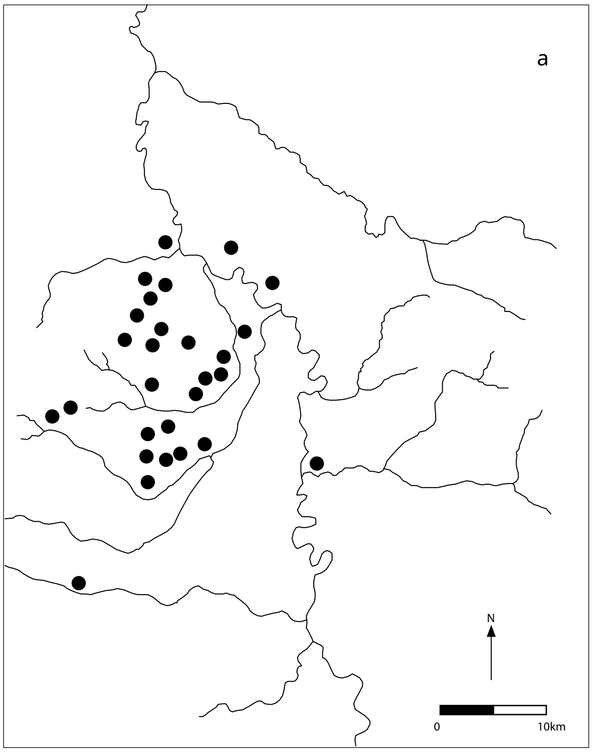
journal 'Poročilo' (1990-2010), supplemented by motorway rescue excavation reports. The reports cover all regions in this largely upland country of 20,000 km^2 and deals with Phase 1 (Mesolithic) scatters as well as settlements from Phase 3 – the period of the earliest 'farming' settlement – to Phase 4-5 cemeteries. Mason (2006) has observed that infrastructural projects stimulated the investigation of lowland valleys for the first time in Slovenian archaeology.

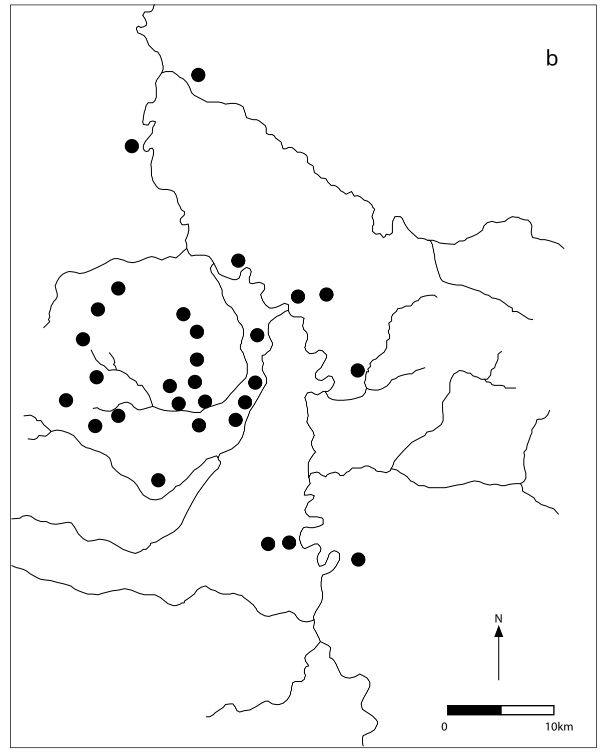
The overall trend in site numbers shows an increase over time, with four flint scatters in Phase 1, 19 sites and seven stray polished stone axe finds in Phases 2-3 (Neolithic – mostly Phase 3) (Fig. 8.5) and 34 Phase 4-5 (Eneolithic) sites with stray finds of four perforated polished stone axes (Fig. 8.5). It is worth noting that the earliest dry-stone walled enclosed sites occurred in Phase 4 (Lengyel group) (Dular 2001), while a large cemetery of inurned cremation graves has been AMS-dated to Phase 5 (Bodrogkeresztúr group). A locational analysis shows changing patterns of regional clusters but little overall change in settlement distribution from the Late Neolithic to the Eneolithic.

Both the Slovenian pollen diagrams show evidence of human impacts, some remarkably early. There were signs of cereal pollen in Phases 1-2 at Griblje, with pastoral indicators in Phases 4 and 5. At both Griblje and Mlaka, signs of increased forest burning were limited to the end of Phase 4 and Phase 5, the period at which the first cereal pollen and pastoral indicators appeared at Mlaka. Dispersed sites remained the norm throughout the Neolithic and Eneolithic, with a mean NDC score of 2.

The contrasting results from the six Serbian regional gazetteers (Table 8.2) – all located South of the Danube – Sava line and often in hill-country – can be further explored with data sets for Phases 2 and 3 (Starčevo and Vinča) in the Middle Morava basin (Chapman 1981: 1990; cf. Arsić 2011). This data-set is based upon limited fieldwalking and systematic enquiries about surface scatters in many villages and follow-up site visits (Vetnić 1974: 1998). No pollen diagrams are available from this area, which forms part of the chain of basin-and-gorge topographies defining the Morava catchment. The block comprises two contrasting zones – a lowland basin of gently sloping, highly fertile land near the Morava and well-watered, rolling hill-country on both sides of the catchment. The initial gazetteer by Vetnić (1974) was interpreted as a pattern of increasing population density from the first farmers onwards, culminating in settlement expansion into Morava tributary valleys in early Phase 3 and a decline in late Phase 3 site numbers (Chapman 1981, 50). Further data collection by Vetnić (1998)[118] confirmed that the broad Middle Morava flood-plain remained the core area but showed a stronger emphasis on small, short-lived, perhaps seasonal Phase 2 sites in the foothills West of the Morava and a switch to the foothills East of the Morava, starting in late Phase 2 but mostly in Phase 3 (Perić, Slaviša 2004, Map nos. 1-4) (here Fig. 8.6). This means that the pattern of cumulative growth posited in Chapman (1981) can no longer be sustained. Rather, there is a trend towards settlement nucleation in Phase 3, with a smaller number of larger, longer-lived sites, as well as left-bank contraction and right-bank expansion in the settled areas. This new pattern is more comparable with the Šumadija sequence (Chapman 1990). While there are no large faunal samples from the Middle Morava valley, Divostin was a comparable site to foothills sites: the Phase 2 diet incorporated little game meat and somewhat more beef than pork, while aurochs- and boar-hunting became more significant in Phase 3, with much more beef than lamb and far less pork than before. This dietary shift suggests that the seasonal (? hunting) groups of Phase 2 had become more integrated into the larger lowland valley sites in Phase 3 through more effective household or lineage practices. The NDC score for Phase 3 was 4, while the NDC scores for other Phases was 3.

118 The detailed interpretation of the new settlement data depends upon conflicting views of Starčevo chronology (cf. Vetnić 1998 with Perić 2004).





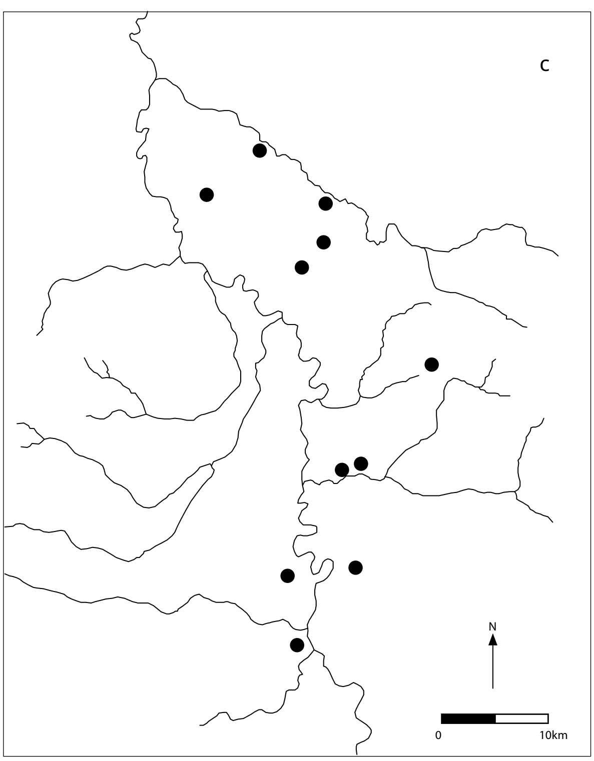


Figure 8.6. Site distribution by period, Middle Morava valley: (a) – Early Phase 2; (b) – Late Phase 2; (c) – Phase 3 (L. Woodard redrawn from Perić, Slaviša 2004, Maps 1-4).

General conclusions for Central and Western Balkan settlement

Given that these conclusions are based more upon many extensive, unsystematic regional settlement studies than detailed campaigns, only the most general of trends can be considered reliable. There is only one area – North Macedonia – with consistent dispersed tell settlement in Phases 2 and 3, forming multi-community zones in the core areas of the most fertile basins and showing a peak in site numbers in Phase 2. This is also one of the two areas, together with the Adriatic zone, with a strong, long-term preference for lamb over beef in the local diet. Only one other area – the plains of the Banat – developed consistent tell lifeways in Phase 3, with relatively few Phase 4-5 tells anywhere, although such nodal sites were sporadically created from Phase 2 onwards. Thus tell lifeways were much less widespread than in the Lower Danube Basin and tells were correspondingly more significant when they did occur (e.g., Vinča, near Belgrade; Gornja Tuzla, in Bosnia). Instead, what few nodal sites developed were large, flat sites, such as Selevac and Drenovac, in a sea of smaller, dispersed, flat settlements. A regular network of nodal sites larger than 20ha developed in early Phase 3 in the Central Balkans but this network had collapsed by the later part of the phase (Chapman 1990). Outside North Macedonia, temporal clustering was restricted to small numbers of multi-community zones in the main valleys, whether in the Vranje or Kruševac Basins, the long-term focus on the Danube and the Mlava valleys in the Požarevac district or small upland valleys in Bosnia. These developments reinforced the low NDC scores of 1-3 for all areas except the Šumadija in Phase 3, which peaked with a score of 5 for the Selevac network.

The regional trajectory of site numbers showed marked variations in the Central and West Balkans, with Neolithic site peaks exceeding Eneolithic numbers in North Macedonia and the Middle Sava region and the reverse in North-West Croatia and Slovenia. The same variability was seen in the Neolithic period, with Phase 2 site peaks in North Macedonia, the Niš, Kruševac and Knjaževac Basins and the Šumadija and Phase 3 site peaks in the Leskovac and Požarevac Basins, the Kolubara catchment and the Middle Sava region. Part of these contrasts can be explained by the relationship between site size and site numbers, with nucleation in Phase 3 often accompanied by a fall in site numbers (e.g., the 'Selevac' effect in the Šumadija). Another factor concerns special resources which came into play at certain times but not others. Thus, the expansion in range and density of exchange networks in Phase 3 (Vinča) compared to Phase 2 (Starčevo) was likely to have produced an impact on settlement patterns, with more and smaller upland sites located with better access to sources of copper, tin, marble, alabaster and rock-crystal (see Chapter 10). This may have been linked to seasonal pastoralism in later Phases, especially in the hill-country of the Middle Sava region, with its high-altitude copper and tin sources. It is hard to know the significance of the increased attractions of game meat in Phase 3 in most areas considered here, since wild animals would have lived close to lowland sites as well as in the less populated upland zone. However, there were two cases of upland pollen diagrams attesting human impact in the mountain zone in these areas.

Probably the dominant effect, however, was related to cycles of increasing and declining site populations, such as in the early – late Phase 3 nucleation and dispersion of Vinča sites in Serbia. This cycle would have come in six stages: (1) population growth at a limited number of sites; (2) increased scalar stress; (3) more budding-off of households to form (4) a new generation of small sites as well as (5) a reduction in nucleated site populations, leading to (6) decreased levels of scalar stress in both the new and the established sites. The onset of such local cycles could have occurred at any stage of the Neolithic and Copper Age, triggered by local factors attracting people to nucleate. A likely spin-off of stage 3-4 was the formation of high-altitude sites in sub-optimal areas, as compared with the widespread exploratory settlement typifying Phase 2 settlement. One of the characteristics of such budding-off scenarios was the formation of settlement clusters of more established and new settlements, as apparently emerged in the Eneolithic of lowland North-West Croatia.

Settlement in Hungary

The multi-period fieldwalking projects in Eastern and Western Hungary covering Phases 2-5 have produced contrasting results, partly relating to the different environmental conditions but also related to the scale of the survey projects. We begin with Western Hungary.

While the first five MRT surveys took place in Western Hungary (1966-72), improvements in the dating of surface sherd collections make the results of these early surveys somewhat problematic and not strictly comparable with the 1990s and later surveys. The strength of other recent surveys, not considered in detail here, is their focus on specific problems rather than the multi-period picture. The impressive survey of areas near Lake Balaton, showing a correlation between Earliest Neolithic settlement and earlier shorelines and the relation of these sites to Late Mesolithic settlement, is one of the few in Old Europe to connect the latest hunter-gatherers with the earliest farming settlement (Bánffy & Sümegi 2011). There is a large cluster of 50 Phase 2 (Körös) sites in the Sárköz area of South-East Transdanubia, where no Early Neolithic sites had been known before (Bánffy 2013), while small-scale surveys defined the local network of other important sites in the Sárköz, such as Szederkény, Alsónyék, Tolna-Mözs and Versend. The main focus of this section is, however, on a transect of four multi-period surveys from Lake Balaton West to the Hungarian – Slovenian state border: the M7 Somogy County motorway survey (Belényesy et al. 2017), the Little Balaton survey (Költő & Vándor 1996), the Hahót Basin survey (Szőke 1995) and the Kerka valley survey (Bánffy 2005). These areas had substantially more temperate forest than in the Alföld Plain, as well as lower temperatures, higher precipitation and heavier clays that were harder to farm than in Eastern Hungary.

Each of the surveys is based on lowland valleys and their surrounding forested hill-slopes. The lowlands in the Kerka valley and the Little Balaton area contained significant areas of attractive wetland which pre-dated Neolithic settlement (Bánffy & Sümegi 2011). Three issues led to diminished survey cover: the decision not to target the heavy alluvial clays, the high levels of fallow in post-1989 farming and the forest and shrub cover on the hill-slopes. Thus in each survey block, the main areas targeted for settlement discard were the drier plains, the low river terraces and the hill ridges with little forest cover (Bánffy et al. 2005, 23-24), leading to coverage of 120km^2 of the 200km^2 block (or 60%) in the Hahót Basin (Szőke 1998, 18).

The most obvious contrast between two pairs of surveys was the continuous dwelling in all phases in the Eastern surveys (M7 Somogy County and Little Balaton) versus the discontinuous settlement with many gaps in the dwelling sequence in the Western surveys (Hahót; Kerka) (Table 8.3). This result is comparable to dichtomomy in the lowland continuous and upland discontinuous trajectories

	M7 Somogy	Little Balaton	Hahót Basin	Kerka microregion
Size of surveyed area	**60km linear**	**600km²**	**120km²**	**320km²**
Starčevo	1	1	-	-
Linearbandkeramik	6	27	1	12
Lengyel	6	17	2	0
Balaton – Lasinja (Furchenstich)	14 (3)	28 (3)	26 (0)	8 (1)
Boleráz	5	)	-	-
Baden	9	) 30	-	-
Kostolac	3	)	1	-

Table 8.3 Settlement counts in four survey regions in Western Hungary (source: author).

Period (our Phase)	Dates (BC)	Regional	Local
EN Körös (Phase 2)	6000-5400	Linear settlements along terrace edges in Plain; local high densities of scatters	Dispersed over most of survey area (especially North-West); large linear 'shoreline' sites (temporal drift); fluidity of settlement
Early MN AVK (Phase 3 – early)	5400-5200	Similar distribution to EN, with expansion out of Plain into side valleys, foothills, wide flood-plains & Hortobágy	Dispersed, with no large shoreline sites; sites set back from terrace edge; expansion onto some small 'islands'
Late MN Late AVK (Phase 3 – middle)	5200-5000	General expansion into Northern mountains, Nyírség and Upper Berettyó. First tells.	Settlement nucleation, mostly in centre, with abandonment of peripheral parts; emergence of nodal sites (speculation of a 10-15km spacing)
LN Tisza – Herpály – Csőszhalom (Phase 3 – late)	5000-4500	Upper Berettyó at major focus, with many tells; large flat sites on Körös and Lower Tisza; no mountain sites.	Continued site nucleation, with many areas out of use; nodal tells and large flat sites; compound plan, with house clusters and open spaces
ECA Tiszapolgár (Phase 4)	4500-4000	Riverine distribution and in Nyírség; some sites on DTI* and Maros fan; no mountain sites	Dispersal of sites into small hamlets of a few houses over most of survey area, except for small peripheral 'islands'
MCA Bodrogkeresztúr (Phase 5 – early)	4000-3500	Few settlements, in Nyírség, Maros fan, DTI and Northern mountains; abandonment of Upper Berettyó	Small sites (each + a few sherds); population displacement (salinity) to different areas
Early LCA Baden (Phase 5 – late)	3500-2800	Increasing settlement on fringes of Plain; lot of DTI sites	Small sites, mostly in one part of survey area
Late LCA – barrows (after Phase 5)	2800-2500	Distribution in Plain	Distribution complementary to that of Baden scatters

Table 8.4. Local and regional sequences in Eastern Hungary (source: author, based on data from Sherratt 1982: 1983). Key: DTI – Danube – Tisza Interfluve.

found in North-East Hungary (see below, p. 293). In the case of Western Hungary, the peaks in settlement numbers were found in Phases 3 (LBK) and 4 (Balaton-Lasinja) in all four surveys, with equally dense Baden dwelling in the Little Balaton area. The two most obvious reasons for phase discontinuity in marginal areas relates to two aspects of their marginality – the subsistence marginality of less productive soils and the lower overall network density, which decreases connectivity in marginal areas.

The development of long-term site clusters emerges as an important result in the Little Balaton survey. Three long-term settlement foci can be observed – all close to important wetlands and with sites in each Phase – the Zalavár, Fenékpuszta and Balatonmagyaród clusters. Similar clustering does not have such diachronic continuity in the Western survey blocks but the settlement peaks do cluster in the same area in the Hahót Basin and especially the Kerka valley with three groups – the Kerkafalva, Zalabaksa and Szentgyőrgyvőlgy groups. Bánffy and Sümegi (2011, 236) suggest that the earliest LBK sites in the Kerka cluster may document re-location of the same community over time and the same pattern may well typify the Little Balaton pattern. This is a settlement form termed the 'Multi-Community Zone', well-known from Eastern Hungary. This result suggests that long-term place-identity was developed in Western Hungary, albeit on a smaller scale than in Eastern Hungary.

The most thorough investigation of settlement size has been in the M7 motorway rescue project, with total excavation of large LBK sites such as Balatonszárszó (see Fig. 5.5), large Balaton – Lasinja sites such as Balatonszemes-Szemesi-berek and large Baden settlements such as Balatonőszöd (see p. 228). Large sites were rare in the other three survey blocks, marking a low Nucleation – Dispersion score for all Phases.

The improved rigour and intensity of the later MRT surveys, including those in Békés County, South-Eastern Hungary, attracted the attention of Andrew Sherratt, who developed an Anglo-Hungarian project with István Torma to expand the original fieldwork with intensive gridded surface collections and trial excavations at three sites in an area dominated by the flood régimes of the courses of the river Körös and the contrasts between floodplain and interfluve (Sherratt 1982: 1982a: 1983). The Békés I sequence has long been the key sequence for the Alföld Neolithic and Copper Age (Table 8.4). The changes in NDC scores show how settlement size was generally inversely related to the number of sites, although we cannot rule out fluctuations in population size over three millennia. What could explain these dramatic changes in nucleation and dispersion?

A second-generation outgrowth of the Békés County MRT data concerns the Hungarian – American Körös Regional Archaeological Project (or KRAP), in which detailed, multi-scalar attention has been focused on a specific, key transition in Central Europe – the Phase 3-4 transition – in the Szeghalom – Vésztő micro-regions (Parkinson 2002: 2006; Parkinson et al. 2010: 2017). KRAP's spatial analysis of settlements and stylistic interaction has produced some novel conclusions. There was a sevenfold increase in the number of Phase 4 sites compared to Phase 3. This correlates well with the continued open landscape through Phases 3 and 4, as documented in the Kiri-tó pollen diagram (Willis 2007). But, unexpectedly, the mean site size in both periods was similar at c. 2 ha, leaving the main differences to be greater intensity of longer-lived occupation in Phase 3. The Phase 3 settlement structure had more levels than the Phase 4 structure (four levels rather than three) – superclusters, settlement clusters, settlements and house clusters; moreover, each Phase 3 level in turn was more complex (Fig. 8.7). For example, four forms of Phase 3 settlement pattern were recognized, including the Szeghalom complex, with a scatter of discard over 35ha and a major tell within the extensive flat site. Important Phase 3 settlements comprised several house clusters, sometimes separated by fences, as at Öcsöd. By contrast, Phase 4 sites were effectively single homesteads and no sites were demonstrably playing a central co-ordinating role in the more diffuse clusters. The Phase 4 clusters were more numerous, revealing an expansion either in size from an earlier cluster or into new areas. The larger number of sites per Phase 4 cluster – from nine to 27 – is reminiscent of the Multi-Community Zones defined in the Upper Tisza Project (see below, p. 297). Interestingly, more recent KRAP research has emphasized the more gradual Phase 3-4 transition, with Phase 3 features such as ditches, palisades and longhouses occurring in Phase 4 sites and isotopic evidence for animal mobility remaining the same across the transition, without having an effect until Phase 5 (Gerling et al. 2012; Gerling & Ciugudean 2013; Giblin et al. 2013). The re-emergence of nodal sites in Phase 5, if they ever disappeared in Phase 4 (?)[119], complicates this narrative, which continues to lack a satisfactory explanation (cf. Parkinson & Gyucha 2012 with a weak application of the scalar stress perspective: Parkinson 2006). One key point (Parkinson 2002) was the dwelling equivalence of one house cluster in a large Phase 3 site and an entire Phase 4 hamlet. This grouping was probably the main unit of dwelling and mobility in both Phases.

The detailed settlement pattern data available in South-East Hungary had not been matched by MRT research in North-East Hungary until the Anglo-Hungarian Upper Tisza Project was established in the Northern part of the Great Hungarian Plain and the adjacent Zemplén Uplands). The Project aims were to characterize settlement trajectories and palaeo-environmental affordances in both areas and assess long-term lowland – upland interactions. Three Blocks were established for intensive, systematic fieldwalking – two in the lowlands and one upland block. The Sarló-hát diagram is the most valuable, well-dated pollen diagram in the Polgár Block (Magyari et al. 2012; see above, p. 69 & Fig. 3.1a). This summary will focus on Phase 2-5 sites broadly comparable with the Békés I sequence (Table 8.3). It should be noted that, at the time of the UTP, the earliest farmers in North-East Hungary were considered to have made pottery classed as 'Early Middle Neolithic' – viz., late Phase 2[120].

The norm for the basic unit of analysis in Carpathian and Balkan prehistory is 'the site' but an alternative approach to site-based analysis utilizes the concept of the multi-community zone (or 'MCZ': for explanation, see above, pp. 280-1). In the lowland Block 1, 80% of all sites were found in 20% of the landscape, while the figures for lowland Block 2 are 85% of the sites in 40% of the area (Fig. 8.8). These figures suggest a stronger attachment to ancestral place in Block l, often mediated through nodal sites. A completely different, punctuated settlement pattern emerges for the upland Block 3, in which there are very few MCZs, no Neolithic or Copper Age nodal sites at all and long gaps between the three settlement phases – the Middle Neolithic (5200-5000 BC), the Late Bronze Age (1500-800 BC) and the Mediaeval period (AD 1200-1500) (Chapman et al. 2010b; cf. Western Hungary (above, pp. 291-3) and the Alps: Viazzo 1989).

In the UTP publications, discussion focussed on the contributions of the various MCZs to the long-term sequence of eight millennia (Chapman 2004; Chapman et al. 2010: 2010a). It is important to emphasize that a

119 The re-occupation of the Vésztő-mágor tell in the Early Copper Age is surely an instance of a nodal site.

120 Since the end of the UTP, there have been well-supported claims for North-East Hungarian sites with pottery which in South-East Hungary would have been classified as 'Körös' (viz., Early Neolithic) (Kozłowski 2009; Kozłowski & Raczky 2010).

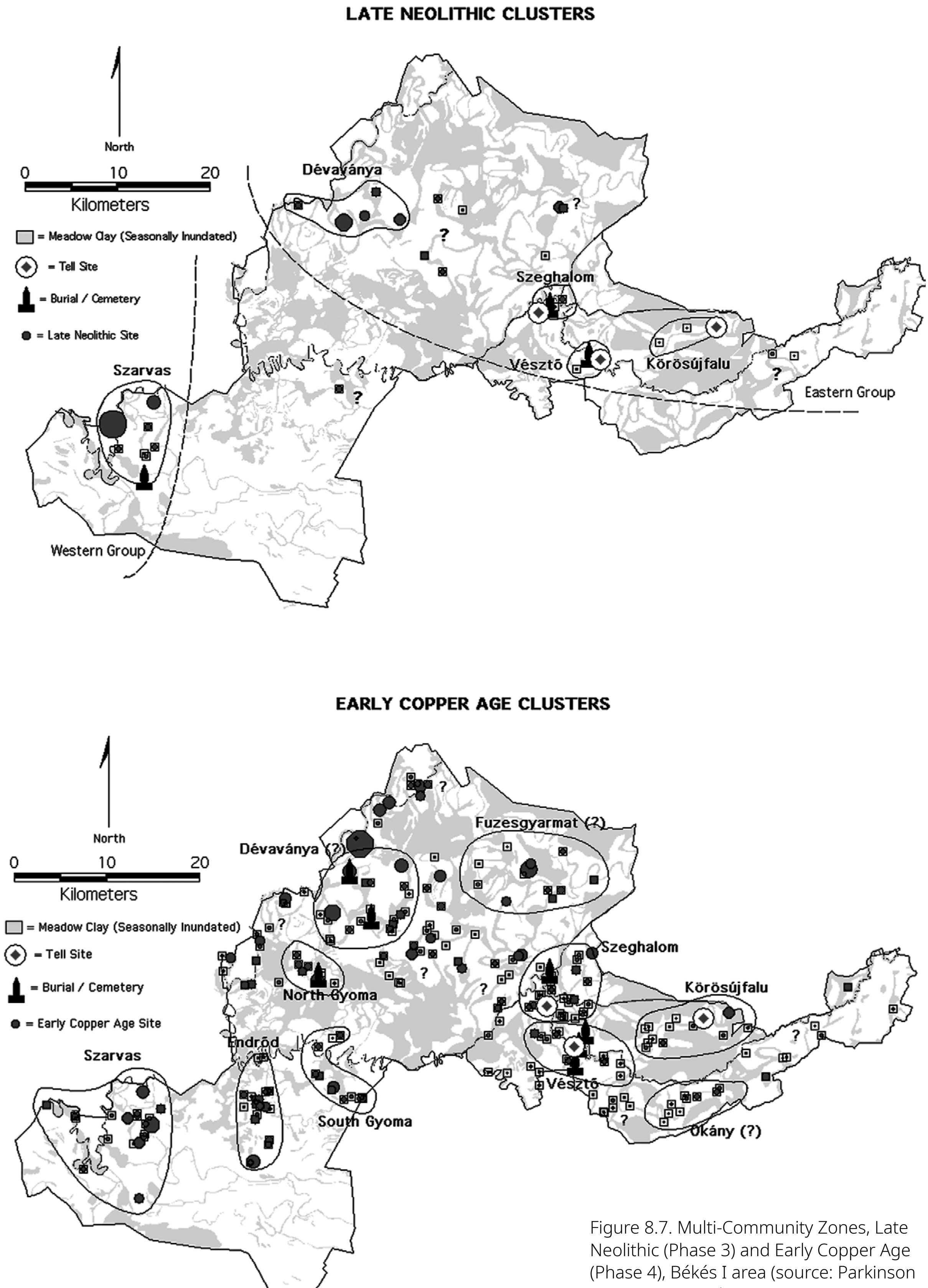


Figure 8.7. Multi-Community Zones, Late Neolithic (Phase 3) and Early Copper Age (Phase 4), Békés I area (source: Parkinson 2002, Figs. 5 and 7).

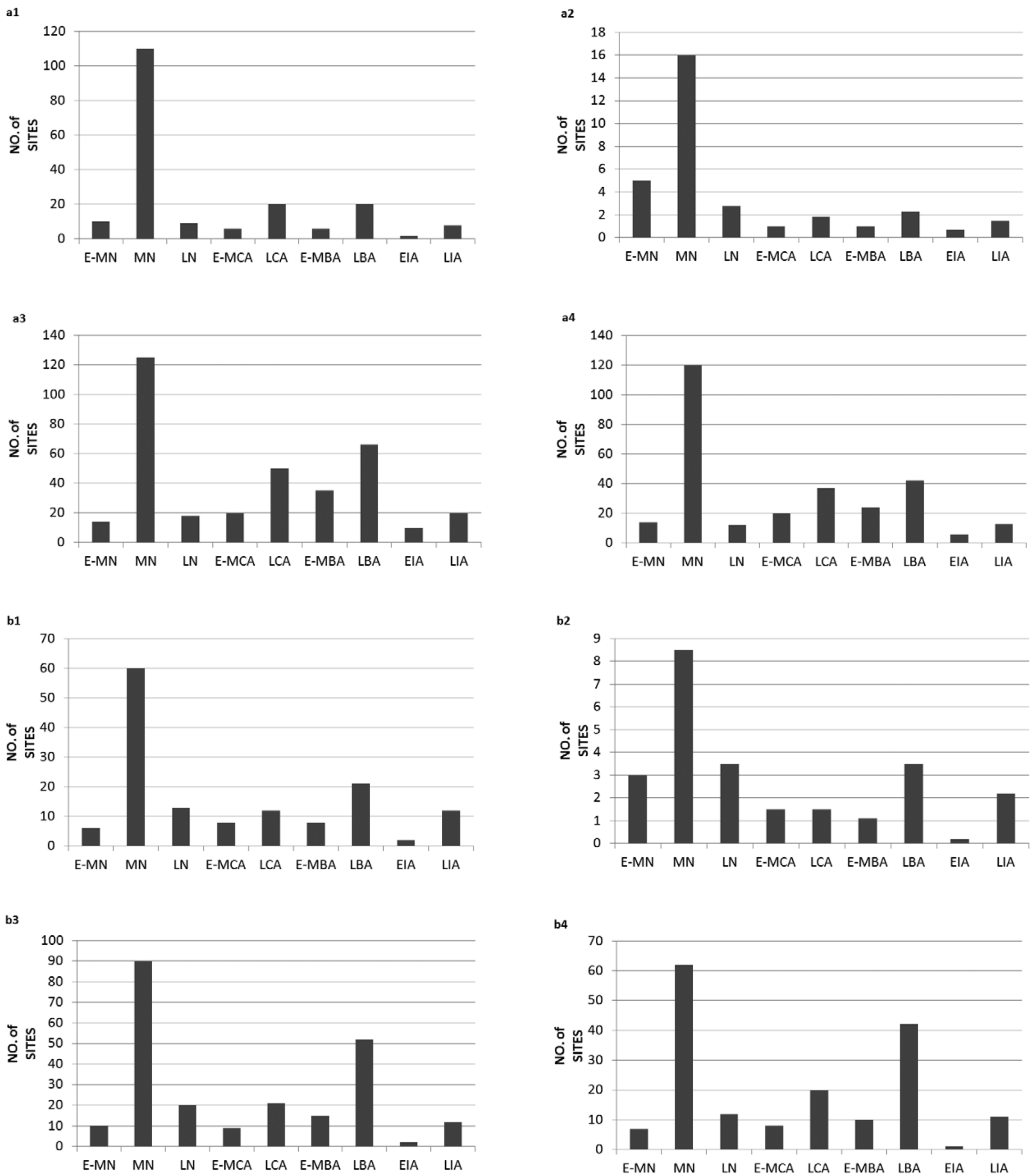


Figure 8.8. Upper Tisza Project settlement trends by site numbers per Phase: (a1-4) Block 1 (source: Chapman 2004, Fig. 1.164); (b1-4) Block 2 (source: Chapman et al. 2010a, Fig. 5.7); (a1& b1) – uncorrected number of sites; (a2 & b2) – site numbers corrected for overlapping Phases; (a3 & b3) – site numbers adjusted with undifferentiated site numbers; (a4 & b4): site numbers adjusted with partially differentiated site numbers.

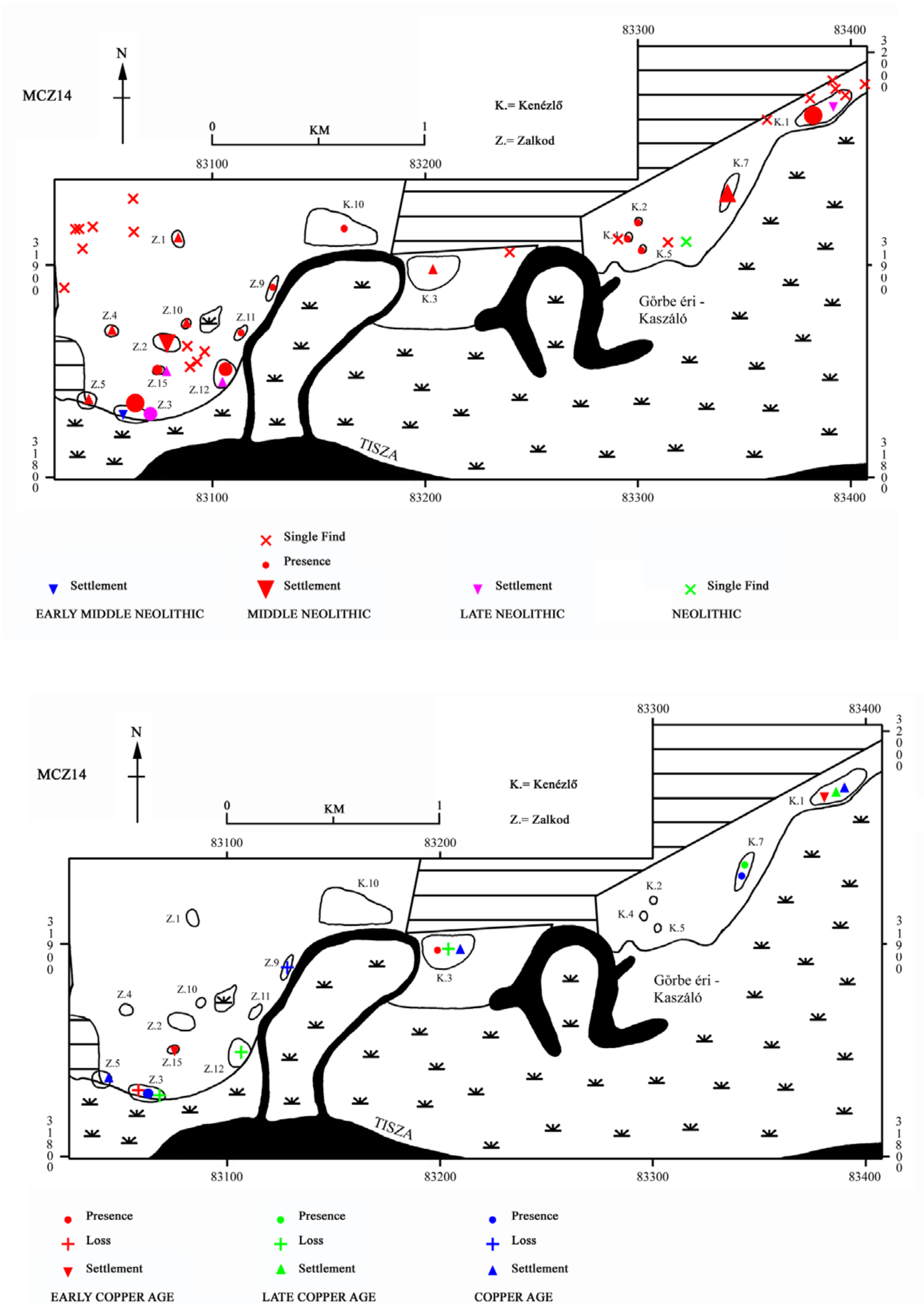


Figure 8.9. Upper Tisza Project settlement patterns: Multi-Community Zone 14, Bodrogköz Block: (top) Neolithic (Phases 2 & 3); (bottom) Copper Age (Phases 4 & 5) (source: Chapman et al. 2010a, Fig. 4.23).

Transition	From	To
Early Middle Neolithic to MN (early – middle Phase 3)	9 MCZs with E/MN sites	7 / 9 MCZs have MN sites on the E/MN sites; 2 MCZs do not
Middle Neolithic to Late Neolithic (early & middle to late Phase 3)	18 MCZs with MN sites	2 / 3 MCZs have LN tells founded on MN sites; 9 / 9 MCZs have LN sites re-occupying MN sites; only 1 LN tell is founded on a new site
Neolithic to Early Copper Age (Phase 3 to Phase 4)	9 MCZs with LN flat sites, 3 MCZs with LN tells	In the 2 MCZs with ECA sites and LN tells, neither tell was re-occupied in the ECA; in 9 MCZs, ECA sites re-occupied Neolithic sites; there was only one MCZ where an ECA site was founded on a new site.
Earlier settlement to Late Copper Age (Phases 3 & 4 to Phase 5)	8 MCZs with ECA sites	Of the 12 MCZs with LCA sites, no case of an LCA site founded in a new place; of all LCA re-occupations, 7 cases of one earlier period, 4 cases of two earlier periods and one case of three earlier occupations.
Earlier sites to barrows (Phases 3-5 to post-Phase 5)	11 MCZs with LCA settlement	6 MCZs with barrows; 3 barrows built on new sites; 3 barrows built on sites with earlier occupation

Table 8.5. Settlement re-occupation, Polgár Block, Upper Tisza Project (source: author).

high level of settlement re-occupation was also identified for the more restricted Phases 2-5, with their total of seven periods. In all cases, it was the location of multiple early Phase 3 settlements – often on all known sites – which defined each MCZ. This meant that later selection of settlement locations was normally a choice between finding a new site or living on one of many former Phase 3 sites. We see a strong element of re-occupation in Phases 3-5 (Table 8.5), with a minor peak in site numbers in Phase 5 (cf. Sherratt 1982). The well-dated land-use sequence from Sarló-hát (see above, pp. 69-70) correlates well with the successive settlement phases, with moderate clearance activity in early Phase 3, strong arable and pastoral signals in late Phase 3, coeval with settlement nucleation on the Csőszhalom tell, and a predominance of pastoral indicators over arable signals in Phases 4 and 5.

These data offer strong support for the utility of the multi-community zone in North-East Hungary as a unit of analysis for understanding long-term settlement. While there are some examples of lowland MCZs with no nodal sites, it is more common to find one of two contrasting nodal site types: the large, flat site with multiple occupation phases and the small, highly visible monumental tell (only late Phase 3) or mortuary barrow (only late or post-Phase 5) (Fig. 8.9). It is rare to find four nodal sites in one MCZ but, in Block 1 MCZ 3, the location of two tells on one side of a stream and two mortuary barrows on the other side hints at a possible structuring of the landscape into a zone of the living and a zone of the dead[121] (Fig. 8.10). What makes the MCZs different from temporal clusters in the South or Central Balkans was the higher incidence of site, as well as MCZ, re-occupations, with seven sites re-occupied in three or four subsequent phases. The use of the multi-community zone affects the estimation of NDC scores; at the site level, the NDC scores for the various Phases are the same as in the Békés I study (see above, p. 293), with a growth in nucleation to a late Phase 3 peak and a subsequent increase in dispersion.

In summary, the long-term pattern in lowland North-East Hungary was based on dispersed settlement, much of which was concentrated into multi-community zones along lowland water-courses. Groups lived in sites usually smaller than 2ha but with large nodal flat sites in middle Phase 3 and occasionally in Phases 4 or 5, as well as small, nucleated late Phase 3 nodal tells, which occasionally developed into large tell-and-horizontal-site complexes such as Csőszhalom (Fig. 6.5). The development of a dispersed settlement network next to the uplands was a vital pre-condition of seasonal upland settlement in middle Phase 3 for the collection of lithic raw materials.

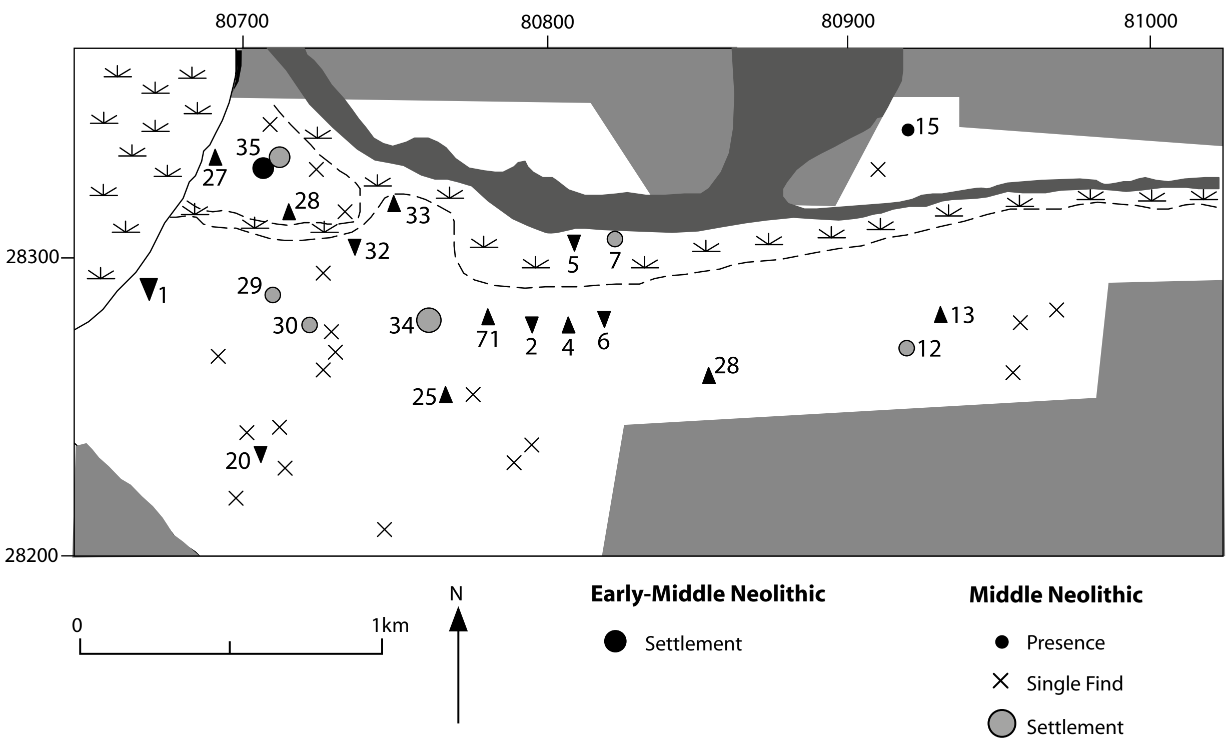
General conclusions for Hungarian settlement patterns

This summary of the Hungarian settlement evidence is limited by the lack of a synthesis of the results of prehistoric settlement from the motorway archaeology of the last two decades[122]. Raczky (2007) has produced summary statistics for the 1,000+ km of motorways built since 1990, with excavations at 700 sites uncovering over 7 million m^2 of deposits. We look forward to an account of diachronic settlement changes based on this unique data set.

The four smaller-scale fieldwalking projects in Western Hungary showed a contrast between a continuous dwelling sequence (M7 Somogy County survey and the Little Balaton survey) and a discontinuous sequence (Hahót Basin and Kerka valley) comparable to the North-East Hungarian lowland – upland contrast. The emergence of Multi-Community Zones could be seen in the Little Balaton area. The two Eastern Hungarian fieldwalking projects discussed above confirm Sherratt's

121 The other is MCZ 14, on the Zalkod-Kenézlő terrace, one of the most fertile areas in Block 2.

122 This lack is partly the result of my linguistic inability to master Hungarian beyond discussions of Bartók, Tokaj wines and Szatmár roast pork!



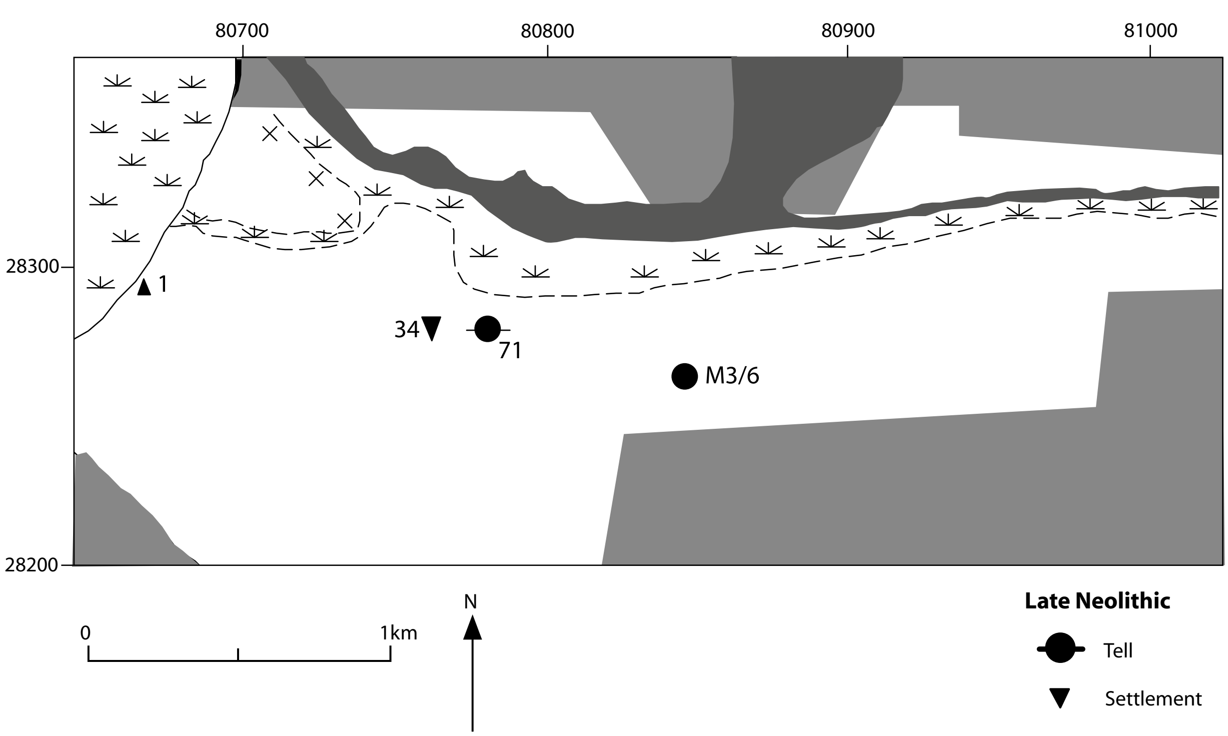


Figure 8.10. Upper Tisza Project settlement patterns: Multi-Community Zone 3, Polgár Block: (top) Middle Neolithic; (middle) Late Neolithic (source: (L. Woodard, redrawn from Chapman 2004, Fig. 1.188).

(1983a) scheme of four settlement phases – a dispersed phase in Phase 2, a late Phase 3 nucleation phase and a second, Phase 4 dispersion phase, with even greater population mobility and dislocation in Phase 5. Sherratt's idea of "a major (Phase 5) shift in the emphasis of settlement from the centre of the Plain to its periphery" (1983: 13) was confirmed by the identification of a minor Phase 5 settlement peak in the Upper Tisza lowland blocks, as was his diagnosis of the absence of upland late Phase 3 and 4 in the Northern Mountains. The most obvious factor in changing settlement patterns concerns changing outcomes in the tension between community and household relations. It appears that the development of successful households did not necessarily imply more autonomy for the households but rather an intricate web of inter-dependent relations linking resource acquisition, allocation and consumption (not only food but also lithics, metal, pottery and shell ornaments: see Chapter 9). These subtly balanced relations not only restrained dominant households from becoming hereditary leaders but also had an equalizing tendency for the transactional economies of all households. Community-wide rituals, supra-household kinship groups (lineages) and large-scale communal cattle herding were the most important means of creating household inter-dependence. In a classic example of dynamic nominalism[123], the rituals, kinship groups and pastoral practices that were needed to promote collective action emerged at the same time as the larger settlement populations that required such community-promoting mechanisms. Thus, intra-mural burial groups, the intensification of ritual, the construction of such impressive site-wide features as communal banks and ditches and extensive cattle herding all arose as emergent properties of the most intense nucleation phase – the Late Neolithic (late Phase 3). The increasing settlement dispersion after the Late Neolithic in Phases 4 and 5 was accompanied by the decline of settlement-based ritual through the transfer of mortuary practices to liminal places outside any single settlement. Extensive kinship networks dominated over the close-knit kin groups of nodal tells and flat sites, with the concomitant declining importance of the nucleated community in relation to the strengthening of the individual household. The large Phase 4 and 5 communal cemeteries played an important role in the embodiment of the Tiszapolgár mode of personhood.

123 The process of 'dynamic nominalism' concerns the recursive emergence of a new phenomenon and the naming of that phenomenon (e.g., Foucault's (1973) example of the descriptions of new ranks in the French army in the AD 18th century together with the emergence of uniforms for each new rank). For an application in Hungarian prehistory, see Chapman (2000).

The proposed narrative for social changes through the Alföld settlement sequence holds up reasonably well for the KRAP results, with the additional point of Phase 4 homesteads defining themselves more visibly through enclosure in the ancestral tradition. The rare re-occupation of Phase 3 tells such as Vésztő shows how elements of the earlier social formation – intra-mural coffin burial, complex material culture, tell dwelling albeit on a smaller scale – was still a viable alternative to the ideology of Phase 4 dispersed sites integrated through large communal cemeteries. These tensions were not resolved until the abandonment of tell re-occupation in late Phase 4 (Bodrogkeresztúr group). Parkinson has deepened our understanding of the structure of prehistoric settlement patterns with the observation that late Phase 3 settlement had four organisational levels, each more complex than the equivalent three levels of the Phase 4 structure. In both the South-East and North-East Alföld, nodal sites took the form of either small, nucleated tells or large, nucleated flat sites. The settlement clusters identified by Parkinson and Gyucha are identical to the multi-community zones of the Upper Tisza Project, with 80% of the sites are concentrated into 20% of the landscape in both areas. Here, we can see a higher rate of re-occupation than was normal in the South or Central Balkans – a different way of relating to the past. The advantage of the multi-community zones was the accretion of cumulative place-value with each successive re-occupation, based upon ancestral settlement and cultural memory as well as on plentiful subsistence resources. However, not all multi-community zones were in continuous occupation in each chronological phase: oscillating discard in these zones showed the tension between place-value and mobility which we tend to associate with upland settlement but which was clearly also present in the lowlands. Some multi-community zones in North-East Hungary shared the same punctuated settlement trajectories as the upland Zemplén zone itself.

A picture of the diachronic changes in settlement nucleation and dispersion is emerging which emphasizes the importance of community values and practices in times of nucleation and the greater significance of households in times of greater dispersion. The emergent properties of Phase 3 nucleated nodal settlements included an intensification of inter-household rituals, stronger kinship (lineage) bonds and shared subsistence practices, all of which were materialized in an explosion of objects that was never paralleled in the dispersed homesteads of other Phases.

Settlement in Romania, Moldova and Ukraine

The combination of three countries in a summary of prehistoric settlement patterns is ambitious, given their

Variable	Caraş-Severin survey	Hunedoara survey	Sibiu survey
Settlement peaks	Phases 2, 3 & 5	Phases 3 & 5	Phases 3* & 5
Settlement nucleation	Phase 3	Phase 3	Phases 2 & 3
Locational diversity	High (Phases 2, 3 & 5)	High (Phases 2 & 5)	High (Phases 2 & 5)
Use of caves	Phases late 4 & 5	Phases 2 & 4	None
Main valley	Phase 2	All Phases	Phases 2 & 3
First-order tributary	Phases 3 & 4	All Phases	Phases 2 & 3
Importance of uplands	Phases 3, 4 & 5	Phases 2 & 3	Phases 3 & 5

Table 8.6. Summary of Romanian County settlement data (source: author).
Key: * – the Phase 3 settlement peak is strongly influenced by the research interests of the late Iuliu Paul.

total area covers 875,000 km^2. However, each state shares a similar, unfortunately negative approach to intensive, systematic fieldwalking, which limits conclusions about diachronic settlement. Only two intensive fieldwalking projects have been developed in these states – the Southern Romania Archaeological Project (Bailey et al. 2002; Macklin et al. 2011) and the Nebelivka Trypillia mega-site project (Nebbia 2020) – while extensive survey was combined with site investigations in the North Dobrudja project (Carozza et al. 2011). Information from the county gazetteers (Table 8.6) is supplemented by detailed information about specific periods such as the Mesolithic (Phase 1) (Chirica et al. 2013), the meaty gazetteers of different phases of the Cucuteni group (Phases 4 and 5) (Monah & Cucoş 1985; Popovici 2000; Bem 2007) or the Trypillia (aka 'Tripolye) Encyclopaedia (Phases 4 and 5) (Videiko 2004; Nebbia 2020) (Table 8.7).

The Black Sea – Danube Delta project focused on Phase 4 settlement in the Romanian part of the Dobrudja (Carozza et al. 2011). This zone includes a range of low hills, up to 350masl, dividing the coastal plain from the Danube valley to the West. The teams checked over 100 known sites and fieldwalked much new terrain, listing a total of 142 sites, including tells, one-level sites, caves, seasonal sites, hoards and mortuary sites (Carozza et al. 2011, 6-70) (Fig. 8.11). Over half of the sites were dated to a single Gumelniţa A sub-phase. There was a major expansion of mostly tell settlement into this area at the start of Gumelniţa Sub-Phase A1, with perhaps a small increase from Sub-Phase A1 to A2, followed by a decrease in mostly one-level Cernavoda I site numbers. By far the greatest number of sites was located in the inter-fluvial area, which itself is well-watered with a proliferation of small streams, with very few sites in the Danube Delta. Whereas all Phase 4 site types except the seasonal sites were preferentially located in the interfluves, Phase 5 sites were located in more varied zones. This pattern indicates considerable local mobility between all parts of the study region. There is strong evidence for settlement clustering in multi-community zones with NDC scores of 3 or 4 (Bem 2011, Chapter 5, Fig. 16) (Fig. 8.11). Site inter-visibility analysis shows strengthened interactions within the cluster (2011: Chapter 5, Figs. 20-81).

The difference between most other parts of Romania and the Dobrudja lay in the dense network of small streams distributed across the Danube – Black Sea 'interfluve'. This made the interfluve far more attractive and well-watered a settlement zone than most interfluves in Old Europe. Mobility at the site level can be contrasted with continuity of landscape usage at the multi-community level as in Eastern Hungary. We can thus distinguish two familiar ways of establishing place-value – through long occupations at nodal tells such as Hârşova and Borduşani and through landscape-based settlement continuity in multi-community zones.

Romanian archaeologists have been assiduous in publishing County gazetteers in the last decade, especially Sabin Luca, with four online gazetteers under the aegis of 'The Formation of Europe: Prehistoric Population Dynamics and the Roots of Socio-Cultural Diversity', or 'FEPRE' project (Luca & Suciu 2011). Three online gazetteers provide a North – South transect across the upland basin of Transylvania – the Caraş-Severin gazetteer with its focus on settlement spreading North into the uplands from the Danube valley (Draşovean & Jovanović 2011), the Hunedoara gazetteer, located in the heart of the Transylvanian basin, and the Sibiu gazetteer, covering dissected terrain just North of the high South Carpathian range (Table 8.6).

There is an emphasis on small, dispersed settlement in most periods in each county, with NDC scores typically remaining low at 1 or 2, networks of upland seasonal settlements and the Phase 5 settlement peaks and great locational diversity (Coţofeni group). The same minor settlement peaks occurred in each county for Phases 2 and 3, with similar troughs in Phase 4. However, there are also important regional differences between the three counties, whether in the selection of caves in particular periods, the different degrees

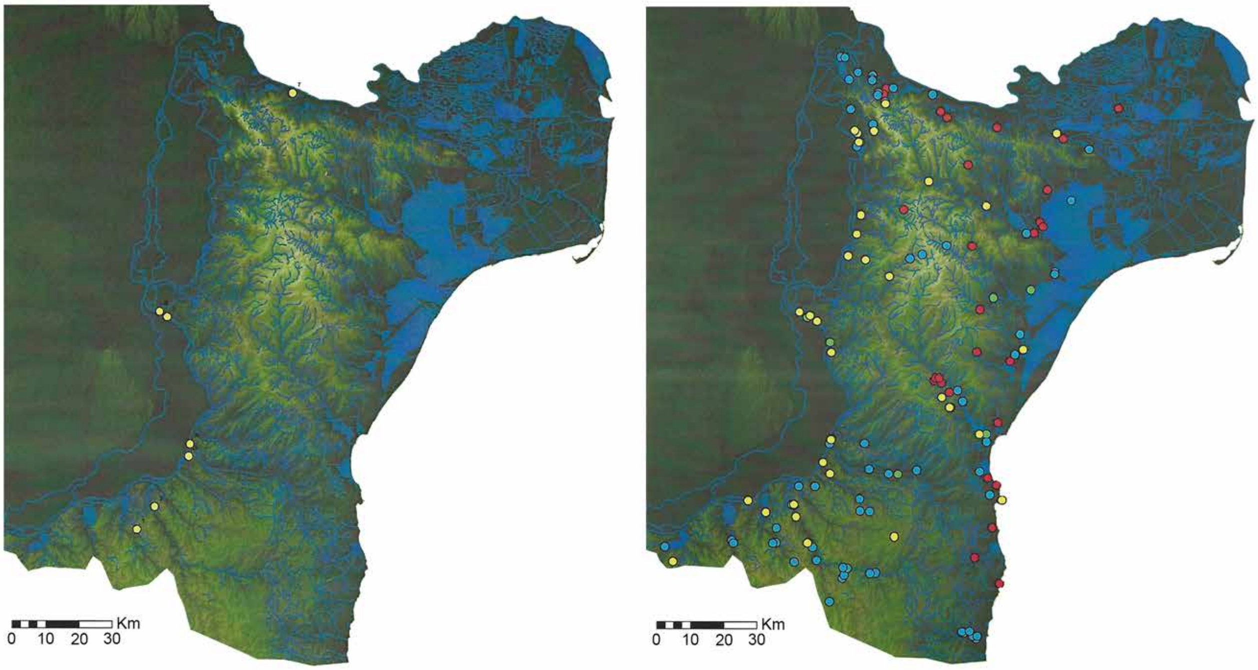


Figure 8.11. Distribution of (left) Phase 3 and (right) Phase 4 settlements, Black Sea – Danube Delta project (B. Gaydarska, re-drawn from Bem 2011, Figs. 1 & 9).

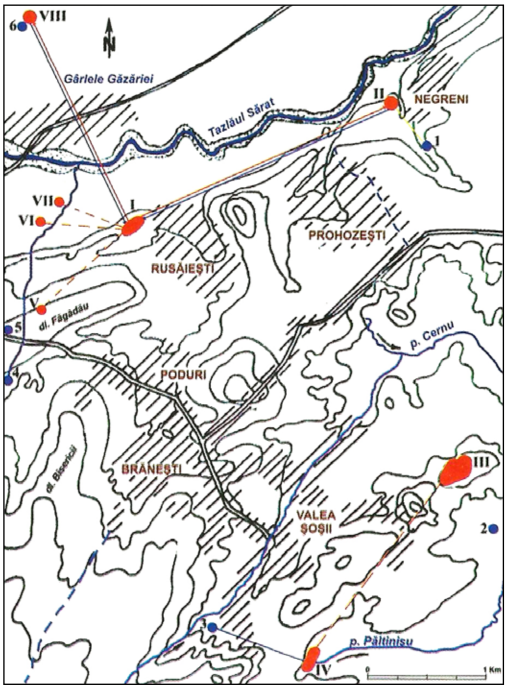
of preference for tributary locations in each county or the variations in upland locational preferences, with their implications for transhumance practices. Moreover, rare phases of settlement nucleation are not in synchrony in the three counties.

It is important to underline the upland settings of all of these regions, most of which lay at far higher altitudes than the Zemplén Mountains of North-East Hungary. But we should also note the presence of the Mureş valley crossing the Transylvanian Basin, providing access to significant sources of salt, lithics, copper and gold and leading to much more stable settlement patterns than the punctuated dwelling cycles often associated with the uplands of Old Europe.

The lack of multi-community zones in these upland regions would appear to match the rarity of nodal sites which focussed cultural memory and moderated active participation in local settlement practices. Both the obvious exceptions were located in or near the Mureş valley and dated to late Phase 3. The massive accumulation of disarticulated human bones at Alba Iulia – Lumea Nouă strongly suggests the transport of bones to this nodal site from a number of other, smaller sites (see above, p. 246). By contrast, the deposition of large quantities of lowland Herpály painted wares in the caves of Cheile Turzii suggests nodal aggregation sites at a regional scale, involving summer transhumance, with gold working at one Phase 4 cave reinforcing the long-term place-value of this special gorge. However, most upland communities in these areas were more focused on the household than the wider kinship groups, despite their meso-local exchange networks.

Turning to Wallachia, Moldova and the Ukraine, Wallachia forms the Eastern boundary for the spread of tell settlement in the North-East Balkans. Only one tell is currently known from the Cucuteni group – Poduri – Dealul Ghindaru, the so-called 'Troy of the Carpathians' (Monah et al. 2003) and centre of a likely salt exploitation network (Fig. 8.12). The full distribution of the Cucuteni – Trypillia group (henceforth 'CT') covers over 250,000 km^2 (Mantu 1998, 29), ranging from inter-montane basins in the Eastern Carpathians to the North Pontic steppe lowlands and crossed by five great, Southward-flowing rivers -the Siret, Prut, Dniester, Southern Bug and Dnieper. A dense network of first- and second-order tributaries – probably denser in the middle Holocene than at present[124] – attracted interfluvial settlement concentrations on the rolling loess-based terrain, rarely exceeding 300 masl in altitude and with a mosaic of soils mostly comprising varieties of chernozem (see below, p. 306). There are very few well-dated pollen diagrams (Kremenetski 1997; Pashkevytch 2012; Harper 2016), the most relevant currently at Nebelivka, next to a Trypillia mega-site (Albert et al. 2020) (here, Fig. 3.2). The Middle

124 Analysis of satellite images in the Kirovograd oblast, Ukraine, by Marco Nebbia (2020) shows a dense network of palaeo-channels, as yet undated but potentially active in the Middle Holocene.



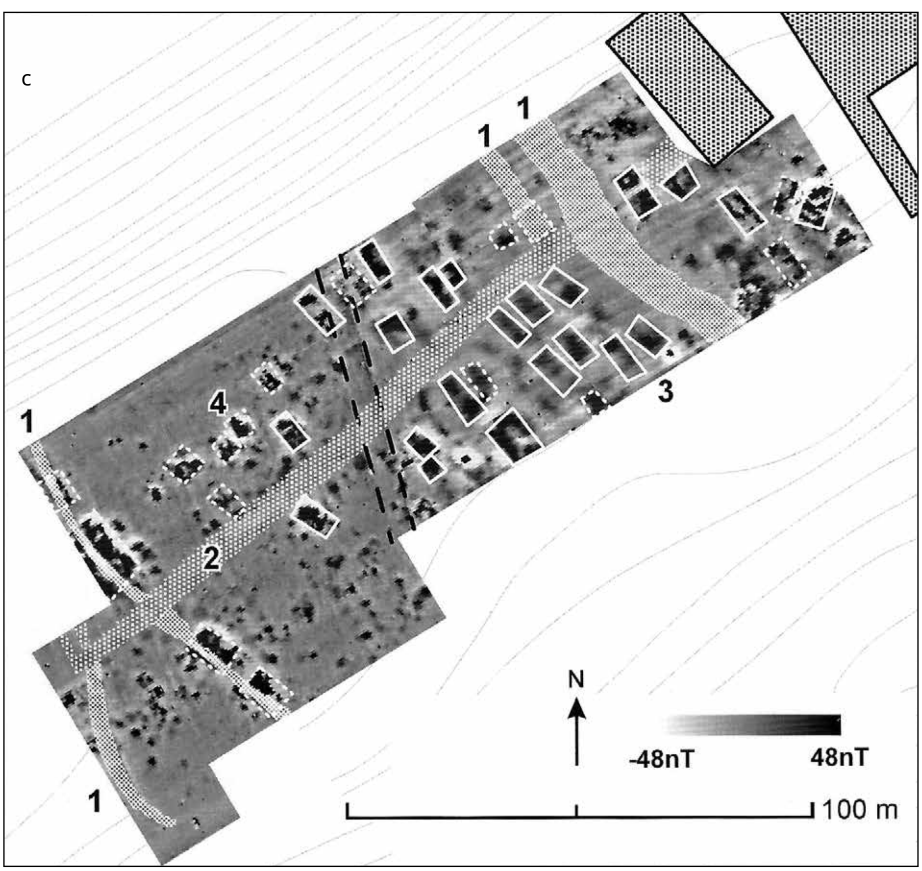


Figure 8.12. Poduri: (a) Map of salt sources (red) and Cucuteni sites near the Poduri tell (source: Monah & Dumitroaia 2007, Fig. 2: copyright – Neamţ County Museums); (b) tell Poduri (source: author's photo); (c) geophysical plot of Poduri (source: Mischka 2010, Abb. 9).

Our Phase	Cultural designation	Date (cal BC) after Mantu 1998	Romania	Moldova	Ukraine	Total (sites per annum)
1	Pre-Cucuteni /Trypillia A (Phase 3)	5050-4600	110*	20*	54	184 (0.4)
2	Cucuteni A / Trypillia BI & BI/BII (Phase 4)	4600-4050	688	92	81	861 (1.6)
3	Cucuteni AB / Trypillia BII & BII/CI (early Phase 5)	4100-3800	163	14	161	338 (1.1)
4	Cucuteni B / Trypillia CI & CI/CII (middle Phase 5)	3800-3500	472	24	201	697 (2.3)
5	Horodiştea – Folteşti / Trypillia CII (late Phase 5)	3500-3150 (- 2800***)	150*	12	103	265 (0.5 Horodiştea; 0.1 CII)
	Not phased		497	-	1332**	1829
	Total		2077	162	1932	4171
	Sites with no Phase		24%	0%	68%	44%

Table 8.7. Site numbers for Cucuteni-Trypillia groups by Phase and modern state (source: author).
Key: * estimated numbers from Dergachev 2002; ** this figure includes 55 sites dated to Trypillia Phase B and 100 sites dated to Phase C but with no sub-phasing; *** date range refers to Trypillia CII.

Holocene forest-steppe comprised oak, lime, elm and hazel woodland with a variety of steppe grasses in the clearings. The scale of human impact on the mega-site's immediate environment was remarkably small in consideration of the potential population size.

Since over 4,000 CT sites are known (Table 8.7)[125], this account can only touch on the main points of these remarkable settlement trajectories, which culminated in the largest settlements known in 4th millennium BC Europe (Videiko 2007; Chapman et al. 2014; Gaydarska 2020). The size range of the four Ukrainian counties (or '*oblast*') with preliminary settlement data – 24,500 km^2 to over 45,000 km^2 – is ten to twenty times the area of the Serbian regional studies. This places the CT settlement study in a size league of its own, explaining the large numbers of known settlements but inhibiting the goal of meaningful intensive, systematic survey. In this section, I shall look at the trajectories of, first, Cucuteni and, then, Trypillia settlements before turning to the Trypillia mega-sites and ending with the reasons why no mega-sites developed in the Cucuteni group.

The Phase 2 (Criş) settlement of Moldavia and Moldova has been dated to the late phase of the early farming period (Ursulescu 1984). A total of over 150 sites has been discovered (Ursulescu 1984, map, p. 41), with site clusters in the major river valleys. At the only site with a large faunal sample – Trestiana – there was an overwhelming preference for farmyard meat, with equal shares of beef and lamb. The settlement of the Carpathian piedmont zone and inter-montane basins was closely related to the exploitation of the rich salt sources, with the site of Lunca (Fig. 6.10) currently the earliest salt exploitation site in the world (Dumitroaia 1994; Weller et al. 2008). Phase 2 settlement would appear to be small-scale and dispersed, with an NDC score of 2-3. The main Phase 2 site clusters were re-settled in Phase 3 (Pre-Cucuteni) (Marinescu-Bîlcu 1974; Bodean 2001; Dergachev 2002, Fig. 6.2a), with site sizes below 2ha (Bodean 2001) and an NDC score of 3. The majority of site faunal spectra indicated a shared preference for farmyard meat, in particular beef, with little hunted meat.

Our understanding of the main trajectory of Phase 4-5 (Cucuteni) settlement has hardly changed for 30 years – a peak in Cucuteni A (most of Phase 4), a fall in site numbers in Phase AB (late Phase 4) and a second increase in Phase B (Phase 5), with a fourfold site size classification throughout:- small (<1 ha: <20 houses); medium (1-2 ha: 20-50 houses); large (2-5ha: maximum of 100 houses); and very large (>5 ha: >100 houses) (Monah & Cucoş 1985; Popovici 2000; Bem 2007) (Table 8.6) The dietary preferences for Phase 4 settlements varied from a preference for farmyard pork or beef to a strong preference for pork, whether wild or domestic. However, the trajectory of site numbers never presents the full story; the large number of Phase 4 Cucuteni A sites was a function of dispersion into small sites, perhaps symbolically enclosed rather than fortified and with an NDC score of 2-3. As with the small tells in North Muntenia and the Targovishte area, the relationship between Cucuteni A site locations (Popovici 2000) and the river network shows an expansion out of the main valleys into 1st- and 2nd-order tributaries and even onto the dry interfluves. The decline in site numbers from Phase 4 to 5 in Moldavia and Moldova was probably a genuine population decrease since there was no evidence for greater settlement aggregation in Phase 4, with NDC scores remaining similar at 2-3 (Bem 2007; Dergachev 2002, Fig. 6.2c – d). The overwhelming preference was for dispersed villages or hamlets.

125 NB Dergachev (2002: 98 & Table 6.1) suggests that the then known total of 2,013 sites could rise to 3,000 sites!

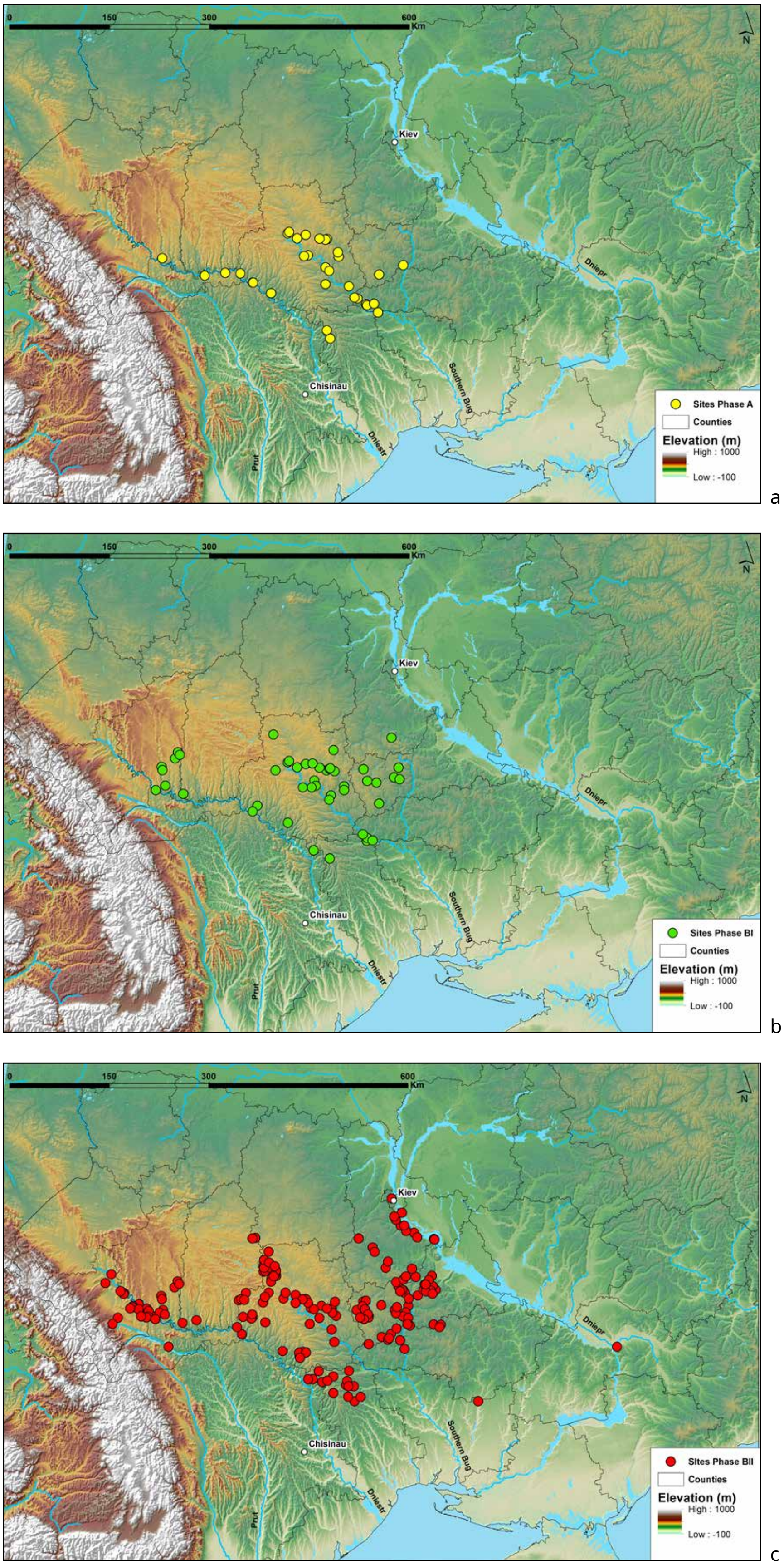
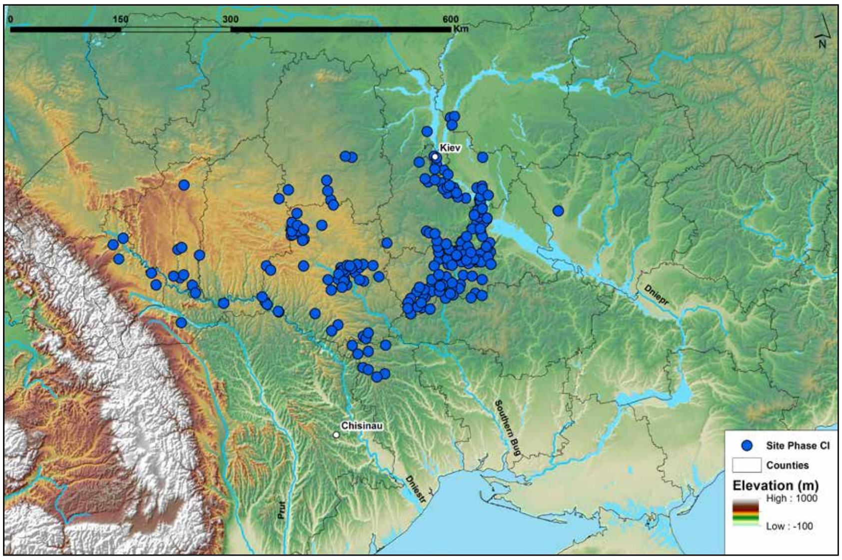


Figure 8.13. Trypillia settlement distributions by Phase: (a) A; (b) – BI; (c) BII; (d) CI; (e) CII (source: Nebbia 2020, Fig. 3.31).



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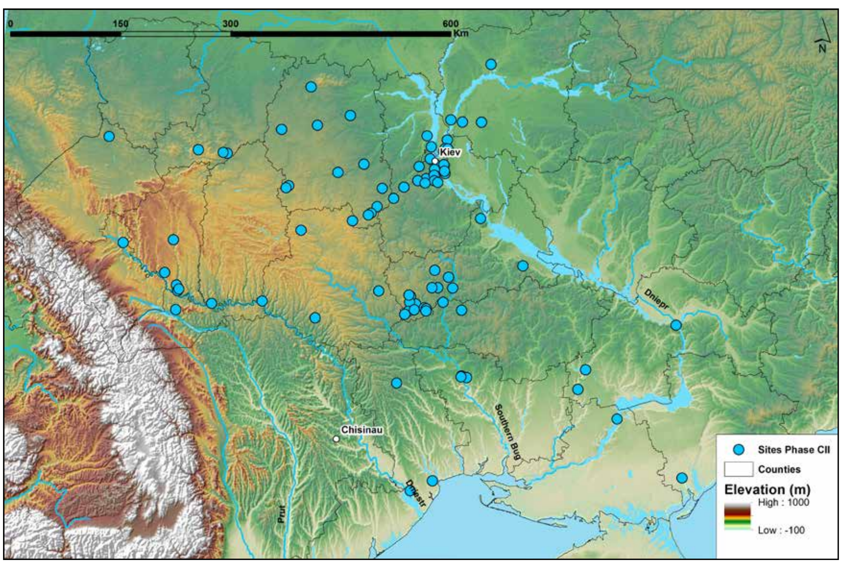


e

The Trypillia sequence shows a different pattern of continuous increases in site numbers from Phase A (Phase 3) to Phase CI (most of Phase 5), with a decline in Phase CII (end of Phase 5) (Table 8.7). The most accurate published maps for these Phases are those of Marco Nebbia (Nebbia 2020) (Fig. 8.13). The contrasts in site sizes between Cucuteni and Trypillia settlements that became so striking in later Phases had already began in Phase 3, with the 14ha Trypillia site of Gaivoron (Southern Bug) larger than almost all Cucuteni sites of whatever phase. Phase 4 (Trypillia BI) sites ranged from 1ha to 60 ha (Onopriivka), while the first 100ha sites had emerged in the Southern Bug catchment by late Phase 4 (the BI/BII transition). Phase 5 sites such as Nebelivka grew to an extraordinary 236ha (Chapman et al. 2014a; Hale et al. 2010; Hale 2020) (Fig. 6.1), with one even larger site in Trypillia Phase CI at Taljanky (320ha: Rassmann et al. 2016) [126] (Figs. 6.23-24).

The emergence of the mega-sites has proved to be a phenomenon of global interest, since these sites were the largest settlements in 4th millennium BC Europe and possibly the world, being as large as, and earlier than, the first Uruk cities in the Near East (Chapman & Gaydarska 2016; Gaydarska 2016; Müller et al. 2016). The settlement context of the mega-sites is, however, complex, since they appear to lack a developed hinterland: there were very few small sites within a 25-km 'territory' of the mega-sites. The 'maximalist' version of the mega-sites as long-term, permanently settled centres with many thousands of people has been dominant

126 However, recent research by the AHRC-funded Trypillia Project has demonstrated persistent over-estimation of site size in the secondary literature (Nebbia 2020).

in the field for decades (Kruts 1977; Korvin-Piotrovskiy 2012; Müller et al. 2016) but there are now multiple lines of evidence which challenge this orthodoxy (Chapman 2017a). Three alternative models have been proposed for smaller-scale settlement, in two cases seasonal in character (Gaydarska 2020) – the Distributed Governance model (Gaydarska, in press a), the Assembly model (Nebbia et al. 2018) and the Pilgrimage model (Chapman & Gaydarska 2019a). All three models are consistent with the number of houses built and burnt at Nebelivka, as well as an absence of massive human impact peaks. Equally, a 100-km radius around Nebelivka would have provided a demographic basis for each model (Nebbia 2017: 2020).

Why did megasites not develop in Cucuteni landscapes? The key point is the traditionally small, modular size of up to 150 people in dispersed Cucuteni settlements from Phase A onwards. It would have been hard to transcend such a powerful size-based *habitus* of communal identity and lifeways, making mega-site growth in the Cucuteni zone all but unthinkable. Moreover, the chernozem belt extending East of the Siret to the Dnieper was by far the most fertile soil resource for CT farmers. The expansion of Cucuteni A communities onto the 1st- and 2nd-order tributaries and the interfluves would have led to cultivation of less fertile soils, such as brown forest and alluvial soils. It is thus arguable that soil distributions had a second negative effect on site agglomeration in the Cucuteni network.

General conclusions for settlement patterns in Romania, Moldova and Ukraine

In summary, the overall picture for the Neolithic and Copper Age of Romania, Moldova and Western Ukraine is one of largely dispersed settlement, with NDC scores of 2-3, with the exception of the Trypillia group, where many sites exceeded 10 ha in extent and some reached 100+ha as well, with a variable NDC ranging from 5 to 10. In the following discussion, the anomalous Trypillia pattern will be temporarily excluded (but see below, pp. 372-8).

In the Transylvanian gazetteers, the only period with site number peaks in all three '*judeţului*' ('counties') was the Phase 5 Coţofeni group, with Phase 2 and 3 peaks in Caraş-Severin, a Phase 3 peak in Hunedoara and a research-biased late Phase 3 peak in Sibiu[127]. By contrast, the Muntenian data showed a gradual increase in site numbers from Phases 2 to 4, with the usual early Phase 5 decline and a late Phase 5 rebound in site numbers. A different pattern is found in Moldavia and Moldova in the Cucuteni sequence, where a major increase in site numbers in Phases 4 and 5 (Cucuteni A and B) sandwiched much lower site numbers in late Phase 4 (Cucuteni AB). The high frequency of small Gumelniţa tells and small Cucuteni A flat sites in Phase 4 may indicate population dispersions across the landscape rather than the standard view of 'population explosions' (Frînculeasa 2010: 2011; Popovici 2000). However, it is hard to explain the Phase 4 Gumelniţa A1 expansion into the Dobrogea and the Danube Delta as anything but a population increase based upon considerable local mobility. Part of these Phase 4 developments may have been related to the successful cultivation of new and fertile different soil types – not only alluvial soils and chernozems, as seen in Phases 2 and 3, but also brown forest soils. A similar pattern of soils usage is noted in Moldavia, where the Siret marked an ecological boundary between the preponderance of brown forest soils to the West and the dominance of chernozem East to the Dnieper. Conversely, since late Phase 4 (Cucuteni AB) sites rarely exceeded the size of the Phase A settlements, a population decline in the AB phase seems probable.

Uplands were settled from Phase 2 in all areas, with a marked preference for the East Carpathian piedmont zone and for the uplands South of the Mureş in Hunedoara and only punctuated settlement in the Băile Herculane gorge in Caraş-Severin and the Apuşeni Mountains, where Phase 5 isotopic data supports transhumance from the Alföld Plain to these uplands (see above, p. 272). In Sibiu, the high-altitude interfluvial late Phase 3 and Phase 5 sites suggest local transhumance. Caves were frequently used for seasonal settlement in Phase 2 in Hunedoara but more often in Phase 5 in Caraş-Severin. Even though few sites showed a preference for hunted meat, it would be unwise to dismiss this practice as a factor in upland settlement, which would also have favoured the pasturing of stock and the collection of lithic and metal resources. The paucity of nodal lowland sites suggests that groups of local homesteads probably organized seasonal upland settlement as a collective enterprise.

The overall picture is of a relatively small number of nodal settlements in which communal kinship bonds transcend the norms of household identity to produce nucleated settlements with a wider range of exchange relationships than usual. Outside of the Trypillia group, the few large, nodal settlements included some Phase 3 sites in the Danube and Mureş valleys, with NDC scores of 3-4, as well as the eponymous, 65ha site of Turdaş in Transylvania, a handful of multi-period Neolithic sites in County Sibiu, large tells near the Danube Delta and the only Cucuteni tell in Moldavia. The growth of a strong community structure at tell Poduri may well have been related to the control of salt exchange within and possibly even beyond Moldavia. Apart from Phase 4 sites in the North Dobrogea, temporal and spatial clustering was rare. Within the Trypillia group, the principal Phases for settlement nucleation were early Phase 5 (Trypillia BII, BII/CI and CII), with NDC scores of 9-10, with a renewed phase of agglomeration in mid-Phase 5 (Trypillia CII), with NDC scores of 7-8.

127 The concentration of Petreşti sites in County Sibiu was directly related to the research interests of the leading archaeologist, the late Iuliu Paul.

Chapter summary

Comparability

Any synthesis of settlement pattern data from many different surveys (Fig. 8.1) must confront the issue of comparability. At its most stark, this issue questions the methodology of comparing the intensive, systematic survey of a 6km^2 segment of a lowland valley with nine sites in southern Romania (Bailey, D. et al. 2002) with the 400 Chalcolithic sites found by traditional means in an area of 26,500km^2 in the Vinnitsya Domain, Ukraine. The issue of comparability also affects how to relate individual sites to the general regional pattern: how to explain the emergence of the Eneolithic tell of Bubanj Hum in a river basin in Serbia with few Neolithic tells in a post-nucleated site landscape? Or the oscillation between dwelling phases and pit site usage at Rakitovo, near the Rhodopes, when most other coeval sites were tells? When colleagues tell us that understanding individual stories is more significant than generalized narratives for our picture of the Neolithic (Bailey, D. & Whittle 2005), they are right and wrong at the same time: a sense of the wider picture is just as essential for making best use of our settlement pattern information as a detailed site biography (cf. Bradley's favoured 'middle ground': 2005, 193).

However, aiming for the 'middle ground' does not transcend the issue of comparability. While we cannot rely overmuch on literal readings of data on regional site numbers, survey data allow us to address the changing relationships between community lifeways and settlement pattern variables: landscape affordances; variations in settlement type, the nucleation – dispersion continuum and temporal and spatial clustering. I begin with the question of landscape affordances.

Landscape affordances

There are naturally major variations in land use potential on both an intra-regional (altitudinal) and an inter-regional basis. In all of the relatively dry Middle Holocene lowland basins with forest steppe or steppe vegetation, the advantages of a long growing season were offset by a shortage of summer precipitation. The annual flood-plain replenishment of alluvial soils meant they were the heaviest yet most fertile soils for cultivation but they also held the high risk of winter and spring flooding. The characteristic soil formation for the lower terraces in these basins was chernozem, initially hard to cultivate with a tough root level to cut through but, once mastered, highly fertile for cereals and legumes. The zonal soil for medium-altitude locations was the brown forest soil – more friable and easier to cultivate than chernozem but less fertile and more prone to erosion. There was little advantage for Neolithic and Copper Age farmers to attempt the cultivation of the upland soils, since they were relatively infertile and susceptible to erosion.

The regional samples of site locations provide valuable evidence for which soils were cultivated in prehistory. There was a strong preference for Arable soils in the Zadar Plain (Shiel 1996). The preference of the Phases 2 and 3 tell-dwellers of North Macedonia for large lowland basins meant that they had mastered wetland, alluvial cultivation (Naumov 2018). The tell communities in Phase 2 Bulgaria were often located at the junction of the alluvial soils and the heavier but lower-risk chernozems, suggesting that a dual cultivation strategy was possible: a high-yield, high-risk strategy for the alluvial soils and a moderate-yield, low-risk cultivation of chernozems. There is evidence for such a dual strategy in Phase 3 at Csőszhalom. There is also good evidence that Phase 2 farmers had mastered the cultivation of brown forest soils in Serbia (Chapman 1990), the inter-montane basins of Romania and interfluvial areas in Wallachia and Moldavia. A final example of land use potential concerns one possible reason for Cucuteni groups never developing sites the size of Trypillia mega-sites. Trypillia groups had access to extensive zones of fertile chernozems, while the diversity of soils available to Cucuteni communities created a mosaic of soils of overall lower land use potential.

The extent of upland settlement, as opposed to seasonal visits, was an important indicator of the landscape affordances for pastoralism, hunting and lithic and metal resource collection. Two patterns of upland settlement were noted – Pattern A: dwelling in all Phases; and Pattern B: a punctuated pattern of settlement interspersed with long periods of seasonal visiting. Pattern A was found in the majority of regions, with a tendency towards dispersed flat settlement in the adjacent lowlands for all of these areas (except for tell-rich North Macedonia). Punctuated settlement was found in three areas: the Eastern Rhodopes of South Bulgaria (Phase 2 and 4 sites), the Zemplén Mountains of North-East Hungary (Phase 3 settlement) and the North Transylvanian mountains (occasional Phase 2, 3 and 5 sites). What stands out from these data is how widespread upland settlement was in the early farming period, with seasonal visits commoner than long-term settlement in Phase 3 and a return to intensive upland deposition in either Phase 4 or 5. The emergence of important lithic and metal resources was linked to the development of particular technologies, as an emergent property of the landscapes. An important general point about lowland – upland relations concerned the network of kinship ties between the longer-term lowland sites and the shorter-term upland sites.

Settlement form

The second major question relates to settlement form. Time-place variations in settlement form were one of the most important conclusions to emerge from settlement pattern analysis. The basic contrast remains that between tells and flat sites (Chapman 1989). However, there is a more nuanced pattern than the contrast between nucleated tells dispersed at the regional level in the East Balkans and flat sites nucleated at the regional level in the West Balkans (1989, Fig. 8). While most tells indicate an even dispersion of people across mostly lowland landscapes, with sizes of less than 0.3ha, there were occasional large tells (e.g., Karanovo at 3.6ha; Vinča – Belo Brdo at 12 ha: Penezić et al., n.d.) – long-lasting nodal sites with greater visual influence on local landscapes than smaller, lower tells[128]. Coeval with the smaller tells were also small, flat sites with smaller populations than on the small tells. These contrasts emphasise that tells were sending two messages – the visual message of a significant ancestral presence *and* the higher population densities found in comparison to flat sites of similar size.

This pattern of variation within site classes was replicated at flat sites, where the implied normality of nucleated settlements in the West Balkans can now be considered an over-simplication. With the notable exception of the Trypillia group, there was a far greater number of small dispersed flat sites than large, nucleated flat sites in most of the regional studies discussed above. This meant that the strong communal links vital for the development of nucleated sites were relatively rare in comparison to the dominance of household ideologies at the vast majority of small dispersed settlements. A chronological perspective is necessary to achieve finer resolution of the changes in settlement classes.

In Phase 2, the key tell-dwelling zone was South Bulgaria and North Macedonia, where occasional large tells, caves and extraction sites, extensive pit sites and a poorly specified number of occasionally large flat sites (e.g., Anza I at 4.8ha) accompanied the typical small, moderately nucleated tells. The rarity of Phase 2 tells outside this core zone emphasized their visual distinction from the surrounding flat sites as well as their ancestral links to Southern communities. Outside the tell zone, Phase 2 settlements were dispersed across wider parts of the landscape than would happen again until Phase 5. Small numbers of nodal, large flat sites stood out from the more usual small flat sites in each region.

There is overall continuity in the core tell zones in Phase 3, except for the expanded role of large, flat, pit sites dating to the Karanovo IV phase and enclosed sites in many areas (e.g., the Central Balkans, Western Hungary and Transylvania). Upland extraction sites become more prominent coeval with an increased intensity of ritual deposition in caves. The well-known Phase 3 expansion of the core tell zone North of the Danube led to moderate site nucleation, alongside continued settlement dispersion in many areas (e.g., the Lower and Middle Danube Basins, North Croatia and upland Bosnia). But, in the Central Balkans and the Pannonian Basin, the tendency to dispersion on flat sites was sometimes reversed. Nodal flat sites were frequent among Phase 3 (Vinča) communities in Serbia and Transylvania, with upper size peaks of 9-10ha and 20-29ha (Chapman 1981, 43-44 & Figs. 72-74). In Hungary, Phase 3 settlement nucleation took a variety of forms – large flat Tisza sites and tell-flat site complexes such as Csőszhalom, as well as Lengyel flat dwelling-cum-burial complexes – whether with *Rondels* (Zengővárkony) or without (Alsónyék).

The widespread swing back to settlement dispersion can be dated to late Phase 3 and Phase 4, as exemplified by the smaller flat sites in the Late Vinča period and the Copper Age of the Struma valley. Whittle (in Bánffy, E et al. 2016, 292) has highlighted the tendency to dispersion as one of the most important overlooked transitions in European prehistory. Many of these sites have little evidence for large, permanent houses, with a variety of pit clusters constituting the main structural evidence. While extraction sites and enclosures became less common, there was a greater reliance on cave sites, sometimes for special deposition, sometimes for pastoral visits. However, at the same time as the greatly reduced dwelling on tells in Eastern Hungary, we find a comparable population dispersion into small Gumelniţa B tells in Wallachia and small Cucuteni A flat sites in Moldavia, although the larger size of these sites suggests moderate nucleation on the overall NDC in comparison with West Balkan flat settlements. In Phase 5, the extreme nucleation of Trypillia settlement lies at the opposite end of the NDC from the Balkan trends towards population fragmentation and flat settlement dispersion, despite rare exceptions at nodal tells such as Vučedol and Bubanj Hum. The classic case of Phase 5 settlement dispersion is the Coţofeni group, found at all altitudes, from the Danube flood-plain to the high Carpathians.

Three trends are visible in this mass of regional data: (1) a slow, steady, long-term increase in site numbers; (2) sharp declines in site numbers; and (3) fluctuating site numbers with regular peaks and troughs. The pattern of long-term increase is found in five areas – the Targovishte area, North-East Bulgaria, Muntenia, Southern Romania, North-West Croatia, Slovenia and Ukraine. The few better-dated sites in the Targovishte area show a peak in Phase 4 – viz., the regional Late Copper Age. In the other three Balkan areas, the larger number of sites and the finer chronological resolution makes the pattern more reliable, if complicated by dispersion into smaller sites. The steady increase through Phases 3 to early Phase 5 Trypillia sites (Trypillia Phases A to BII and Phase BII/CI) provides the background to the rise

128 The tells created in a sea of flat sites had even greater landscape significance (e.g., Vinča – Belo Brdo: Chapman 1998: 2012).

of the mega-sites, despite the fall in site numbers in Phases CI – the phase with the largest mega-sites – and CII. The common features in these areas was the expanded kinship networks which started from the earliest sites – those with the founder effect of lineage origins – and developed in new settlement zones to create stable kinship links within an emergent settlement network.

The decline in site numbers was a common feature of Phases 4-5 sites in North Macedonia, the Struma valley and the Central Balkans. The fall is particularly steep in North Macedonia, accentuated as it was by a switch from tells to flat sites and a decline in datable type-fossils. In the other areas, site dispersion was combined with small size, suggesting a real decline in population. Here, it would be risky to exclude changes in land-use potential from any explanatory scenario but it is also highly likely that the kinship links between existing settlements had collapsed in some way, perhaps related to increased scalar stress in nucleated sites or the tensions between household and communal ideologies in dispersed settlements.

The same issue of the relationship between site sizes and site numbers probably lies at the root of the third pattern – fluctuating site numbers. The pattern has been detected in traditional gazetteer-type data in the Central Balkans, where peaks in site numbers occurred in Phase 2 in five valleys and in Phase 3 in four other valleys. In the Pannonian Basin, fluctuations in site numbers were closely related to changes in nucleation – dispersion, with moderate to high nucleation in the late Phase 3 and moderate to extreme dispersion in all other periods.

I have already discussed (see above, p. 293) the cycles of increasing and declining site populations, that could be theorized in terms of six stages, starting with population growth and ending in budding-off and stabilization of scalar stress in nucleated sites. One of the characteristics of such budding-off scenarios was the formation of settlement clusters of more established and new settlements, with later abandonment of less successful sites. Variable kinship links would have played an important role in such population cycles.

The nucleation – dispersion continuum (NDC)

The NDC is a way of expressing the number of people who could live well together on one site. The NDC covers a wide size range in the study region, from small scatters of less than 0.1ha that probably indicated single-household sites to Trypillia mega-sites as large as 320ha. In the 1980s, excavation data suggested population densities of 60-90 people on a small tell, assuming that 1/3 of the surface was settled (this could increase to 150-200 people if the whole tell was coevally settled) (Chapman 1989). For a flat site, the lower population density meant that between 60 and 90 people could have lived on a 1ha site, with far larger populations on nucleated flat sites (e.g., the 10ha. Early

Survey area	Phase 2	Phase 3	Phase 4	Phase 5
Nova Zagora	5	5	5	5
Yantra	3	4	5	3
Slovenia	-	2	2	2
Middle Morava	3	4	3	3
Šumadija	3	5	2	1
Körös Region	2- 3	5	3	2
Békés II	2-3	5	3	2
Upper Tisza	2	5	2	2
Western Hungary	2	2	3	3
North Dobrudja	-	2	3-4	2
Transylvanian Counties	2	3-4	2	2
Moldavia	2-3	3	2-3	2-4
Southern Bug – Dnieper Interfluve	-	2-3	5-8	7-10

Table 8.8. Summary trends in the Nucleation – Dispersion Continuum (source: author).

Neolithic Kovachevo, with hundreds of people). The debate on megasite population size is far from settled, with site population estimates from the Majdanetske team falling dramatically with time (cf. Rassmann et al. 2014 with Dal Corso et al. 2018; Chapman et al. 2016; Gaydarska 2020). The broad correlation of site sizes with population ranges via estimated population densities provides a framework for inter-regional comparison of sites on their NDCs.

In the discussion of regional settlement trajectories, I attempted to characterize comparative NDC scores for Phases and areas (Table 8.8). Apart from the strong nucleation found in Trypillia sites, the general pattern was for higher NDC scores in tell-dominated areas than in areas with many flat sites. It is important to note the tendency for greater nucleation in a climax settlement phase in many areas: this tended to be Phase 3 in the Central and West Balkans and Eastern Hungary, but Phase 4 in the East Balkans. Again, with the exceptions of Ukraine and Bulgaria, the lowest NDC scores came in Phase 5 in most areas.

Diachronic changes in settlement nucleation and dispersion can be linked to many factors but a key factor concerns the importance of community values and practices in times of nucleation and the greater significance of households in times of greater dispersion. The emergence of key integrating practices, such as the intensification of inter-household rituals, stronger kinship bonds, shared subsistence practices and an intensification of feasting events, was materialized in an explosion of objects during Phases of higher-than-average nucleation. Another significant development was the emergence of modular settlement form and size, which represented a response to the tensions between household and communal settlement ideologies. This took the form of small open sites, exemplified by Cucuteni A settlements in Moldavia, or the small tells of North Muntenia or North Bulgaria. On these sites, a low number of houses was probably maintained to mitigate scalar stress (Johnson 1982).

Settlement networks

An important characteristic of settlement patterns in our study region concerns the social networks which grounded individual sites in both local and regional social practices. Two forms of network mapped directly onto tells and flat sites, while hybrid networks would have been developed for other areas.

The tell network relied on the repeated choice of living in the small number of places where the ancestors had lived. Tell communities created an often highly-organised settlement plan and a set of standardized houses, while adhering to regular spacings between houses and controlled use of on-tell and off-tell spaces (Chapman 1989). Family members of tell households would follow daily temporal patterns of work, leaving the tell in the morning to farm the land or tend to the stock, gather forest foods, weed and mend fences, returning in the late afternoon for communal meals or events (Bailey, D. 1997). The longer the tell was occupied, or re-occupied, the greater the sense of place-value relating the place to the inhabitants and their material culture. The tells in Southern Bulgaria and North Macedonia, and later North Bulgaria, were typically nodal sites which affirmed their sense of place-value and their 'commons' *sensu* Gudeman (2001) often over millennia, from Phase 2 onwards, sometimes into the Early Bronze Age. The tell mode of socio-spatial reproduction was therefore site-based and spatially specific.

The network through which social reproduction operated in Eastern Hungary was not so much based upon individual places as a small area – often a valley segment – in which high proportions of sites were located in each period. The so-called Multi-Community Zone (or 'MCZ') (Chapman 2004) focused settlement not only for subsistence reasons but also because it was the extended land of the ancestors. Cumulative place-value was just as important for MCZs as for tells and referred to ancient settlements, antecedent burial mounds, arable land, pasture and fishing grounds. In this network, the area circumscribed by the MCZ constituted the 'commons' itself. A similar strategy can be found in the dispersed settlement network in the Little Balaton area of western Hungary, the 'Extended Village' pattern in the Eastern Adriatic zone (Zadar Lowlands) and possibly also the Okolište Basin. However, some of the multi-community zones contained one or even more tells, showing dual-track social practices for valuing ancestral landscapes – the dispersed MCZ practice and the nucleated tell practice. If the tell materialized a founding effect at the start of the local sequence, lineage ties would have been created with the other, flat sites in the MCZ.

What forms of social reproduction were present in those many areas of the Balkans and the Carpathian Basin which did not boast tell-based networks (e.g., Bulgaria) or MCZs (e.g., Eastern Hungary)? In regions with more traditional data-gathering (Central Serbia, the CT network), survey intensity is too low for the ready recognition of MCZs. However, MCZs without nodal sites formed through the local clustering of sites in Phases 4 and 5 in the Yantra and Struma valleys of Bulgaria or in North-West Croatia but did not apparently occur in Phases 4 or 5 of the Targovishte area, which developed tell-based practices.

Hybrid forms of site-based networks would have been in operation in other areas, with nodal sites associated with smaller settlements. A good example was the core right-bank area of the Middle Morava valley, where nodal, long-term settlements such as Drenovac and Paraćin-Motel may well have shared practices with other shorter-term sites to create such a network (Fig. 8.6). Again, the importance of founder effect for the development of a local kinship network cannot be over-emphasised. While the loose network of large, flat Phase 3 (Early Vinča) sites in the plains of North Serbia may indicate a simple two-level site hierarchy, we do not have sufficiently detailed settlement data to evaluate the likelihood of the linkage of nodal sites to a suite of local MCZs.

In summary, classic examples of the tell-based network and the multi-community zone can be supplemented by hybrid forms of network to provide a variety of potential networks to which local communities could have contributed and which provided communities with a 'commons' of land, plants and animals. The variable scale and strength of kinship networks were key factors in the way that nodal sites developed or were abandoned in favour of other sites.

The social interpretation of sites

The final question in this settlement chapter concerns the social interpretation of the sites in question. The four relevant settlement units are cities, villages, hamlets and homesteads[129]. In the 1989 study, the conclusion was reached that the Balkan Neolithic and Copper Age was a high peak of village life in European prehistory, which became less significant in space (further North and West) and in time (into the Bronze Age and Iron Age) (Chapman 1989, 33). Can this conclusion be supported after the accumulated gains of 30 years of fieldwork and excavation? This question requires a diachronic answer.

129 For definitions, see p. 45.

A survey of Phase 2 founder settlements showed that those pioneer settlements that began their lives as village communities remained at that scale of dwelling, homesteads and hamlets maintained *their* smaller scale of dwelling, while yet a third site type consisted of pits with no apparent habitation structures but much object deposition, sometimes enclosed with ditches (Chapman 2000b: 2008a). Small tells in South Bulgaria and North Macedonia would have formed minimal village communities, with populations of several hundred on larger tells such as Karanovo, Kazanluk and Chavdar. The 4m- and 6m-high mounds formed at the last two sites as early as Phase 2 showed the visual power of nodal South Balkan tells – a powerful combination with kinship salience. While it is doubtful that flat sites smaller than 1 ha reached the village threshold, large Phase 2 flat sites such as Kovachevo, Drenovac and Trestiana would have stood out from neighbouring hamlets as sizeable villages. Outside the tell zone, hamlet-scale settlement would have been more common than the village form, not least in the multi-community zones of the Körös group, with their social reproduction based on a small area of 'commons' more than on individual sites. Some groups in these MCZs lived on single-household sites, such as Endrőd 119 (Makkay 1992). Close to some hamlets were specialised production sites for salt-boiling, pigment extraction and axe-making, as well as pit sites for intensive object deposition.

The overall pattern sounds familiar from Düring's (2011, 130 & 139) summary of coeval settlement in Anatolia, with the replacement of large stand-alone settlements such as Çatalhöyük East by a dispersed settlement pattern – generally small sites but with some larger sites. There are also surely echoes of Broodbank's (2013, 219) description of Mediterranean 5th millennium settlement:"a mosaic of myopically local villages replete with an intricate symbolic culture, crammed into the fertile plains with thinner scatters between." Living on tells combined on the same site the two classic ways of tracing ancestry found in the Italian Neolithic (Robb 2007, 314) – through long-term co-residence and through genealogies: tells as genealogical monuments for co-residence, reinforced with intra-mural burial. Flat sites used a somewhat different combination of ancestral links – intra-mural burial more than the principle of shorter-term co-residence.

In Phase 3, increasing numbers of people formed themselves into villages, whether on tells or as flat sites – perhaps a sign of the time needed since the origins of farming for the build-up of stable communities (Broodbank 2013, 224). One form that village creation took was through the increase in tell-dwelling, both by infilling within the Phase 2 tell zones and through expansion into new areas with no or very few previous tells, such as the Central Balkans (e.g., the precisely-dated Vinča-Belo Brdo and Uivar tells), Albania (Sovjan: Lera et al. 1994), north Bulgaria (one of the few tells was Samovodene: Stanev 2002), Eastern Hungary (Kalicz & Raczky 1987) and Bosnia (Gornja Tuzla: Čović 1960-61). Some communities even created mortuary zones near houses on unoccupied parts of the tell (e.g., Öcsöd, Gomolava), reinforcing still further a key tell genealogical principle. In areas outside the Phase 2 core tell zone (i.e., North-East Bulgaria, the Central Balkans and the Alföld), large flat sites were as common as tells, with populations of hundreds at the former. This development represented another route to villages, as was common on Phase 3 (Early Vinča) sites such as Grivac or the majority of Vinča sites in the Kolubara valley. A less common trajectory was the replacement of a pit site with a fully-fledged village, as in the cases of Rakitovo (Raduntcheva et al. 2002; Chapman 2008a) and Ovcharovo – Gorata (Krauß 2014). Although villages were becoming the dominant settlement form in many areas of the study region in Phase 3, nonetheless, hamlets and single-household settlements were still common in areas such as Eastern and Western Hungary, Southern Romania, the Western Black Sea coast and the Adriatic zone. Here, the dominant landscape monument was often the communal cemetery, for the burial of the dead from maybe a dozen or a score of hamlets or even more homesteads. In some ways equivalent to the cemeteries in terms of landscape foci were the extensive pit sites, now with a wider expanded distribution in Bulgaria (Nikolov, V. 2011) and Eastern Hungary (Bánffy et al. 1999), and the cult caves with intensive deposition of painted wares and other prestige objects (e.g., Aggtelek-Domica or the Cheile Turzii caves).

The dominant place of the village in Balkan – Carpathian social life in Phase 4 was challenged by a bifurcation in settlement patterns between the East and the West Balkans together with Eastern Hungary. In the former, tell villages were the predominant settlement form, with the peak in the numbers of small tells in Southern Bulgaria (Todorova 1978) matched by more widespread tell-dwelling within the Lower and Middle Danube Basins as well as upland Transylvania and Bosnia. While the greater height of the few larger tells distinguished them doubly from small tells, both kinds of tell embodied both village life and ancestral principles. Some communities even created mortuary zones on unoccupied parts of the tell (e.g., tell Ruse). But in the West Balkans and Eastern Hungary, a strong trend towards settlement dispersion in Phase 4 meant that hamlets and homesteads became dominant for the first time for over a millennium. Tells remained virtually unknown in yet other areas, such as the Struma valley, North-West Croatia and Slovenia, where hamlets and homesteads continued to dominate throughout the Neolithic and Copper Age. This major inter-regional contrast between the East and West Balkans created two very different social worlds, setting the scene for many of the cultural divergences we find in the late 5th millennium BC. Thus, in the East Balkans, there was a general acceptance that life in small to medium-sized villages was a viable compromise between the advantages and disadvantages of nucleated communities (Chapman 1989). The Phase 4 networks of tells, seasonal sites, caves and mortuary sites in North Dobrudja is, in many ways, reminiscent of the coeval settlement model for North Bulgaria (Krauß, R. 2010). In the West Balkans, exchange networks linking dispersed settlements became of increasing significance to social reproduction (see chapter 9). In Phase 5, with the exception of the Trypillia mega-sites, the West Balkan tendency for site dispersion increased to cover most of the study region, with villages rare and hamlets sometimes less common than homesteads.

Thus, the answer to the question of whether or not the Balkan Neolithic and Copper Age can still be considered as a high peak of village life in European prehistory, which became less significant in space (further North and West) and in time (into the Bronze Age and Iron Age), is a resounding "yes"! The greatly improved settlement information for these periods means that, while it is no longer possible to support the dominant role of the village in the Early Neolithic, there is a growing importance in village dwelling into the 5th millennium BC in most parts of the study region and for at least another millennium in Trypillia-land.

How do these diachronic analyses relate to the changes between the Neolithic and Bronze Age 'historical epochs' discussed by Kristiansen (2015) and Kristiansen & Earle (2015)? The principal difference between the epochs – the indisputable fact of a wider and more intensive Bronze Age inter-regional trade in copper and tin in comparison with the inter-regional networks of the Chalcolithic – has been known since Gordon Childe (1936). The dispersed settlement in Europe supposedly in causal relation to the key expansion of the Uruk-derived new family structure, based upon mobile wealth in herds and patrilinear kinship, was in fact already in existence in Old Europe, notably in the Carpathian Basin and the Central Balkans, long before the 4th millennium BC Uruk expansion. The 5th millennium BC dispersed communities in Hungary were integrated by inter-communal cemeteries, inter-regional copper trade and intensive animal husbandry (e.g., the human impact signals from the Sarló-hát pollen diagram: see above, p. 69). It is a basic mistake that Balkan tells comprised large populations (Kristiansen 2015, 1107); already in the late 5th millennium BC, a dispersion into small tells, comparable to settlement dispersion in the Cucuteni A communities, had created an alternative pathway which could not have been more opposite to the settlement expansion towards megasites seen already in the Early Trypillia phase. The transformation of Trypillia megasites into more dispersed communities in the latest phase (Diachenko 2016) may have been related to different family structures but, by this point, the rest of Old Europe had made major strides towards dispersed homesteads scattered across the landscape, integrated by landscape deposition of copper axes. The transition from the Neolithic to the Bronze Age historical epoch was far longer, and more complex, than Kristiansen and Earle have imagined.

In this chapter, I have tried to disentangle the various strands of the settlement patterns found in time/place in Old Europe. It has been possible to define regional settlement patterns along the nucleation – dispersion continuum and to relate that to the type of settlements and the landscape affordances which made resources available. Three forms of settlement networks were recognized – the tell network, the dispersed site network and the hybrid network. Now it is time to turn to a more dynamic form of network analysis, which connects communities and regions through the exchange of objects, people and services.

Chapter 9

Networks

> "Knowing what a network looks like is an essential first step in any network analysis and consists of demarcating the substance and directions of exchanges (flows) and which people and places (nodes) are included and excluded" (Bouteligier 2013, 55).

Introduction: an exotic pumice-stone

The attentive reader may well wonder why I am returning to the theme of settlement since I have already covered this ground in two previous chapters (6 and 8). But the material I discuss here concerns the network linkages between settlements – especially exchange networks, by which raw materials, objects and fragments of objects are exchanged between communities and persons. The key notion of the fragmentation of place is introduced to show how places are presenced (i.e., made present) in other places far from the original location. Many of the key themes in this chapter are exemplified in a narrative about a pumice-stone.

Amongst the prehistoric finds in the Omurtag Town Museum is a Late Copper Age hoard from a Phase 4 unburnt house on a tell site (Gaydarska et al. 2004). The Omurtag hoard comprised 34 items placed in a complete vessel (Fig. 9.1). These objects were made from nine different raw materials – from three zones (for definitions, see p. 55): the Foreign (the quartzite bead), the Remote (the 19 *Spondylus* shell fragments from the Aegean) and the Continental (the pumice-stone) (Fig. 9.1 & 2a). The marine shell fragments in the pumice strongly suggest a marine volcanic origin, whether the Izmir area on the western Turkish coast (730 km away), the Aegean island chain of Thera – Melos – Lesbos (1,000 km away) or the Aeolian island group (Lipari) in southern Italy (1,500 km away) (Fig. 9.2b). While analysis of the pumice has not yet differentiated between these three possible sources, it is still possible to develop a narrative about the stone and the exchange networks through which it moved.

The pumice-stone itself must have felt very strange to the Omurtag settlers – an unusual colour, a stone but light in weight, sharp but could be rubbed pleasurably against the skin. The flecks of white against the grey background perhaps reminded the people of white sea-shells. This was a classic exotic object but so rare (no other pumice-stones have yet been discovered in Bulgarian prehistory) as to make it hard to assign a 'local' cultural value.

Moving the pumice-stone away from its source outcrop constituted a fragmentation of the source – the creation of an enchained link between the source and the place where the pumice-stone was kept and used. As Gosden (2009, 183) put it, "values attached to materials and to place are mutually referential and supportive". The fragmentation of place is therefore the origin-metaphor for enchainment – the general process of relating in the world.

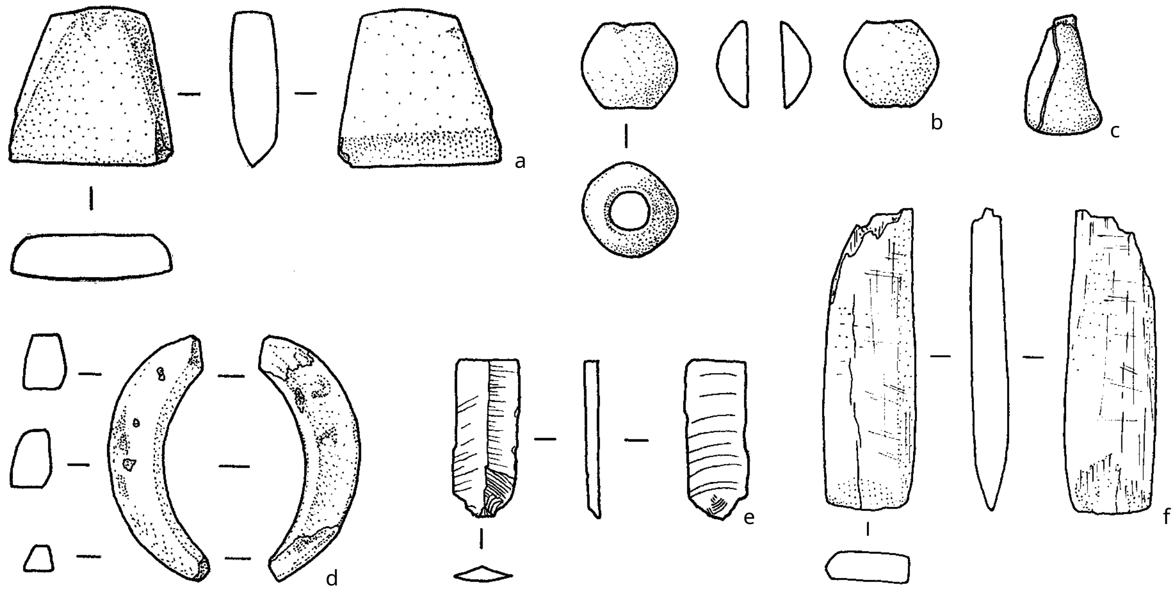
How did the pumice-stone reach a small tell in North-East Bulgaria? The notion that a long-distance specialist from Omurtag would have journeyed to any pumice-stone source seems improbable. Instead, we are surely talking about locals near the source collecting

Figure 9.1. Omurtag Hoard: (top) the hoard in its vessel: vessel height – 15.2cm; (bottom) marine pumice-stone: length x width – 9.8 x 6.7cm (source: author's photos).

the familiar material and making an artifact of it. Even this scenario has problems, since very few prehistoric pumice objects are known from Italy or the Aegean[130]. On the assumption that someone near the source made the pumice-stone and exchanged it within local settlement networks, the initial steps would have involved sea-borne networks for each source.

Broodbank (2013, 214) has used the sailing of a replica of the 6th millennium BC 'La Marmotta' oak dug-out canoe to show that a crew of 11 could manage 32km per day (20-25km if loaded), thus travelling from Lipari to Sicily in one day. On that basis, the travel time for the island-hopping Northward route from Thera to Greek Thrace was a minimum of 18 days, with only one overnight sailing. Of course, no voyage was complete without social events marking arrival and departure, doubling the total time to 40 days. The Izmir to Thrace voyage could have combined travel time of eight days with a social time of 12 days, making a total time of 20 days. The greater complexity of the Lipari voyage meant a longer travelling time to the Balkan coast, with two days' sailing to the Italian mainland, a land voyage of 400 km (20 days at 20km per day) to the East Italian coast near Términoli and an island-hopping crossing of the Adriatic to the mouth of the river Neretva of 10 days. The total time, with feasting, could easily have amounted to two months. There was a further land voyage of c. 1,000 km from the Adriatic coast to Omurtag,

130 Few pumice-stones are known from the Aegean Bronze Age until the Theran eruption of the mid-2nd millennium BC (p. c., O. Dickinson, Y. Hamilakis); one such is a pumice-stone from a pre-Theran, possibly Late Pleistocene, eruption found at Middle Bronze Age levels at Palaikastro, on Crete (p. c., C. Knappett; cf. Steinhauser et al. 2010). Equally, there is only a handful of known Neolithic pumice objects in Italy (p. c., R. Skeates).



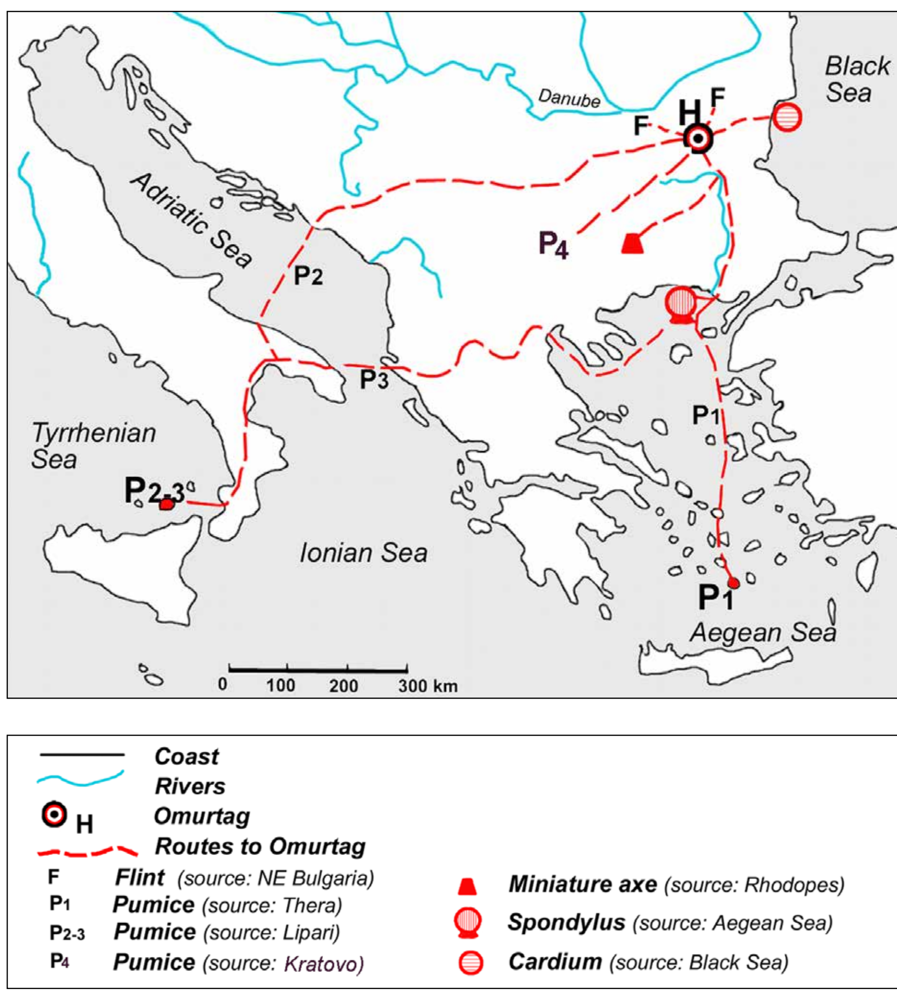


Figure 9.2. (a) – (f) components of the Omurtag hoard: (a) polished stone miniature axe (length – 2.8cm; (b) polished stone bead (diameter – 1.8cm; (c) pig incisor (length – 2.3cm; (d) fragment of *Spondylus* bracelet (inner diameter – 5cm); (e) flint proximal blade segment (length – 3cm; (f) bone plate (length – 8.1cm); (g) potential routes linking the sources of marine pumice to Omurtag, Bulgaria (source: Gaydarska et al. 2004, Figs. 1 & 10/9, 14, 17, 19, 22 & 26).

taking six months at the very quickest. The distance from the Thracian coast to Omurtag as the crow flies is 250 km, with inter-village exchange taking a minimum of six weeks, or within one summer season.

These estimates for travel and social time show that, even for the most distant source, exchange through a network of many communities could have been accomplished in less than one year. However, exotic objects would not have been readily exchanged and the delay in accumulating sufficient objects to make a successful bid for a unique pumice-stone may have been extended – quite possibly for years. Thus, it was highly probable that 'retention time' would have exceeded social time or travel time for any object in a long-distance network.

I have already proposed that the social landscape can be divided into the 'Familiar', 'Other', 'Foreign' 'Remote' and 'Continental' zones (see above, p. 55 & Fig. 2.2). This meant that the pumice-stone would have crossed several 'Continental' zones, as well as a large number of 'Other' zones on its travels to Omurtag. The total number of people who may have witnessed the pumice-stone on its travels may be estimated at 3,000-12,000 people. This feat of enchainment built up the personal biography of the pumice-stone within each stage of its voyage without including every person: no-one in Omurtag knew, or needed to know, persons living on Sicily. The number of local settlement networks with active personal links in the exchange chain may have been contained within the Remote Zone of 250km radius from Omurtag; beyond that, the enchained persons lost their dividuality and became part of the spatial equivalent of 'remote ancestors' in time. As it approached North-East Bulgaria, the pumice-stone's biography became increasingly peopled with local, known dividuals routinely participating in the Lower Danube settlement networks rather than 'remote traders'. Throughout the voyage, the fame of the pumice-shell would also have increased, transferring part of that renown to those exchanging the stone but also reciprocally receiving renown from those same traders (Weiner 1992). These long-distance items were so rare and precious that their value in exchange networks was eventually eclipsed by their worth as inalienable treasures held by and for the community. As Godelier (1999, 8) observes, it was vital for any society to have fixed points – sacred objects excluded from gift-exchange or trade. The end-point of the Omurtag pumice-stone was as just such an exotic, inalienable object.

This attempt to bring a more personal sense to the topic of settlement networks was based upon a single object – the Omurtag pumice-stone – but the principles outlined in the story show that each settlement was related to nearby and distant settlements through exchange networks. Equally, the fragmentation of place which initiated the biography of the pumice-stone is a widespread practice by which enchainment linked place to place. It is, *contra* Broodbank (2013, 229), no surprise to note that almost every known Old European cultural group has 'imported' pottery and lithics from each of their neighbours. We now turn to the ways in which settlement networks developed in general, before we turn to the diachronic pattern of shifting Balkan exchange networks.

Settlement networks

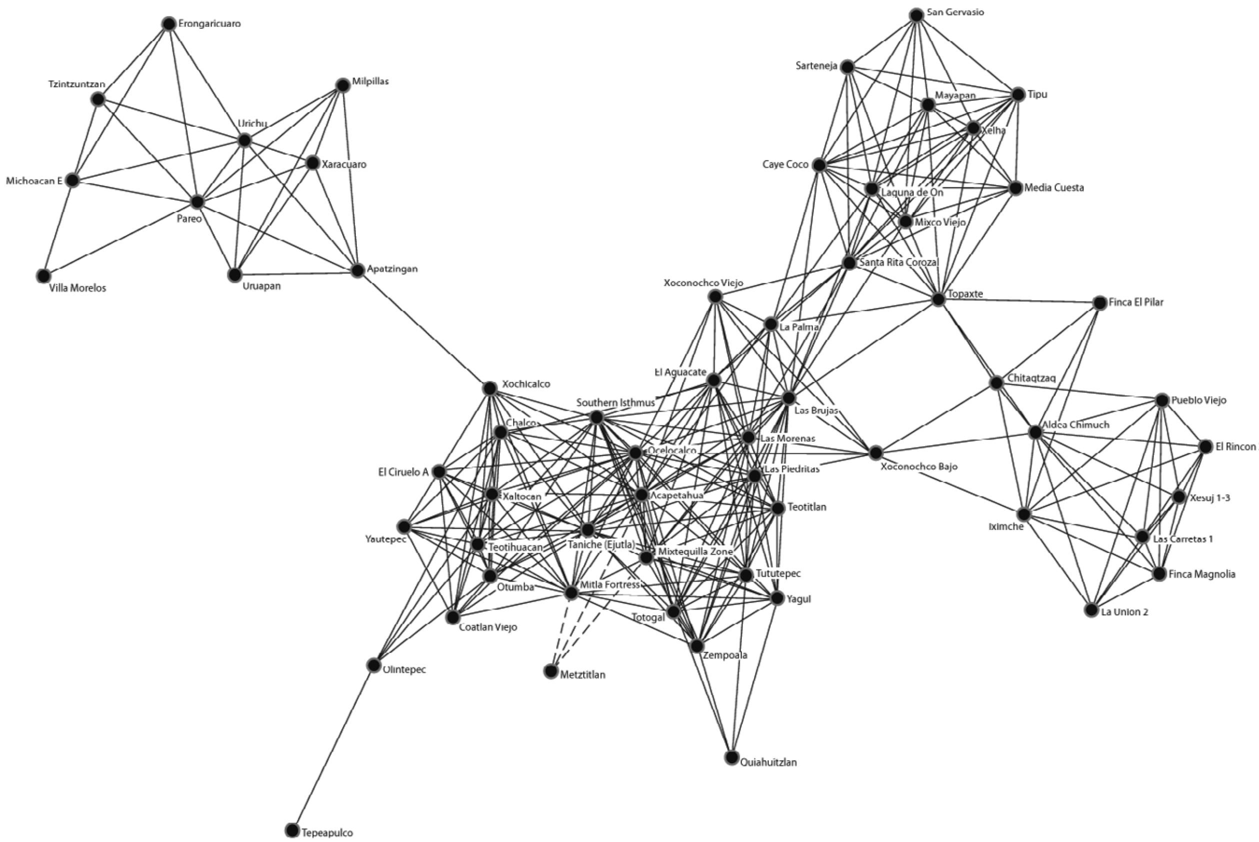
A recent growth-point in archaeological research concerns network analysis, in which the formal properties of networks have been subject to mathematical modelling (Knappett 2011: 2013; Brughmans 2013; Brughmans et al. 2015; Blake 2013; Malkin 2011; Borck et al. 2015; special issue of *Journal of Archaeological Method and Theory* 2015). While current recording of Old European data usually vitiates a formal approach to social network analysis (but see Radivojević & Grujić 2018; here, p. 318), an approach using network thinking can illuminate the general properties of exchange practices and the development of central sites.

The assumption to be explored is that interactions would have led to shared worldviews and eventually common identities rather than the converse (Blake 2014, 17). Local micro-regions were the building blocks of networks of all sizes, generally through the linkage of several micro-regions into clusters (Horden & Purcell 2000, 203-4; cf. Chapter 8 above). Since all ancient economies were agrarian systems based on small-scale, household production (Golitko & Feinman 2015, 233; cf. Chapters 3 & 5 above), the patterned distribution of exotic goods and the shared distribution of material traditions (especially pottery) can reveal the extent to which the local was transcended. Some basic properties of networks include the form of the network, its size, the type of nodes and the intensity of the links (for basic definitions, see Wassermann & Faust 1994).

Network form and size

A useful preliminary distinction on the type of network is between small, local kinship-based, face-to-face networks and larger, more diffuse networks whose local clusters were linked by weak ties. A good example of the latter is the type of network termed 'small worlds' (Granovetteer 1973), whereby even a few seemingly 'random' links between nodal sites (or, in our case, multi-community zones) can produce connections over the entire network (Watts 2003) (Fig. 9.3).

The paucity of isotopic evidence for mobility (Borić & Price 2013) means that we have to rely on 'cultural' networks, exchange networks and the controversial evidence for a widespread 'Danube Script'. In Old Europe, large, diffuse networks can be characterized as 'ceramic networks' (usually known as 'cultures': Childe 1929) but could equally relate to copper exchange networks (Radivojević & Grujić 2018).



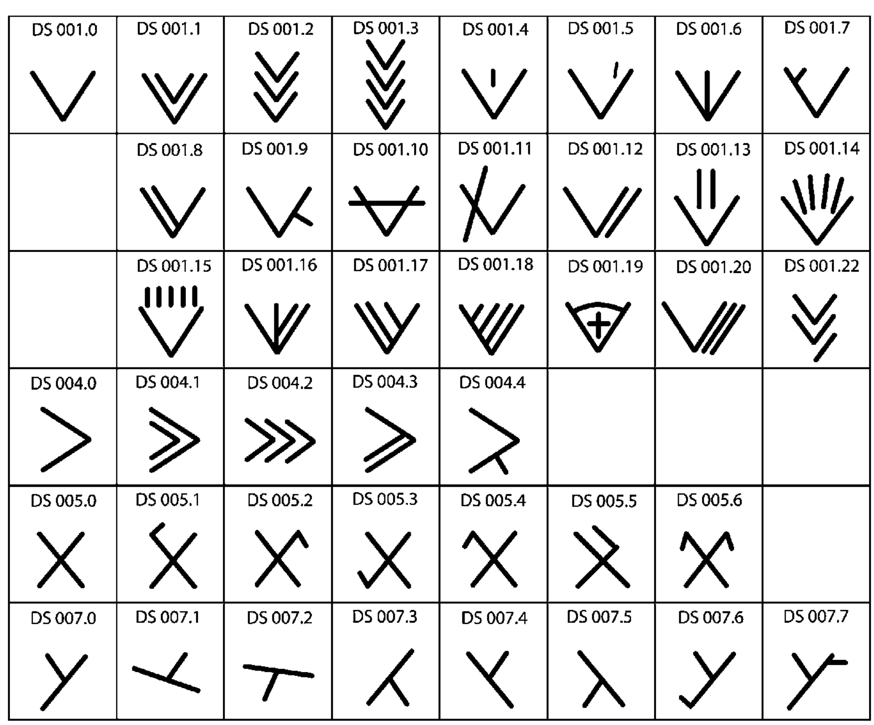


Figure 9.3. (top) a small worlds network (source: L. Woodard redrawn from Golitko & Feinman 2015, Fig. 13) ;(bottom) Selected signs from the 'Danube Script' (source: L. Woodard redrawn from Merlini 2013, pp. 454 & 456).

Two early considerations of the differences of the study region from surrounding regions were based on informal network thinking – John Nandris' characterization of the 'First Temperate Neolithic' in terms of both ceramic and non-ceramic similarities (Nandris 1970: 1972: 1972a), and Marija Gimbutas' definition of 'Old Europe' for Phases 2-4, based upon distinctive ritual practices (Gimbutas 1974). An analysis of the Early Neolithic *habitus* of two relatively distant regions – Thessaly and Eastern Hungary (Chapman 2003) – supported Nandris' concept in revealing the remarkable, multiple similarities between the two regions at the level of daily practices.

The basic framework for the 'cultural archaeology' of Balkan prehistory is derived from ceramic networks – smaller or larger distributions of identical or similar pottery which has been interpreted to signify ethnic links (Nikolov, V. 2004, 21-22), close social ties mediated by technology (Lemonnier 1993) or related communities (Chohadzhiev 2007, 138). Similar attempts have been made to characterize ethnic identities using lithics (Kozłowski, J. K. 2001, 258) or figurines and pintaderas linked to aDNA patterning (King & Underhill 2002).

There is considerable variation in the size of these 'ceramic networks' (traditionally known as 'cultures'), ranging from 10,000 km^2 to over 250,000 km^2 (Fig. 9.4a). These distributions show not only the diachronic variations in network size but also the density of boundaries between networks. The main Phase 2 ceramic networks were not only large but were also supported by shared non-ceramic objects (Nandris 1970). Phase 3 stands out from the other Phases with its tendency to form small ceramic networks with much interaction across fluid, open boundaries (Kalicz & Makkay 1977). In Phases 4 and 5, network linkage – the fusion of two or more smaller networks into a single larger network – led to the consolidation of ceramic networks into much larger units than were present in Phase 3. However, a comparison of the duration of such groups with their areal size produced the unexpected result of a weak relationship between group size and group duration (Fig. 9.4b). The Phase with the greatest artifact differentiation – phase 4 – was also the Phase with the weakest relationship between group size and group duration. The Cucuteni-Trypillia network was one of the very few examples of ceramic styles attracting the widest range of use while also maintaining that group identity over the longest period of time.

A new network study uses modularity analysis of chemical data of 410 copper-based objects from 93 sites as a proxy of cultural networks over three millennia (6200-3200 BC) (Radivojević & Grujić 2018, 106-9). The patterns of copper supply among prehistoric societies were found to be reflective of network relations in two ways: an Artefacts Network based on lead isotope analysis of 410 copper objects and a Sites Network, connecting sites and objects with similar provenance (2018, 106-9). Diachronic changes in the distribution of the three groups of metal objects revealed a striking resemblance to cultural groupings derived from ceramic data (2018, Figs. 6-7). Each period is characterized by different combinations of metal Modules, with a crucial change at 4100 BC, when the Ai Bunar source was replaced by the Majdanpek source. This innovative analysis indicates the potential of quantitative data for future network analysis in Old Europe.

On a similar spatial scale, an approach informed by network thinking was developed to compare all the object categories from the multi-period site of Orlovo, S. E. Bulgaria with identical or similar objects found over much of Old Europe (Chapman 2010). Both ornaments and figurines had weak links with artifact traditions over the whole of Old Europe (Fig. 2.1). The recognition of parallels for over 50 artifact types in overlapping parts of this zone indicates a shared cultural tradition at a very general level, as part of the *habitus* of hundreds of individual settlements. This is the largest scale of loose network in Balkan prehistory and suggests a form of prehistoric 'glocalisation' – the combination of overarching, globalised structures and local identities with their circles of lived experience (Malkin 2011, 14).

The final form of network is the most controversial – the interpretation of the large number of objects with incised or painted marks as decoration, symbols or writing signs. The question of the signs had long been entangled with diffusionist models of the spread of writing from the Near East to the Balkans (Hood 1967; Makkay 1969; Renfrew, C. 1973). It is to the credit of Marco Merlini that we can now separate these two issues[131].

Winn's (1981) initial list of ca. 50 Vinča communities using a total of 210 incised signs was extended to 242 signs in his second inventory (Winn 2004: n.d.). However, Merlini's 2013 *DatDas* database contains a list of over 200 sites, with 971 inscribed objects, 1,167 inscriptions (many objects have more than one inscription) and 5,421 actual signs (Merlini 2013, 404). These signs have been systematized into an inventory of 292 signs, including a set of five numerical signs, and in turn grouped into 32 core-signs and 167 derivative signs. Merlini's updated (2013) book presents the first full analysis of his database[132]. Since Merlini has advanced the most convincing case for the existence of a Danube Script, I shall focus on his 2013 publication.

131 E.g., Winn's (1981) use of the term 'pre-writing' for the Vinča sign system was designed to avoid the wrath of diffusionists who were opposed to an independent Balkan script, while at the same time accepting an evolutionary approach to writing linked to the emergence of civilization.

132 Dr. Gheorghe Lazarovici has created a parallel database of over 4,000 entries, which combines what Merlini has termed 'symbols' as well as signs (Lazarovici, Gh. 2004).

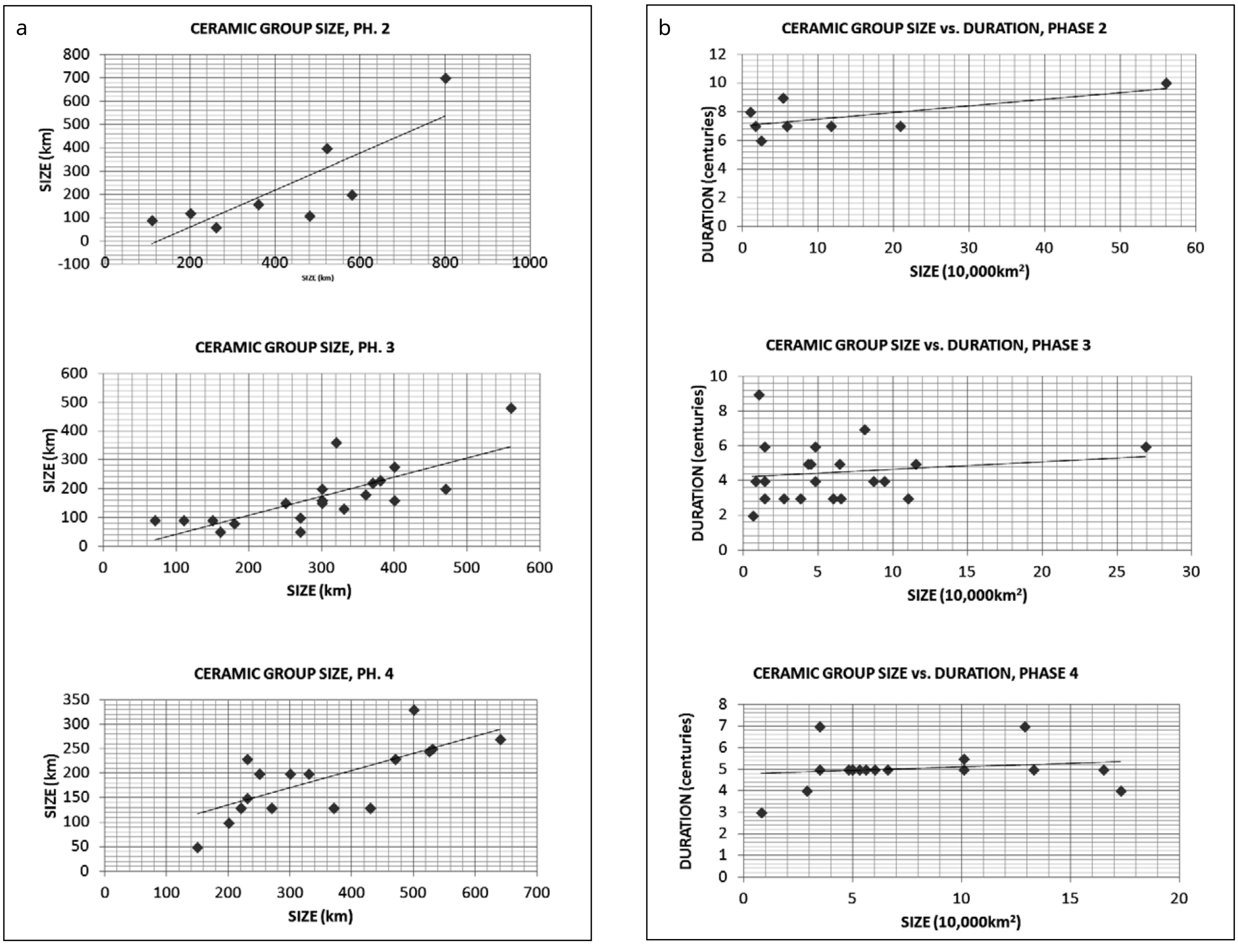


Figure 9.4. (a) Size of ceramic networks by Phase; (b) Ceramic group size vs. duration by Phase (source: author).

Merlini (2013) makes seven arguments in favour of a Danube Script functioning as an archaic writing system: (1) the differentiation of ‘signs’ from symbols and decorative motifs; (2) the presence of a corpus of signs, not merely marks drawn according to individuals’ personal expression; (3) the intentionality, individualization and standardisation of many signs; (4) the widespread nature of certain signs (the ‘y’ sign surmounted by a miniature stroke, the double-bar cross and the ‘>>’ sign) and the reduced frequency of singletons and very low-frequency signs with increasing information (Fig. 9.3); (5) the structured relationship of basic root-signs to derivative diacriticals; (6) the linear, sequential order of the signs; and (7) the combination of principally abstract signs with some pictograms and ideograms, characteristic of early logographic systems (Houston 2004). Moreover, Merlini’s recent research has introduced contextual studies of the signs, as well as their space-time distribution, into the debate in a more systematic manner than ever before. His most interesting conclusion is the strong concentration of incised signs in Phase 3, with far fewer in Phases 2 and 4 and a steep decline in Phase 5. However, this finding ignores the large assemblage of painted signs in Trypillia settlements which Tkachuk (2005) has studied in a semiotic analysis of the signs on almost 8,000 sherds dated to Trypillia stages BII – CII. Tkachuk considers these signs to constitute the Trypillia sign-system or sacred pictographic script, which ran in parallel to, but was distinct from, the Danube Script (cf. Hudson & Milisauskas 2017).

One criticism of Merlini’s case is the overall distribution of the signs, with only one sign found on over 100 objects, perhaps two other signs found on more than a further 20 objects and an estimated 85% of all incised signs limited to one single site (Altschuler & Christenfeld 2003). This distribution casts doubt on the communicative success of a script whose readers/writers may never have seen other inscribed objects with similar signs in their entire lives. However, the cultural conventions invoked by the signs were indeed widespread and shared by widely separated communities (Winn 1981), allowing the signs to act as an inter-group medium of ritual dialogue. Given that

JCC Phase	Regional foci	Sites with sign concentrations	Important sites without sign concentrations	JCC 'Central' sites
2	North Serbia	Donja Branjevina	Starčevo – Grad	
2	Iron Gates	Gornea	Lepenski Vir (Starčevo phase)	
2	Iron Gates	Ostrovul Golu	Schela Cladovei	
2	South Bulgaria	Azmashka mogila	Karanovo tell	Orlovo
2	South Bulgaria		Yabulkovo	
2	Moldavia	Trestiana		
2	Moldavia	Glăvăneşti Vechi		
2	Moldavia	Perieni		
2	Struma valley		Kovachevo	
2	Alföld Plain		Endrőd 35 and 119	
2	Alföld Plain		Ecsegfalva 23	
2	Bosnia			Obre I
3	North Serbia	Vinča – Belo Brdo	Selevac	Vinča – Belo Brdo
3	North Serbia	Beograd – Banjica		
3	North Serbia	Šabac – Jela		Divostin
3	North Serbia	Vršac – At		Vršac – At
3	North Serbia	Potporanj – Kremenjak		Potporanj – Kremenjak
3	Banat	Parţa		
3	Transylvania	Turdaş	Alba Iulia – Lumea Nouă	
3	Alföld Plain	Mezőkövesd	Füzesabony – Gubakút	Polgár – Csőszhalom
3	Alföld Plain			Herpály tell
3	Alföld Plain			Sárazsadány
3	Alföld Plain			Aszód
3	Transdanubia			Csabdi
3	Transdanubia			Zengővárkony
3	South Bulgaria			Stara Zagora – Zlatna Livada
3	South Bulgaria			Kapitan Andreevo – Hauza
3	Macedonia	Sitagroi II	Anza IV	
3	South Serbia		Pločnik	
3	Bosnia			Okolište
3	Bosnia			Obre II
4	NW Bulgaria	Gradeshnitsa		
4	W Bulgaria	Borovan		
4	W Bulgaria	Slatino		
4	Lower Danube	Vităneşti	Gumelniţa	
4	Alföld Plain			Hencida
4	Alföld Plain			Veľké Raskovce
4	Alföld Plain			Tibava
4	Transdanubia			Szemely group of *Rondels*
4	Transylvania			Ciubanca

Table 9.1 (continued on opposite page). Key sites with(out) concentrations of incised signs, 'Danube Script' (see also Fig. 9.3) (source: author, based partly on data from Merlini 2013).

JCC Phase	Regional foci	Sites with sign concentrations	Important sites without sign concentrations	JCC 'Central' sites
4	Bosnia			Višesava – Bajina Bašta
4	Lower Danube		Pietrele	
4	Moldavia	Traian – Dealul Viei		Poduri
4	Moldavia	Scânteia	Bernashivka	
4	South Bulgaria		Karanovo tell	Orlovo
4	South Bulgaria		Dolnoslav tell	
4	Black Sea coast		Varna I cemetery	
4	Black Sea coast		Durankulak complex	
5		Chapaevka	Vesely Kut	
5		Konivka	Volodymirivka	
5	Southern Bug	Majdanetske	Nebelivka	
5	Southern Bug		Taljanki	

Merlini has never claimed that the signs held the same meaning to readers in Transylvania and Thessaly; it is possible to interpret the signs as part of a widespread ritual communication network to record, protect, withhold or share sacred knowledge, with specific contexts playing an essential role in the attribution of meaning. Whether this interpretation signifies 'writing' is for future consideration. What is more important now is that the largely dispersed nature of sign usage correlates well with the manifest absence of hierarchical features in the ritual practices of Balkan communities.

However, a comparison of the sites which Merlini (2013) identifies as key places for the Balkan Script with sites I have identified as 'central' to exchange networks (Table 9.1) produces far more discrepancies than matches. The exceptions are the three Phase 3 sites with concentrations of incised signs and exotic objects (the Vinča – Belo Brdo tell and two of the Vršac group of Vinča sites – Potporanj – Kremenjak and Vršac – At).

Network nodes

The basic elements of a network are the nodes and their links. I propose to make a minor adjustment to Scholnick et al.'s (2013, 100) definition of 'the social distance between two actors as the shared elements between the actors in the overall network' by replacing 'actors' by 'sites'. One of the most helpful advances of social network theory has been the characterization and identification of 'centrality'. Wassermann & Faust (1993, 169-219) define three kinds of centrality, which map onto archaeological categories to produce focal sites (the 'central places' of Renfrew 1975), gateway communities (Hirth 1978), betweenness sites and depositional sites.

It has been problematic to identify the first kind of central site – the 'focal site' – in Old Europe, even though there were many sites which stood out at the regional level through concentrations of rich, diverse material culture. In my earlier study of the Vinča group, I suggested that three places were implicated in the re-distribution of obsidian from the Slovakian / Hungarian sources to sites further South and West – the Vinča tell, Samatovci and the Vršac group of sites (Chapman 1981, 80-81 & Fig. 108). Taking site formation processes and scale of excavation into account, the accumulation of exotics at the Vinča tell and the Vršac group remains impressive enough to justify special status as focal sites – an interpretation supported by their high concentrations of incised signs.

The complex topography of the Balkan Peninsula and the Pannonian Basin favoured the development of gateway communities – a useful concept mooted to explain the emergence of market centres in Formative Mesoamerica (Hirth 1978). Located in sparsely populated upland/lowland frontier areas, gateway communities such as Chalcatzingo succeeded insofar as they controlled the production or movement of scarce resources, slipping into decline following economic collapse or the loss of their exchange hinterland (Hirth 1978). While Balkan social formations lack the level of social complexity found in classical American counterparts, there are several sites whose location at the interface of the lowland and upland zones fitted the essential characteristics of a gateway community (on the significance of complementary resources: Sherratt 1972). I have argued that the site of Orlovo was such a gateway community (Chapman 2010), its residents the prehistoric equivalent of 'brokers' controlling the exchange values of desirable resources (Golitko & Feinman 2015).

The third form of central site – the 'Betweenness' centre – is new to Balkan prehistory and differed from gateway communities through its multiple connections to

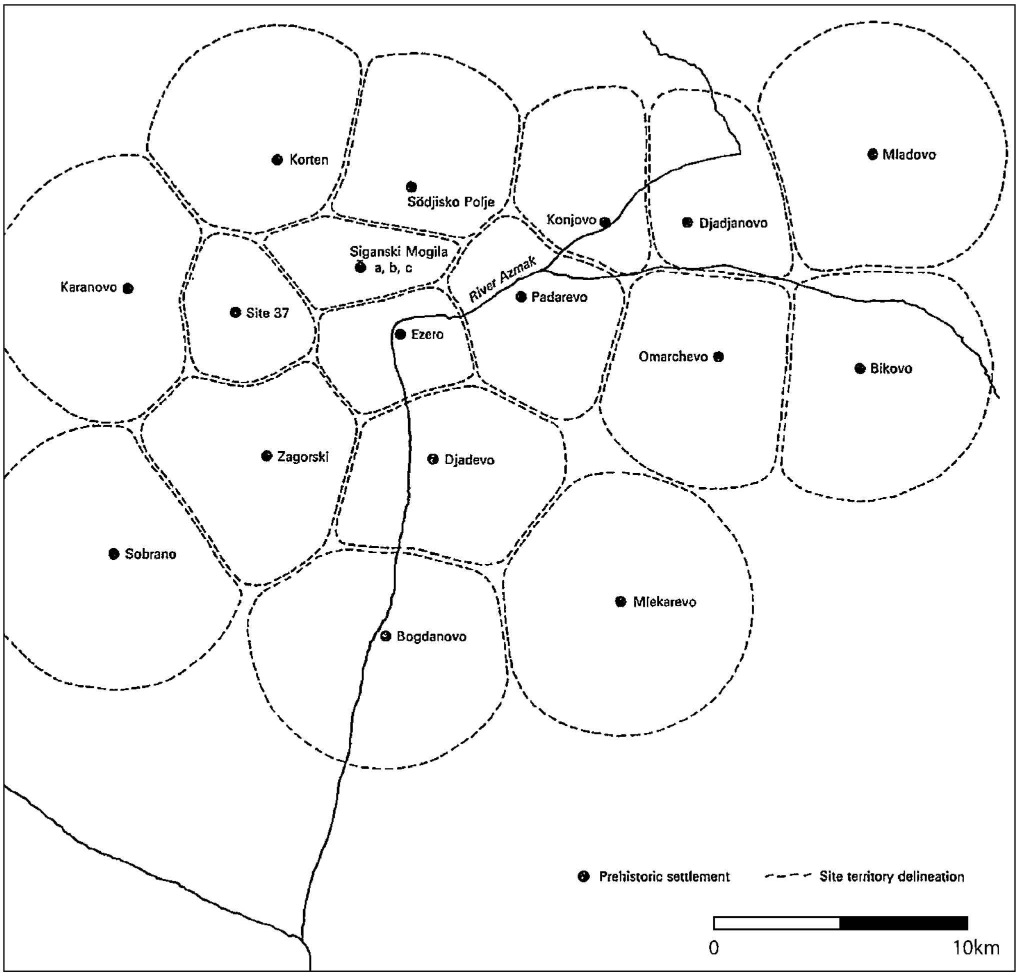


Figure 9.5. network of coeval Phase 4 tells, Central Bulgaria (source: Dennell & Webley 1975, Fig. 3: copyright – Cambridge University Press).

other network clusters rather than the latter's interface between production and consumer areas. The influence of the often mountainous Balkan topography opens up the possibility for 'betweenness' sites either on or near passes linking lowland and upland zones (e.g., the Predeal Pass, cutting through the South Carpathians) or upland sites linking two lowland zones (e.g., Dinaric Alps sites such as Obre: Benac 1973; Phase 2 and 4 sites in the Eastern Rhodopes: Chapman 2010). (Fig. 8.4).

The fourth kind of 'central place' differed from the other three in the sense that they comprised places where exotic and local objects ended their biographies. The linking of very different site types into one general category of 'Deposition centres' relies on two facets of their location – as nodes in their local or dispersed network and as extra-mural places with little or no coeval dwelling. Such 'deposition centres' – whether extra-mural hoards, pit sites, *Rondels* or cemeteries – relied on practices of the accumulation of often special materials for placing in pits, ditches or graves, signifying an often repeated attachment to a special place (Chapman 2000c).

Given the tendency of networks to grow outwards by the incorporation of new nodes, the emergence of centrality was an inherent property of most networks and the fact that central places did not often emerge in Balkan prehistory is somewhat surprising. It is thus doubly important to make an accurate identification of the type of central place that they constituted.

The intensity of network links

The links between settlements varied contextually between the high-intensity object-based links in local kinship networks and the low-key stylistic links relating sites hundreds of km apart in large but loose networks. An important property of settlement networks related to network intensity was the spacing between sites. Sherratt (1972) has discussed two forms of network change – network densification and network linkage (cf. also Chapman 2000a, 35-37 & Figs. 2.2-2.3). The former implies a sustained population growth, with smaller areas for marriage networks. In comparison with the distances between Early Neolithic sites (10 km in the Struma valley; 25 km in North Bulgaria), the densification of the Late Copper Age settlement network meant that people usually lived within 5-8km of their neighbours (Dennell and Webley 1975) (Fig. 9.5). The implications of increased densification were that neighbours were simply closer than before, stimulating greater social complexity through the increasing demand for objects to materialise these relations (e.g., Phase 3-4 ceramics, figurines and metalwork).

Network linkage denotes the convergent development of two dissimilar networks into a single expanded network, with implications for people's concepts of the 'Other, the 'Exotic' and the 'Remote'. There were two forms of network linkage – linkage of exchange networks (where lithic networks and shell networks merged to create a much larger network than before) and linkage of 'cultural' networks (e.g., the linking of several loose regional ceramic networks into a looser but larger inter-regional network, such as Kodzhadermen – Gumelniţa – Karanovo VI: Sherratt 1972). This was likely to lead to new possibilities for material differentiation to support the formation of new identities, partly through the greater availability of objects and raw materials in the new network. The combination of both network densification and linkage could be expected to create the conditions for social change through new ways of defining self, others and previously remote communities. This potential has been underplayed in accounts of social change in, for example, the East Balkan Chalcolithic.

Summary of the network approach

An approach to Old Europe informed by network thinking offers a framework for understanding interaction at the regional and inter-regional level. It should be possible to differentiate the intensity of different networks, the form of network linkage in periods of change and the type of central place that sometimes emerged. Archaeology, genetics and linguistics show that some form of communication connected almost every region of the world through all historic and prehistoric periods. The history of exchange flows was characterized not by identifiable beginnings and ends but by changes in mode, course and intensity (Sindbaek 2013, 72). It is the main goal of this chapter to elucidate changes in exchange flows in our study region.

Phase 1 networks

The major evidential discrepancy between sites in the Iron Gates area of the Danube and all other Mesolithic settlements or site clusters makes it hard to construct an overall narrative of exchange in Phase 1 communities. The division of the Iron Gates occupations into Early and Late Mesolithic stages (Early – 9500-7500 BC; Late – 7500-6300 BC: Borić & Dimitrijević 2007) can be extended to the remaining Romanian Mesolithic sites (Chirica et al. 2013 & Pl. 1).

Exchange networks can be defined for the movement of small quantities of chipped stone, colouring materials (graphite) and shells for ornament-making in both stages of Phase 1 (Chapman 1989a; Radovanović 1996; Mateiciucová & Carneiro 2007; Chirica et al. 2013).

Almost all Phase 1 lithic assemblages were based on local high-quality raw materials (e.g., Dniester flint at Bulboci; Dobrogea flint at Medgidia). Upland summer sites such as Ceahlău or Bicaz would have taken the majority of their lithics from lowland exchange partners into the Carpathian foothills. The materialisation of low-density Early Mesolithic exchange networks connecting the 'Foreign' zone involved black schist from the Audia Formation and/or Carpathian radiolarites (Fig. 9.6). The discovery of a few pieces of Moesian Balkan flint from North Bulgaria at the open site of Taxobeni I on the Prut suggests, intriguingly, that Early Holocene hunter-gatherers had discovered Moesian flint although no Mesolithic scatters are known from this area. Equally, obsidian from Slovakia / North-East Hungary was exchanged to three Iron Gates Early Mesolithic sites.

Similar exchange networks were found in the Late Mesolithic (Fig. 9.7), with additional 'Remote' zone movement of Dniester flint moved 70-100km into Prut valley sites such as Icuşeni and Erbiceni (Chirica et al. 2013) and several types of flint and volcanics deposited at Iron Gates sites. The first Moesian Balkan flint found in the Iron Gates – at Vlasac – dated to this stage. Similar obsidian networks are attested in Late Mesolithic sites in the Iron Gates, Western Hungary and the Prut valley. Knapping sites for high-quality Szentgál radiolarite are known from near Lake Balaton, with exchange as far as the Jászság group, Eastern Hungary.

A major archaeological problem in Phase 1 has been the Balkan source(s) of the high-quality flint macroblades exchanged into Early Neolithic Greece in the 7th millennium BC. We await further fieldwork and chemical analysis to solve this problem but it is clear that the exchange was conducted between farmers in Northern Greece accessing Remote-zone sources in Balkan forager terrain.

The small lumps of graphite colouring material collected from a Remote source[133] over 300km distant were deposited in both mortuary and settlement contexts in both phases of the Iron Gates Mesolithic (Figs. 9.6-9.7). Exotic shells such as *Cyclope nerita* and *Columbella rustica* were also used in burials as appliqués to make richly-ornamented costumes at Vlasac (Cristiani & Borić 2012), with other shells deposited in Iron Gates cave sites.

133 The closest known graphite source is at Ignatitsa, near Vratsa, North-West Bulgaria (Leshtakov, P. 2004, Karta 1).

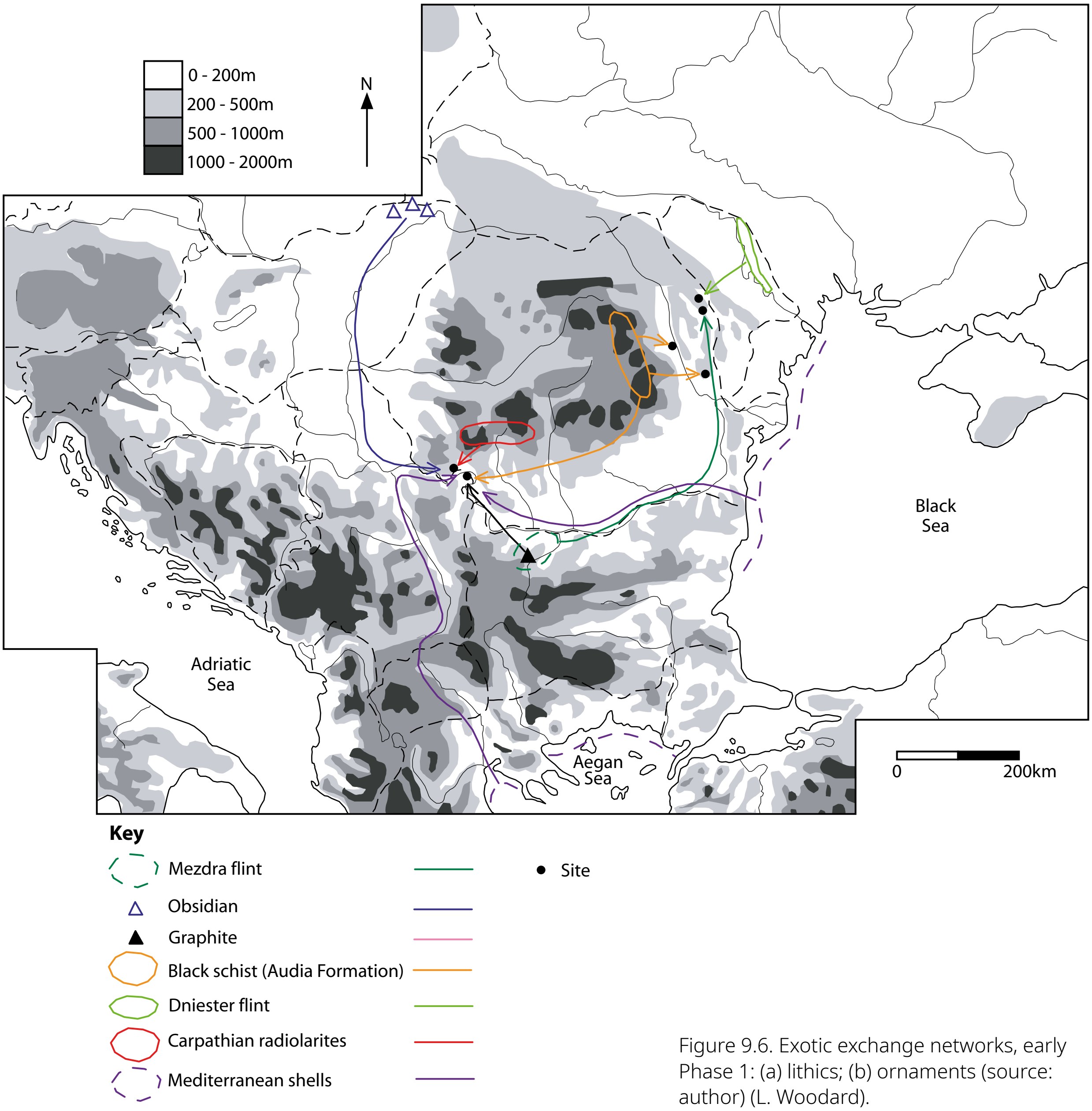


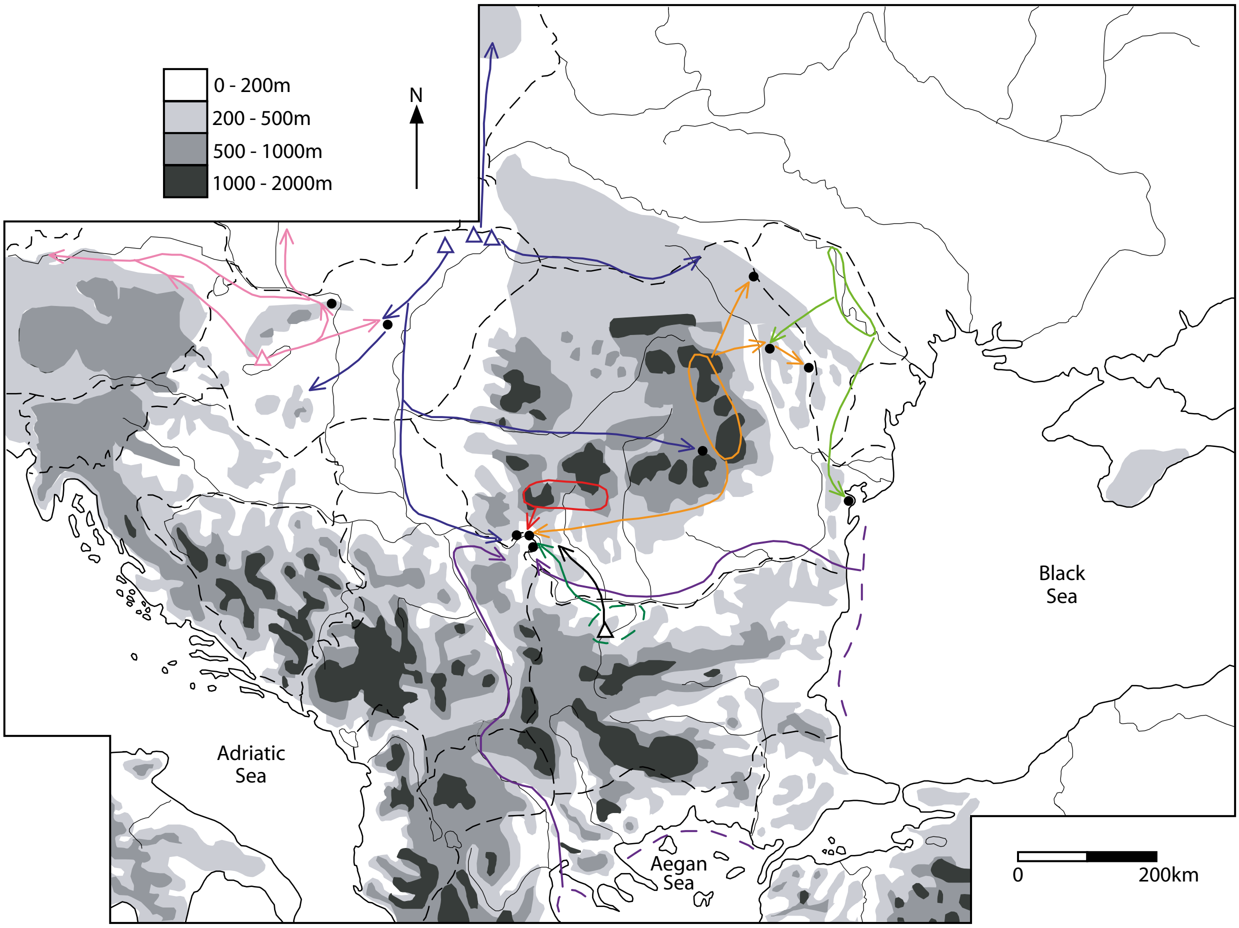
Figure 9.6. Exotic exchange networks, early Phase 1: (a) lithics; (b) ornaments (source: author) (L. Woodard).

Summary of Phase 1 networks

The direction of the graphite and shell networks contrasted strongly with that of the lithics networks, probably involving different network partners, but both involved small-scale practices, with almost all objects small enough to be carried in one pocket or a small bag. These Phase 1 exchanges constitute a widely shared practice of 'domesticating' the exotic, the colourful and the brilliant, which transformed not only objects into things of high social value but also the reputation of persons acquiring, trading and consuming them. While most of the exotics were deposited in general settlement contexts, the use of powdered graphite in burials at Vlasac was a rare example of the domestication of an exotic material in a ritual context. This suite of social practices pre-dated the emergence of regionally varied Neolithic lifeways in the Balkans just as much as in Western Europe (Constandse-Westermann & Newell 1988).

Phase 2 networks

We can detect two increases in site frequencies in the spread of early farming – an early-stage increase dated 6300-5800 BC and a major late-stage increase dated 5800-5300 BC. In each case, the distances between riverine settlement clusters fell steeply, leading to an early network densification which



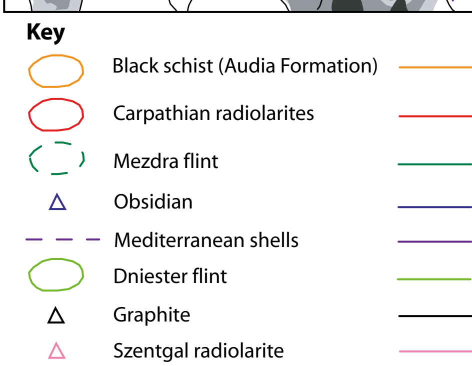


Figure 9.7. Exotic exchange networks, late Phase 1: (a) lithics; (b) ornaments (source: author) (L. Woodard).

stimulated more exchange[134]. The expansion of the farming way of life led simultaneously to waves of new contacts with foragers on the edge of farming areas and a wider range of raw material sources used by farmers. K. Biró's (2007) study of lithics assemblages in Phase 2 Early Neolithic and Earliest Linearbandkeramik sites in Hungary shows the diversity of raw materials in these networks, with 14 exotic raw materials transported to a dozen sites, 10 of which from sources in forager territory (Fig. 9.8). The inescapable conclusion from these data is that early farmers in the Carpathian Basin relied on small-scale, long-distance exchanges with foragers to gain attractive lithic materials.

All four types of central sites can be recognised in Phase 2. With its unique sculptures and the advantage of centrality in a linear network, Lepenski Vir became a focal site for the integration of farming material culture and forager lifeways. The Phase 2 settlement at Orlovo became a Gateway community linking lowlands and the Rhodopes (Zlateva-Uzunova 2004), with upland Betweenness sites linking the ancestral areas of Turkish and Aegean Thrace to the Upper Thracian valley (Fig. 8.4). It is likely that Obre I served as an

134 In the only region where comparisons between Phases 1 and 2 can be made – the Iron Gates gorge – densification is shown by the wider range of materials and larger quantity of materials exchanged outwith and within the Gorge, especially to Lepenski Vir.

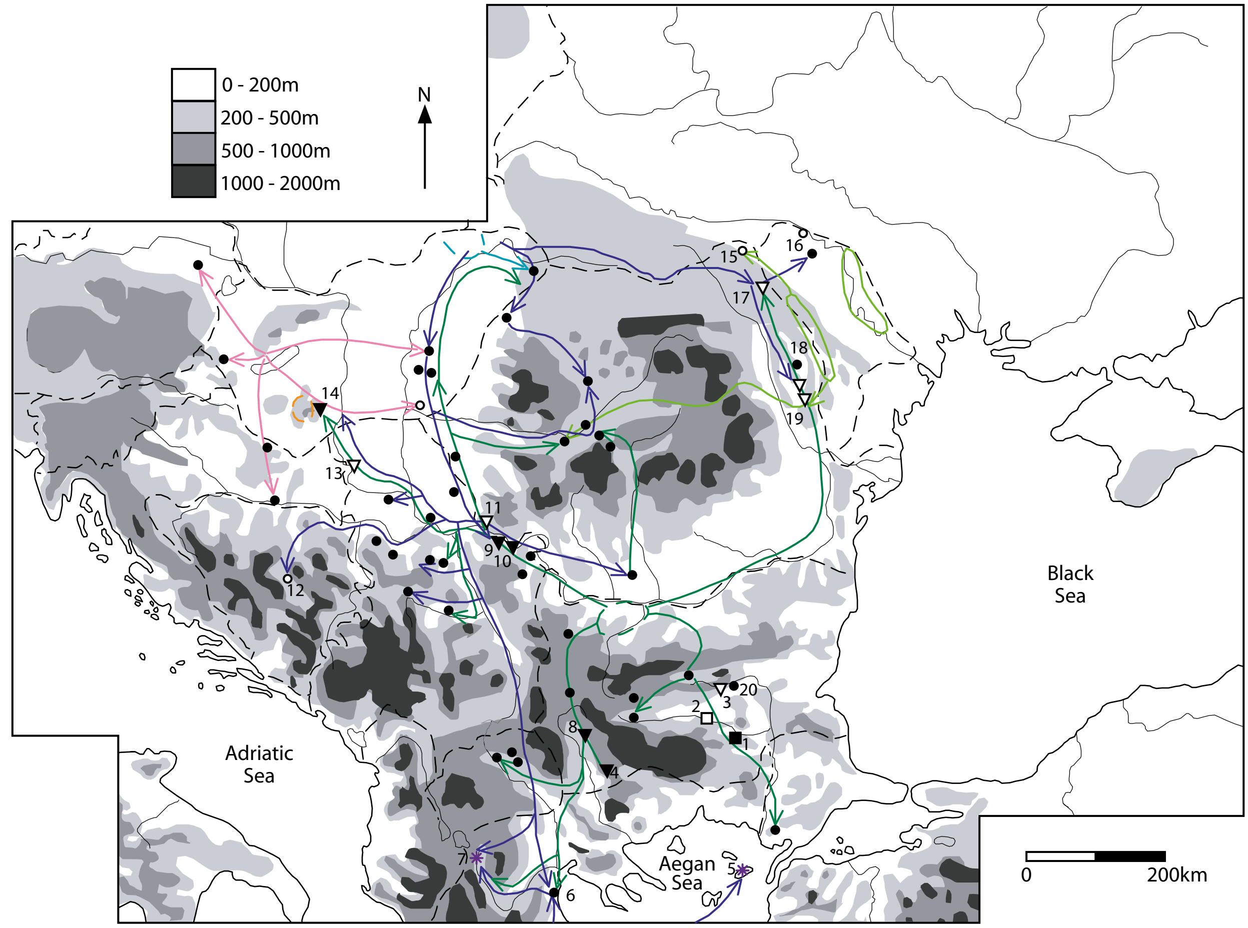


Figure 9.8. 'Central' sites and lithic exchange networks, Phase 2: 1 – Orlovo; 2 – Yabulkovo; 3 – Azmashka mogila; 4 – Kovachevo; 5 – Gökçeada; 6 – Revenia; 7 – Mavropigi; 8 – Galabnik; 9 – Lepenski Vir III; 10 – Korbovo; 11 – Gornea; 12 – Obre I; 13 – Donja Branjevina; 14 – Alsónyék; 15 -Ripiceni; 16 – Soroki; 17- Glăvăneşti Vechi; 18 – Perieni; 19 – Trestiana; 20 – Karanovo (source: author) (L. Woodard).

upland Betweenness centre for Dinaric summer herding practices linking the Adriatic and the Pannonian Basin. The most likely candidate for a Deposition centre was Yabulkovo, where the unique triple-ditched enclosure (Fig. 6.14) marked out a place characterized by pit deposits. Concentrations of incised signs can be recognised at six other sites.

Three high-quality lithic resources were particularly significant in Phase 2 – Mezdra flint from the Nikopol – Pleven areas in Northern Bulgaria, the three sources of Carpathian obsidian and Szentgál radiolarite from North of Lake Balaton (Fig. 9.8). Each resource was initially exploited by local foragers and exchanged to farmers located to the South (for extended discussion, see Chapter 10). The distribution of Phase 2 chipped stone networks showed a diversity of spatial patterning which varied with raw materials, with production-oriented sites near sources and several kinds of consumer sites.

Our knowledge of Mezdra flint network is still partial, since the locations of the workshops making tool blanks and tools for exchange have not yet been located. Spotted Mezdra flint was preferentially used to make macroblades for early farming tell communities South of the Stara Planina (Gurova & Bonsall 2014; Biagi & Starnini 2013) and in Oltenia. Most other Macedno-Bulgarian Phase 2 settlements exchanged smaller quantities of spotted flint but macroblades were still prestigious products, found as far away as Western Anatolia (e.g., Hoça Çeşme) and North-West Greece (e.g., Mavropigi and the Revenia pit site).

The classic supply-zone sites still missing for Mezdra flint are well-known for Carpathian obsidian within 50km of all three sources (Kozłowski & Nowak 2010). However, these sites have been dated to the latest part of Phase 2 and no coeval forager sites have been found near the sources[135]. Earlier Phase 2 sites imported variable quantities of obsidian – over 90% at the multi-period pit site of Szarvas 8/23 (Makkay 2007) – with lower quantities on the later Phase 2 sites (cf. 32% at Ecsegfalva 23 with 30% at the Final Mesolithic site of Ciumeşti, North-West Romania). A few obsidian flakes reached the focal site of Alsónyék in Western Hungary.

The importance of Szentgál radiolarite varied by site to the South (one piece at Slavonski Brod; dominant at Virovitnica) because of the rival Mecsek flint or North Bosnian radiolarites. Small quantities reached the Alföld, with a major expansion at the Phase 2/3 transition and large amounts in transitional Starčevo – LBK sites such as Pityerdomb and Brünn II and beyond (Fig. 9.7).

The networks discussed here showed a continuum of lithics exchange, with the extremes of high reliance on local high-quality materials and a single piece from a remote source. Mateicuicová with Małecka-Kukawska (2007, 717-8) proposes that this continuum is divided into two technical traditions – the 'Mediterranean', with farming networks transporting Banat, Mezdra[136], Prut and Dniester flint to specialised workshops for exchange to settlements; and the 'Danubian', with forager – farmer networks bringing obsidian, limnoquartzites and Szentgál radiolarite to settlements for on-site production.

The general expectation is that sources of heavier ground stone tools – querns, pestles and mortars – were closer to sites than the sources for polished stone axes, adzes, chisels and ornaments, which Graham Clark (1965) and many later authors have shown to be exchanged from considerable distances (Fig. 9.9). This contrast is well illustrated in the Iron Gates Transitional Neolithic and Early Neolithic periods, with pecked and ground stone pebbles deriving from local valleys and 'grey – greenstone' polished stone tools coming into the gorge from outside (Antonović 2003, 2006). The rarity of local ground stone resources in the plains of Bačka or the Alföld (the Endrőd and Szarvas sites, Ecsegfalva 23) meant longer-distance procurement than usual, with stones 200km distant in Central or Western Serbia reaching Donja Branjevina, with its high density of incised signs (Fig. 9.9).

The concentration of polished tools and ornaments made of 'greenstone'[137] in the Struma valley (Western Bulgaria) and the Ovče Polje (North Macedonia) can be linked to claims for local sources of nephrite and serpentinite (Weide 1976; Zidarov et al. 2010; cf. the continuing skepticism of Kostov 2013). The 'greenstone' equivalent of a 30-cm macroblade is the extraordinary nephrite sceptre from Galabnik (Fig. 2.6d), an exotic, inalienable object kept in the house of a high-status person for use in communal or household rituals. A special 'greenstone' network comprised the so-called 'frog / swastika' amulets, highly polished, mostly nephrite and linked by shared shaping technologies of cutting and faceting (Kostov 2010; Kostov & Bakamska 2004; Hansen 2003; Krauß 2014, 168-170 & Abb. 103-4) (here Fig. 9.9 & 9.10a). This object group suggests what Timothy Taylor has called a 'limited interest group' – people with similar high-level skills using comparable materials (see Chapman & Dolukhanov 1993, 23-24). Recent finds have demonstrated that the network was not restricted to the Macedno-Bulgarian zone but stretched almost to the Lower Danube valley. One of the longest networks known in Phase 2 is attested by the paligorskite necklace found at Lepenski Vir (Fig. 9.10b), made of a rare rock type known only from Anatolia or the Urals and surely an inalienable object (Nandris 1972a).

An important early indication of what expanded to become a Continental-wide *Spondylus / Glycymeris* exchange network, linked 6th millennium BC communities in the Aegean or the Adriatic with inland Balkan – Carpathian groups (Chapman & Gaydarska 2015) (here Fig. 9.9). The deposition of a *Spondylus* ornament in a grave at Obre I constitutes the only evidence so far of an Adriatic source. The *Spondylus* network appears to map very closely onto the Phase 2 nephrite networks. Moreover, *Spondylus* contributed to not one but two Galabnik hoards – the hoard in the vessel and also the 16-m-long necklace of mostly limestone beads constituting an ornament hoard of hundreds of beads collected from many people over a long time. The discovery of a second exotic, inalienable object at Galabnik confirms the centrality of this settlement.

The lack of discussion of pottery exchange hitherto may be surprising to the reader. This is because provenance analysis shows that the vast majority of pottery from the few investigated Phase 2 sites was made locally from local clays (Spataro 2006: 2007: in prep.; Kreiter 2010; Kreiter & Szakmány 2011; Dzhanfezova et al. 2014; Krauß 2014; papers read at the 2014 Belgrade Conference: Amicone et al. 2014). Exceptions to this finding include kaolinitic

135 Lithic scatters are known from the upland zone of the Zemplén Mountains but the absence of diagnostic types makes discrimination between 'Late Mesolithic' and 'Neolithic' hazardous (Chapman et al. 2010b).

136 However, Moesian flint was also exchanged between foragers and farmers in Phase 2.

137 The spectrum of 'greenstones' ranges from serpentinite through serpentine, jadeite and jade to nephrite jade, as claimed for Obre I (Sterud & Sterud 1974: 223).

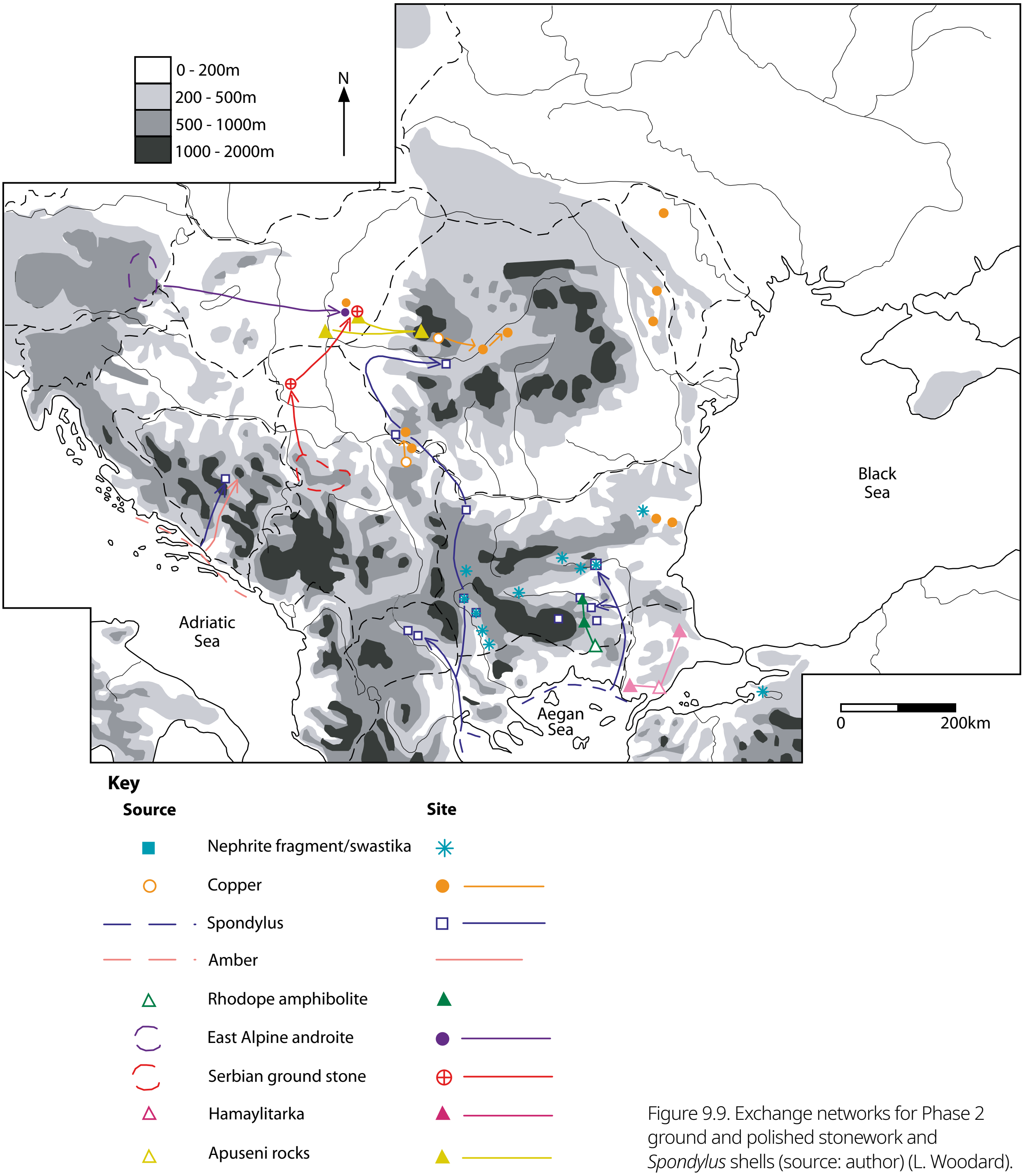


Figure 9.9. Exchange networks for Phase 2 ground and polished stonework and *Spondylus* shells (source: author) (L. Woodard).

clay in the Méhtelek assemblage derived from 100- 150km downstream; and two imported fabric groups (Groups 22 and 25) at Ovcharovo – Gorata (Krauß 2014) (Fig. 9.10e – g). In the Bug – Dniester zone, the Soroki settlement cluster was probably a Betweenness centre for the exchange of Criş pottery, polished stone axes, some cereals and domestic animals for foragers' pointed-based pottery, red deer teeth and boar's tusk ornaments (Zvelebil & Lillee 2000).

One of the most extraordinary recent finds from the Alps comprises a fired clay pintadera in Layer 4 of the hunter-gatherer rock shelter of Arconciel – La Souche, French Jura, dated 6200-6000 BC (Mauvilly et al. 2007: 2008; Hofmann, D. 2013) (here Fig. 9.10c – d). The securely stratified find was associated with a local blade-and-trapeze industry and exclusively wild animal bones. The well-preserved fragment was made

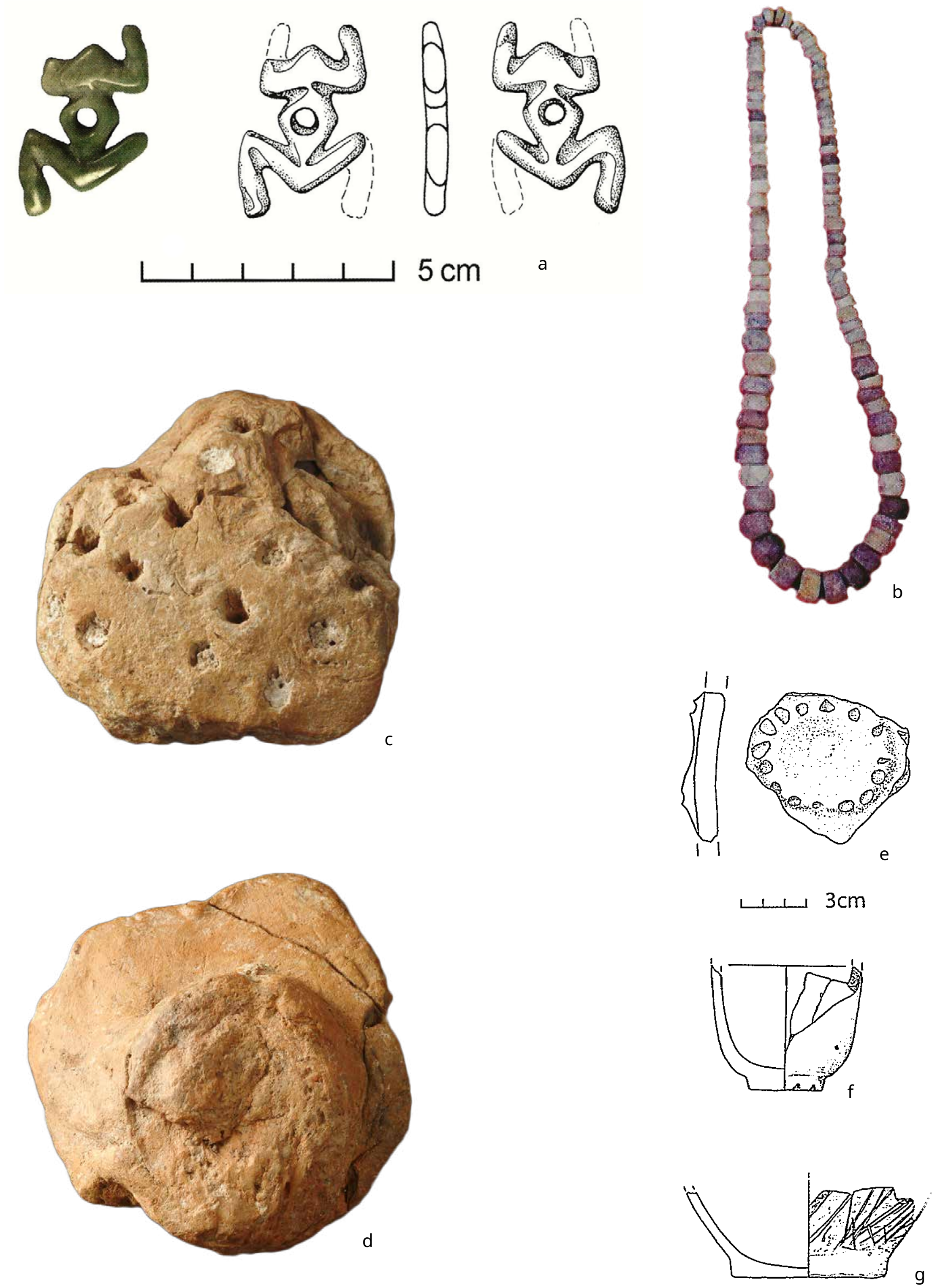


Figure 9.10. Exotic exchange items, Phase 2: (a) nephrite amulet, Ovcharovo – Gorata (source: Krauß 2014, Abb. 103); (b) paligorskite necklace, Lepenski Vir (source: author's photo); (c) – (d) Fired clay pintadera, Phase 2 hunter-gatherer rock-shelter of Arconcie – La Souche, French Jura: length x width – 4.5 x 4.4cm (source: Mauvilly et al. 2008, Abb. 3 & 5); (e – g) pottery 'imports', Ovcharovo – Gorata (source: Krauß 2014, Abb. 2/8, 42/5 & 47/4).

of non-local clay probably derived from morainic deposits in Central Switzerland. It was poorly fired to a red-brown surface and decorated with rows of impressed dots, some of which had preserved white incrustation. The best parallels for such a decorated pintadera (Nea Nikomedea, Porodin, Eleshnitsa, Rakitovo and Supska) suggest an import from the South Balkans over c. 1,300 km away. This find hints at a much more complex forager – farmer network than we had previously imagined, linking Old Europe to the Alpine zone over some of the most rugged terrain in Europe.

There was very little copper in circulation in Phase 2, with most sources lying within the Foreign zones of settlements with copper ornaments (Szarvas 23; Usoe I, Ovcharovo I and Zmajevac: Chapman & Tylecote 1983; Kalicz 1992). Nonetheless, the earliest AMS dates from the Rudna Glava malachite mine, in North-Eastern Serbia (Borić 2009), date to Phase 2, implying systematic prospection of the Balkan uplands leading to the cumulative discovery of many other lithic sources for tools and ornaments.

Unlike small-scale copper exchanges, salt was bulky but vital for human and animal physiology – a minimum of 2g per day per person is enough to create ‘the primeval addiction’ (Adshead 1992). The premise that Neolithic lifeways brought a ubiquitous increase in salt requirements is predicated on the loss of meat’s natural salt with the decline in meat-eating and the increase in salt-free cereal consumption. There has been a number of claims that the distribution of salt sources has influenced the earliest farmers’ settlement location, whether in Dalmatia (Chapman 1981a), the Trieste Karst (Montagnari Kokelj 2007), Moldavia (Weller et al. 2011) and the Central Balkans (Tasić, Nenad 2000; Bánffy 2015)[138]. The key Phase 2 site is the 6th Millennium BC Lunca – Poiana Slatinei site in the East Carpathian piedmont – currently the earliest salt exploitation site in the world (Weller et al. 2005: 2007), where a 3-m-thick heap of debris (Fig. 6.10) derived from boiling of brine in Criş pottery to produce powdered salt for exchange. There can be little doubt that salt exchange must have played an important part in Phase 2 networks, because of the rapid increase in cumulative requirements – an estimated 72 kg *per annum* for a village of 100 people (Chapman & Gaydarska 2003, Tables 5-6). The distribution of salt sources was patchy across Old Europe (Fig. 9.11), indicating the necessity of salt networks for many key settlement foci. It seems probable that the salt network would have carried greater bulk trade than any other material; conversely, lack of salt may have been a bigger factor in settlement abandonment than we have so far considered.

138 In an article about the Central Balkans (Tasić, Nenad 2000), a preferential relationship between salt toponyms and EN settlements was proposed but not statistically tested.

Summary of Phase 2 networks

The early farmers of the Balkans settled in both uplands and lowlands, making seasonal visits to high-altitude sites to deposit lowland objects in rocky places. Conversely, lowland dwellers regularly brought fragments of the mountains to the lowlands through the collection of lithic raw materials, fine stones and pigments. There was also exchange between different lowland zones. A detailed study of the depositional context of Exotic objects (Chapman 2007) indicated that all classes of Exotic objects except metals were ‘domesticated’ in the mortuary domain but almost always excluded from non-mortuary ritual contexts.

Phase 2 exchange networks were mostly loose networks for the movement of lithics, ground and polished stone, occasionally shell ornaments and copper and particularly salt in the Local, Other and Foreign zones. Small quantities of materials from the Remote zone were integrated into networks stretching across the Local, Other and Foreign zones. While sites such as Obre I and Soroki were ‘betweenness’ sites, linking networks stretching to the Dalmatian coast and inland to the Pannonian Basin, few focal places and gateway communities could be identified in Phase 2 – Lepenski Vir and Galabnik as the former and perhaps Orlovo as the latter. The small number of Phase 2 pit sites probably constituted local Deposition centres. The extent to which the linkage of foragers and farmers into the same networks was transformative of both groups is further discussed below (see Chapter 10).

Phase 3 networks

The increased density and variety of materials in Phase 3 networks in comparison with those of Phase 2 was mutually constituted by the differentiation of the settlement network, with evidence for expansion, densification and linkage. A growth in prospection led to the discovery of many new materials and alternative sources for materials already known in Phase 2. Thus, in the Alföld Plain, almost 80 lithic raw materials types have been identified (Biró 1998), with 66 lithic types at Öcsöd alone. Lithics from 70 sources were found at Belovode in Eastern Serbia, with many types in Karanovo IV pit sites in Bulgaria. The marked differentiation of consumption at all levels led to greater personalisation of lithic consumption, based on the quality, colour and brilliance of the raw material and the social relations they materialised.

Outside the South Balkan tell zone, already well established in Phase 2, there was a tendency for increased sedentism in many regions (Tringham & Krstić 1990a). Since this process was often linked to nucleation, it did not often lead to network densification, which was more pronounced in areas with a widespread growth in the number of smaller settlements or in areas of marginal settlement expansion (see above, Chapter 8, Fig. 8.6c).

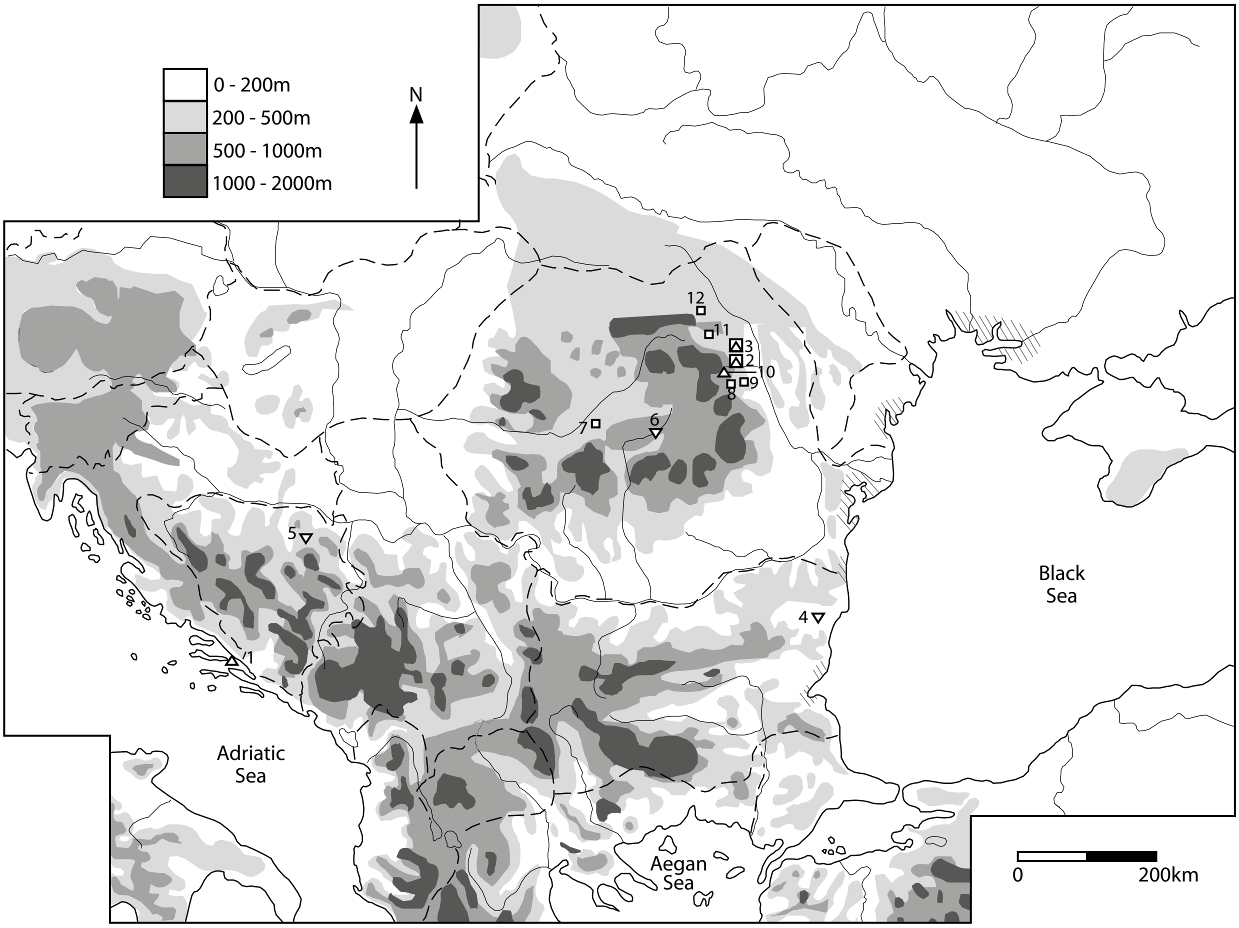


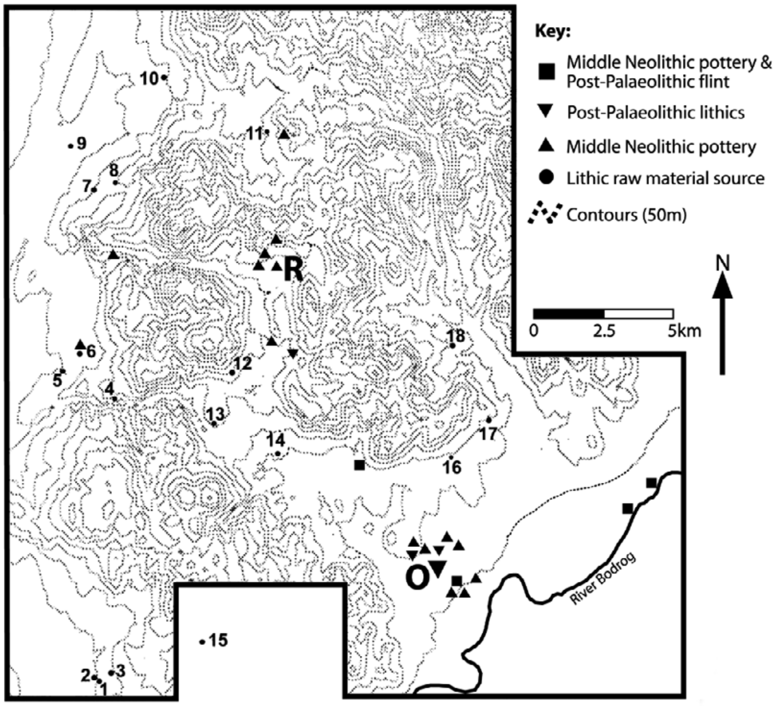
Figure 9.11. Distribution of salt sources and salt exploitation sites: 1 – Nin (source); 2 – Lunca (source); 3 & 9 – Oglinzi (source); 4 – Provadia (source); 5 – Tuzla (source); 6 – Olteni; 7 – Păuleni; 8 – Poduri network (multiple sources); 10 – Cucuieti; 11 – Solca;12 – Cacica (source: author) (L. Woodard).

But the dense social interactions increased demand for exotics at nucleated tells such as Vinča and Herpály. A different strategy involved the network linkage of established farming zones and areas occupied by foragers in Phase 2 or even Phase 3 (e.g., Istria and the Slovenian Kras: Fig. 8.5). Exploitation of the rich and varied lithic resources of the Zemplén Mountains changed from forager – farmer exchange in Phase 2, upland summer settlement by lowland groups in early Phase 3 (Fig. 9.12) and lithic collection by nucleated gateway communities on the mountain periphery in late Phase 3 (Fig. 9.12) (Biró 1998; Chapman et al. 2010b).

It is not surprising that a far greater degree of centrality emerged for some sites than was seen in Phase 2. There is potential evidence for all four types of central sites – focal sites, gateway communities, betweenness sites and deposition centres – although their differentiation may not always be easy (Fig. 9.13).

Focal sites, with concentrations of raw materials and the likelihood of their re-distribution, can be distinguished in early Phase 3 at the Durankulak complex (Aegean *Spondylus*, Mezdra flint and copper); in the Vinča group at the Vinča tell (Carpathian 1 obsidian[139], Aegean *Spondylus* and copper, as well as a wide range of materials for re-distribution into the Plain); the Vršac sites (*Spondylus* shells from the Danube and upland lithics exchanged for a diversity of lithic resources); in upland Bosnian tells such as Okolište (a focal site for the

139 Three different sources of Carpathian obsidian have been distinguished by neutron activation analysis: Carpathian 1, from Slovakia (Szőllőske), Carpathian 2 from the Hungarian Zemplén Mountains (Williams-Thorpe et al. 1984) and the recently discovered Carpathian 3 from Carpatho-Ukraine (Mester & Faragó 2013). The third source lies close to rich salt deposits (Harding & Kavruk 2013, Fig. 5.1).



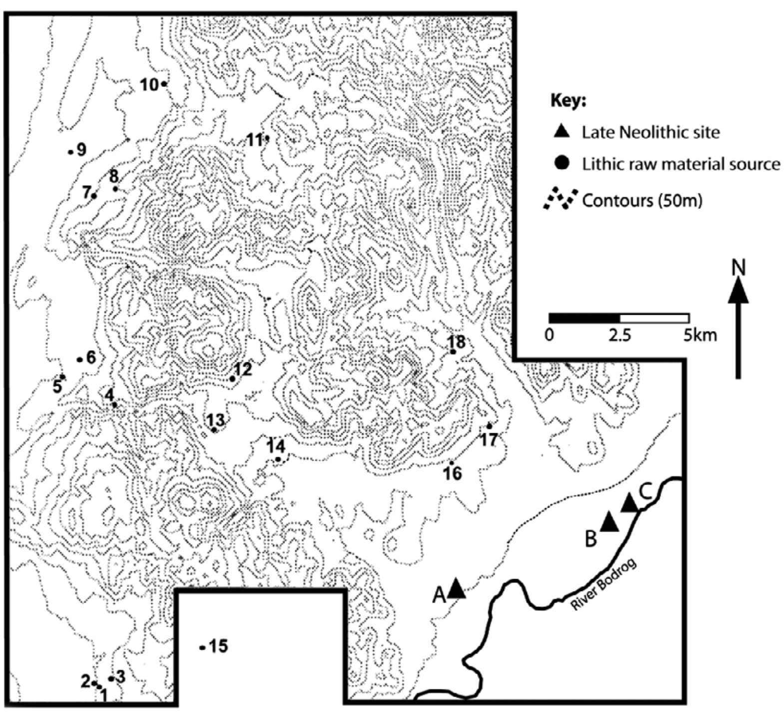
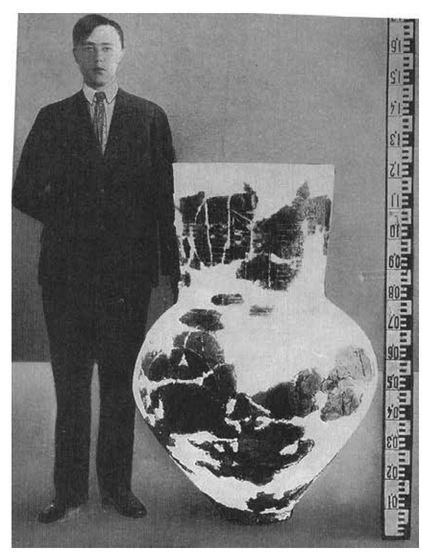


Figure 9.12. Distribution of Phase 3 settlements in and around the Zemplén Mountains, North-East Hungary: (top left) Early Phase 3 – Middle Neolithic: O – Olaszliszka group; R – Regéc group; (bottom left) Late Phase 3 – Late Neolithic: A – Olaszliszka 1; B – Sárazsadány; C – Bodrogzsadány – Templom domb (source: author) (L. Woodard); (bottom right) the excavator, Miloje M. Vasić, with the 'Myres Pithos', Vinča – Belo Brdo (source: Hansen & Toderaş 2012, Fig. 12: copyright – Deutsches Archäologische Institut).



Visoko Basin); and in some of the Late Neolithic tells of Eastern Hungary. The discovery of a complete Szakálhát anthropomorphic storage jar 1.2m high at the Vinča tell suggests that Szakálhát potters must have been working at the tell, unless this vessel was rafted down the Tisza in the summer (Fig. 9.12). The focus of exotic items on the Vinča tell and the Vršac sites showed the interdigitisation of gateway roles with focal sites.

A third candidate for a gateway centre was Turdaş in the middle Mureş valley – an ideal collection point for upland flint, copper and gold for exchange down the valley into the Middle Danube Basin (Chapman 1981). The high concentration of Danube Script signs at Vinča, Potporanj, Vršac – At and Turdaş supports their interpretation as gateway communities (Merlini 2013). Three further Late Neolithic candidates were located near the junction of the Northern Mountains and the Alföld Plain (Polgár-Csőszhalom: Raczky et al. 2002: 2007; Sárazsadány with its Phase 3 successor tell Bodrogzsadány: Kutzián 1966; Kovács, K. 2015; and the Lengyel settlement of Aszód: Kalicz 1985). Each site revealed large-scale exchange potential for plains communities without local sources of stone (Fig. 9.13). By contrast, the function of gateway community at Orlovo in Phase 2 had declined in Phase 3 (see above, p. 330).

There was continuity in the use of Betweenness sites in the Obre area (Visoko Basin, including Okolište and Obre II), where Adriatic ceramic imports, Tuzla salt-pots and Pannonian lithics were found. New Betweenness sites can be proposed for early Phase 3 at the summer sites in the Bükk and Zemplén Mountains as places where shepherds from both North and South of the Carpathian range met to exchange materials such as obsidian and Bükk fine wares.

Three forms of deposition centres emerged in Phase 3 – extra-mural cemeteries, pit sites and *Rondels* (Fig. 9.13). Phase 3 cemeteries were key consumers of *Spondylus*[140], exotic polished stone or malachite. The notion of burying the dead outside the settlement may have been an idea that moved along these networks (p.c., B. Gaydarska).

The expanded role of Karanovo IV pit sites in Bulgaria is by now well-known. While exotic *Spondylus* and copper are known, most finds at the Karanovo IV pit site of Kalugerovo comprised often heavily fragmented local, everyday materials such as pottery, fired clay figurines, grindstones, lithics and animal bones. Josh Pollard's (2001) idea of the representation of ancestral values in the mixed pit deposits in Neolithic Britain may well help us to interpret Balkan pit sites (e.g., the Vinča pit site of Gradac-Zlokućane: Vasić, M. 1911; Stalio 1972; Chapman et al. 2006).

The placing of finds in the ditches of Early Lengyel *Rondels* was also part of depositional practices in Phase 3, as in the Pécs group of *Rondels* (see above, pp. 221-2 & Fig. 6.18). *Rondels* are still rare in Bulgarian prehistory but the geophysical prospection of Petar Zidarov at sites such as Ezero has identified circular enclosures resembling the classic Central European *Rondel* (p.c., P. Zidarov).

What this means for Phase 3 networks is that many places emerged as key nodes in increasingly 'busy' networks, with persons in these communities taking the opportunity to create weaker or stronger political alliances to channel exotic resources through Local, Other and Foreign zone networks.

A good example of the insights produced by networks is Katalin Kovács' recent study of the movement of shells, copper and chipped stone around Carpathian networks in the first half of the 5th millennium BC (late Phase 3 and early Phase 4) (2013). Kovács posits two complementary networks:

An inner (Southern) Carpathian network for West Hungarian radiolarites, North Hungarian limnic quartzites, Banat flint and shells, predominantly via the Tisza but with direct links between the Lower Tisza and South-East Transdanubia and the Middle Tisza and Danube valley upstream of Budapest (2013: Fig. 16) (here Fig. 9.14); and an outer (Northern) Carpathian network for obsidian, Kraków Jurassic flint, Chocolate flint, Prut – Dniester flint and perhaps also copper, passing along the edge of the Northern Mountains but reaching the Lower Tisza via the Berettyó valley, with the same direct links between the Lower Tisza and South-East Transdanubia as in the inner route (2013: Fig. 15) (here Fig. 9.14b).

Kovács helpfully brings out the significance of the gaps in obsidian routes on the Middle Tisza and the use of similar networks for all three shells – *Spondylus*, *Glycymeris* and *Dentalium*. But there is rather more overlap in the two routes than Kovács would have us believe. The addition of ground and polished stone and ceramic networks to Kovács' networks brings further complexities. The most frequent sources for lowland sites' axes were the Apuşeni Mountains to the East and the Eastern Alps to the West (Fig. 9.16). The most direct routes for these rocks, as well as salt, cut East – West across Kovács' North – South-running riverine networks, suggesting the existence of more diverse pathways. Bernardini (2018) makes a strong case for the deposition of the earliest Alpine jadeite axes into Western Slovenia in the early 5th millennium BC.

Extending Kovács' networks both backwards and forwards in time provides a useful diachronic perspective on Late Neolithic lithics networks (Fig. 9.15). The high point in Carpathian obsidian exchange was early Phase 3, with matching distributions of Northern Mid-Mountains limnoquartzite and hydroquartzite reaching the Northern Alföld. The location of the Carpathian 3 obsidian source lay close to rich salt deposites (Harding & Kavruk 2013). Criss-crossing the plain were ceramic networks, with each late Alföld Linear Pottery group exchanging distinctive vessels with all others (Kalicz & Makkay 1977). The concentration of Esztár painted sherd discard in the Cheile Turzii caves (Chapman 1981) demonstrated a lowland – upland network for bringing lithic and axe rocks to the Plain, often via gateway communities such as Turdaş. In the period after Kovács' Late Neolithic networks, communities participating in the Early Copper Age networks shifted their preference to Prut flint from other Northern flints.

In other parts of the study region, people developed different networks from those in the Carpathian Basin, partly based upon different kinds of central places. In much of the Balkans, long-term dwelling on tells or permanent 'flat' villages offered the potential for stable, long-term networks linking producers and consumers. Similar materials were

140 The same was true of Early LBK cemeteries such as Nitra, with a preference for *Spondylus* ornaments in adult male graves (Sherratt 1976).

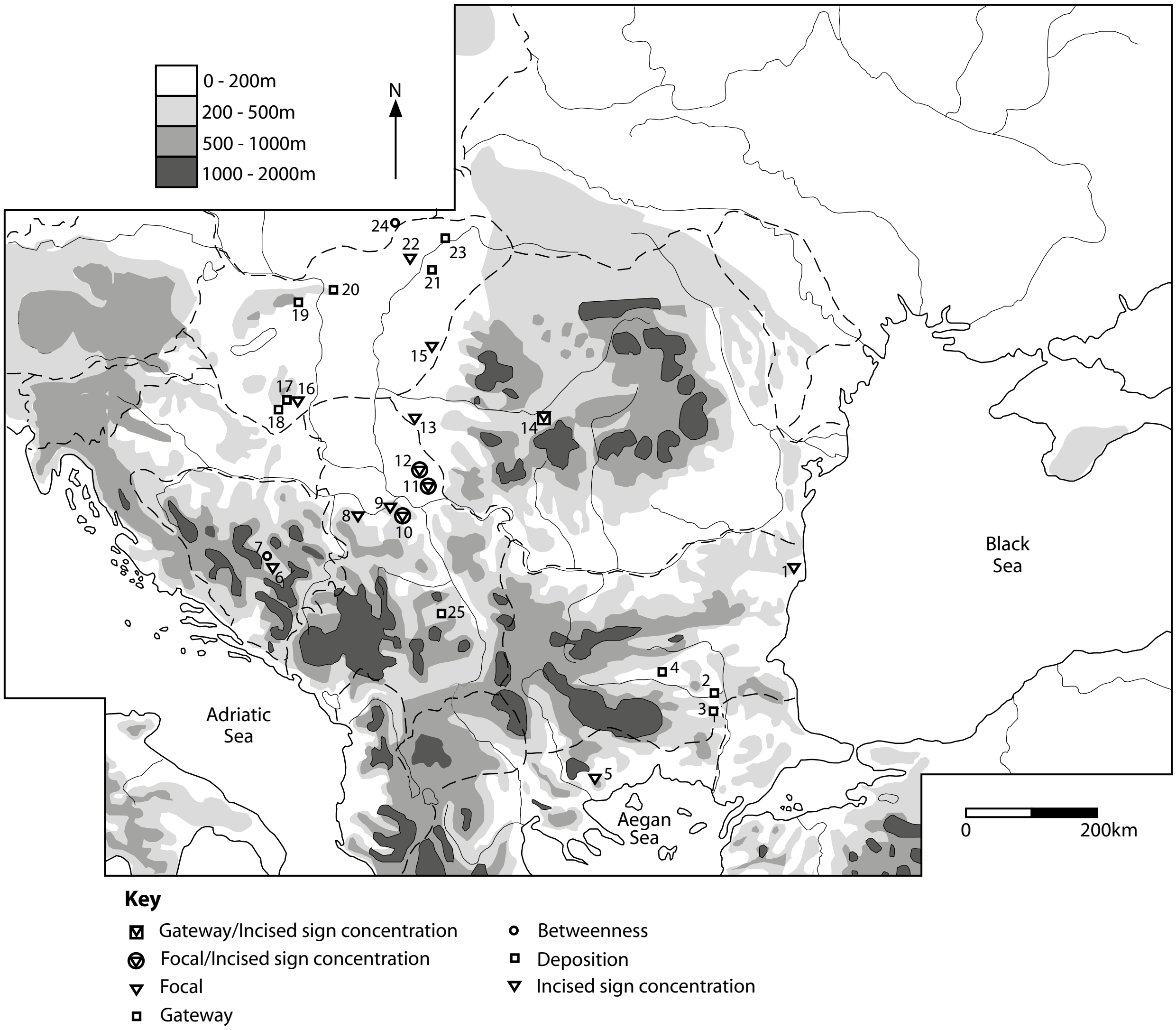


Figure 9.13. 'Central' sites, Phase 3: 1 – Durankulak; 2 – Kalugerovo; 3 – Kapitan Andreevo; 4 – Stara Zagora – Zlatna Livada; 5 – Sitagroi; 6 – Okolište; 7 – Obre II; 8 – Šabac – Jela; 9 – Beograd – Banjica; 10 – Vinča – Belo Brdo; 11 – Potporanj; 12 – Vršac group (especially At); 13 – Parţa; 14 – Turdaş; 15 – Herpály; 16 – Alsónyék; 17- Zengővárkony; 18 – Szemely; 19 – Csabdi; 20 – Aszód; 21 – Csőszhalom; 22 – Mezőkövesd; 23 – Sárazsadány; 24 – Humenné; 25 – Pločnik (source: author) (L. Woodard).

used for all four occupation phases at Selevac, Obre II and early Sitagroi (Voytek 1990). Considerable network stability developed in the East Balkans once Mezdra flint from North Bulgaria (Phase 2) was replaced by the superior Ludogorje (Razgrad) flint in late Phase 3 (Fig. 9.15). However, changes in stone supply networks certainly occurred, for instance in the Late Vinča and Late Butmir preference for a light, white material[141] for ground and polished stone tools (Benac 1973).

141 This light, white to off-white stone is variously termed 'porcellanite', tuff, and 'diatomised tuff' (Prinz 1988); one source, presumably of many, has been located in the Tamnava valley in Western Serbia (Bogoslavljević-Petrović 2011).

What was the meaning of all these changes in lithics-rich networks from 5300 to 4700 BC? Is it significant that, in the last centuries of Phase 3, several lithic networks reached their maximum growth, whether both Melian and Carpathian 1 obsidian into Northern Greece and Lipari obsidian into Istria (Fig. 9.15)? In this Phase, there was a greater variety of available high- and low-quality lithic, axe, grindstone and ornament materials than ever before. Clearly the processually-oriented trade competition model cannot identify 'market' mechanisms or the neglect of high-quality local materials for exotic sources of no better quality.

Instead, the social basis for exchange need not be re-iterated (for materiality, Jones A. 2012). Prut flint or Szentgál radiolarite did not stand for social relations

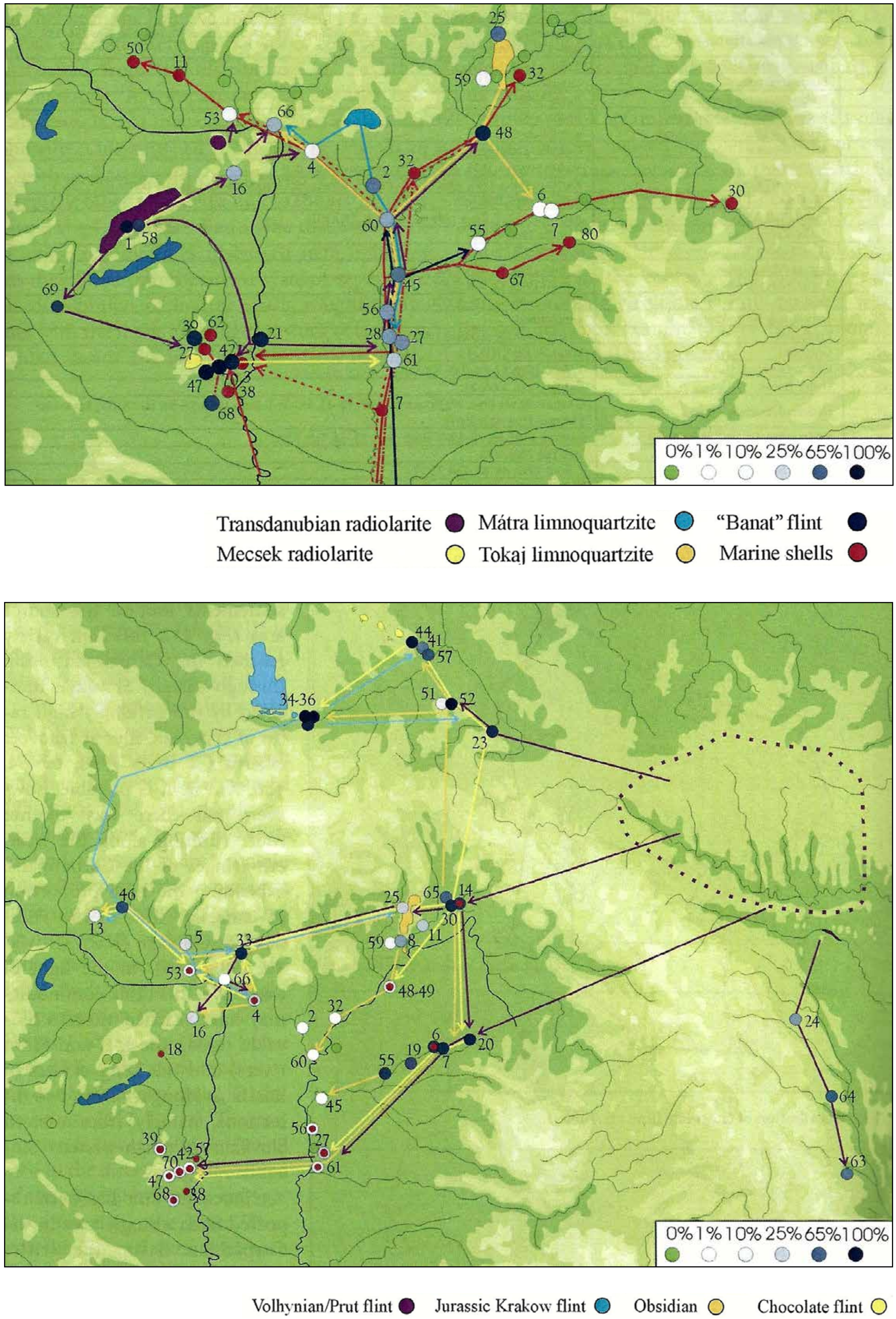


Figure 9.14. Two Phase 3 Carpathian exchange networks: (top) inner network; (bottom) outer network (source: Kovács 2013, Figs. 15-16).

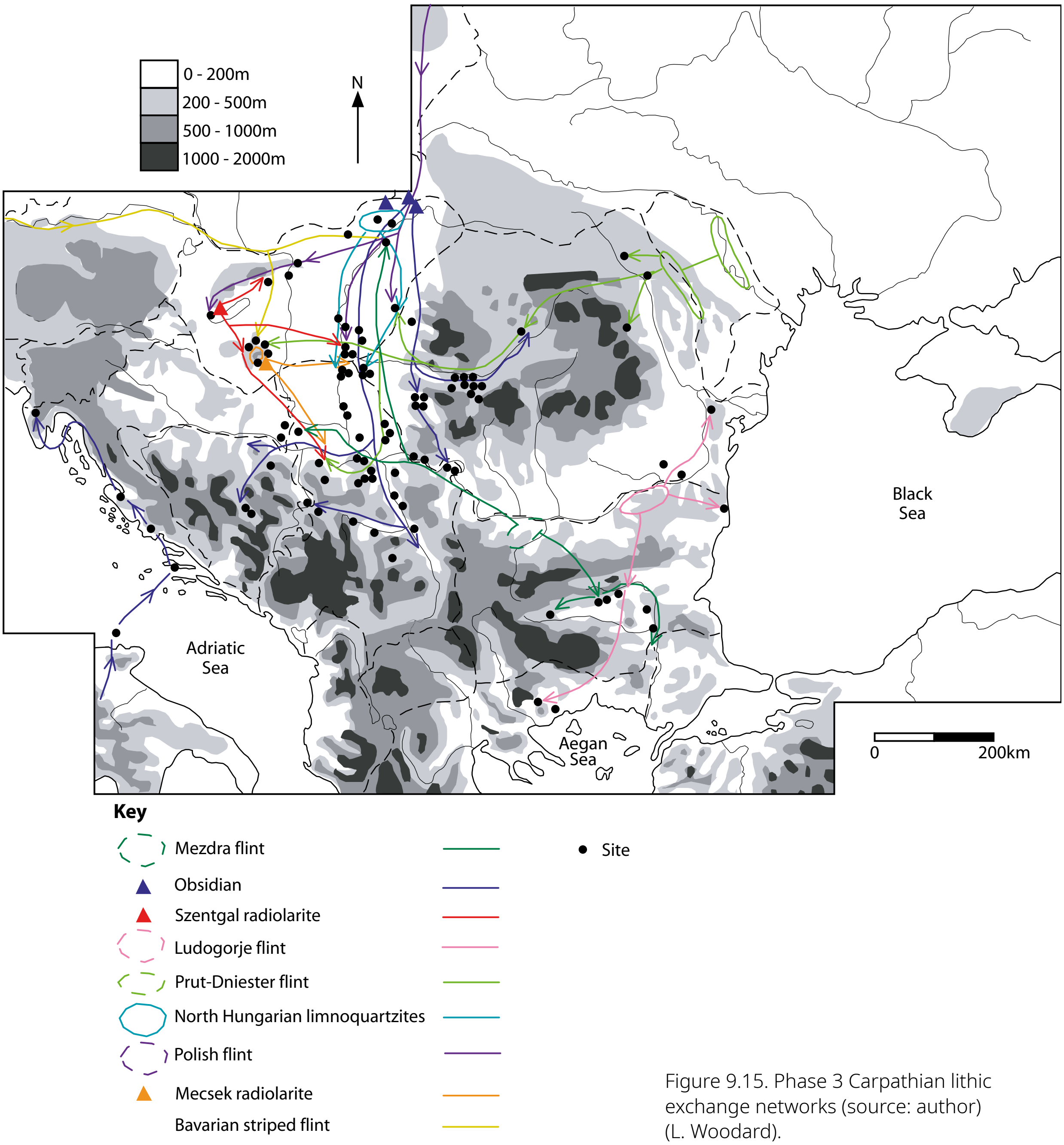


Figure 9.15. Phase 3 Carpathian lithic exchange networks (source: author) (L. Woodard).

but indeed were social relations – things mediated society rather than representing the social. Lithics were performed through action while *Spondylus* ornaments were performed as costumes. But the essence of the performance was the presencing of the absent – the making of a political statement about the fragmentation of remote places and landscapes and people's access to those peoples and places. Changes in these networks spelled out changes in political relations. So a piece of Lipari obsidian at the Pupićina Cave was itself a social relation – a materialized enchainment of dozens, if not hundreds, of people all of whom had owned that piece of obsidian or the nodule or core or blank from which it had been fashioned. That single facet of a broader political relationship was significant – both on its own terms and within the nested set of political relations in local society and the regional community of which the Pupićina cave was a part. The lithics-rich networks constituted vital evidence for enchained Neolithic political relations – for how Neolithic persons constituted themselves and their societies and the extent to which they were able to connect remote zones of the landscape.

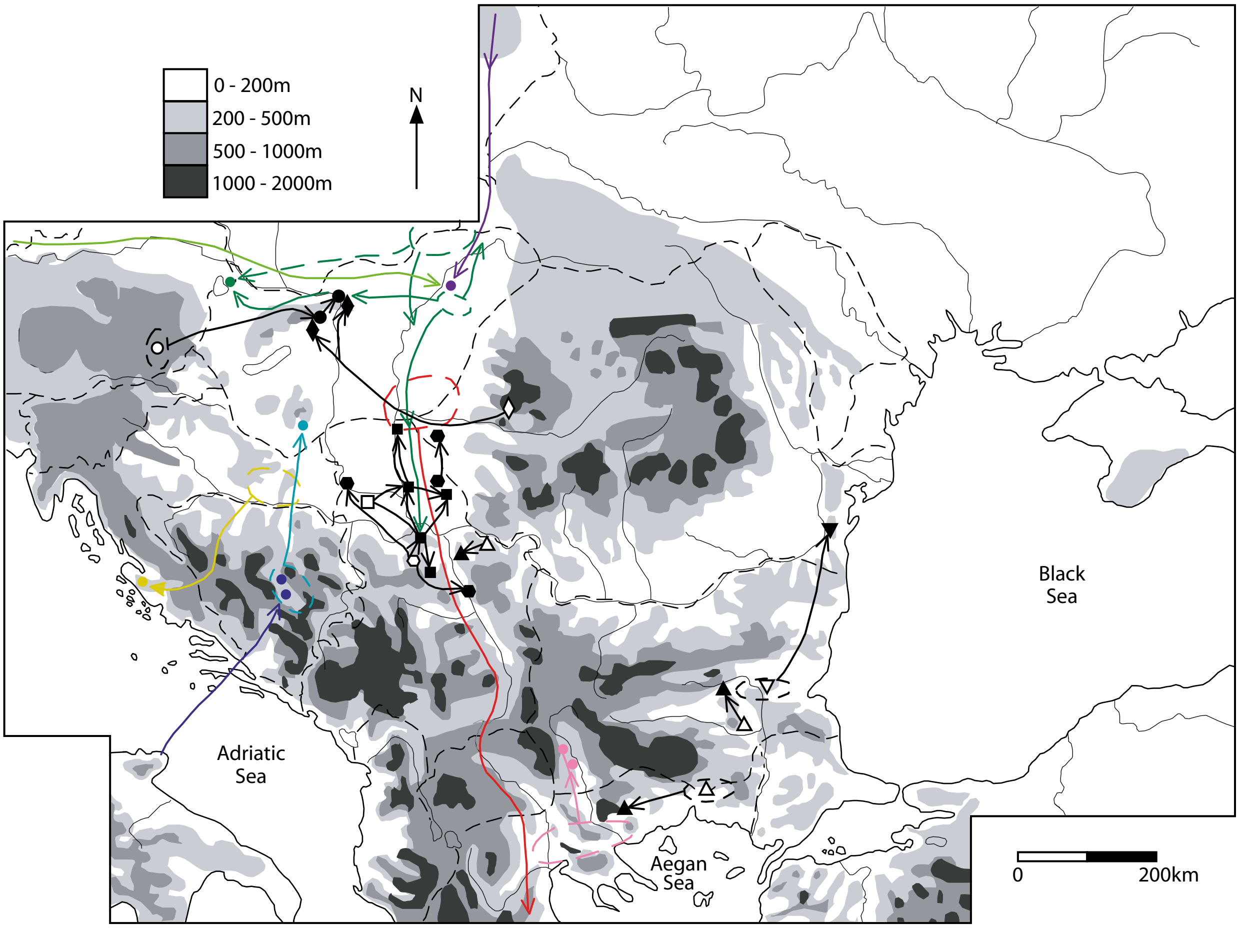


Figure 9.16. Phase 3 pottery, ground and polished stonework exchange networks (source: author) (L. Woodard).

The differentiation of Phase 3 fine wares enables the recognition of 'imports' even without petrographic confirmation[142]. The discovery of 'imports' from most neighbours into most local groups showed not only the fuzziness of Phase 3 'cultural' boundaries but also their importance for the creation of local identities; after all, only a tiny fraction of pottery could be categorised as 'imports' in Phase 3 (Fig. 9.16).

142 In comparison with Phase 2 pottery studies, there has been a dearth of petrographic analysis of Phase 3 ceramics (for exceptions, see the study of the Bicske pottery by Szakmány (1996) and the analyses of Vinča pottery by Amicone (2019)).

An important development in late Phase 3 in the East Balkans comprised the innovation of graphite-painted ware (Evans, R. K. 1986; Kingery & Frierman 1969). The graphite exchange network is as yet poorly understood (Leshtakov, P. 2004: 2005; Popova, M. & Kostov 2017); while many sources are known in South Bulgaria, the paucity of sources in the Lower Danube Basin[143] implies extensive exchange of this pigment.

Two cases of long-distance exchange of vessels or sherds (Chapman 2000a) are known. The first case

143 As far as I am aware, there is only one known graphite source in Romania, near the town of Tărgovişte (p.c., C. Lazăr).

concerns the deposition of two Szakálhát red crusted and incised sherds in the Late Neolithic Arapi magoula, near Larissa, in Thessaly, some 800km from the source area (Grundmann 1934: 135 & Abb. 5-6; Kalicz & Makkay 1977, 109), and perhaps related to the Southward extension of the Carpathian obsidian network (Kilikoglou et al. 1996). A second instance connected the exchange of a Stichbandkeramik sherd deposited at Csőszhalom, in North-East Hungary (Raczky et al. 2007: 58 & Fig. 5.2) to the export to Brittany of a complete Early Stichbandkeramik vessel which was deposited in the central cist of the passage grave of Kerhuen 2, Belz (Cassen 2003).

The 'international' phase of the *Spondylus* network (5300-4500 BC) has been termed the world's first long-distance trade network (Sériadès 1995: 2000), stretching from the Aegean and Adriatic coastlines to Southern Scandinavia and Northern France (Chapman & Gaydarska 2015) (Fig. 9.17). *Spondylus* was widespread in Old Europe in this Phase, also peaking in the Linearbandkeramik through its power to symbolise ancestral South-Eastern origins (Sériadès 1995; Whittle 2003).

Although Müller (1997) maintains that most of the LBK *Spondylus* derived from the Adriatic, there are no concentrations of shell ornaments in this region. The two alternatives comprise complex networks bringing the shells North from the Aegean to early concentrations on the Black Sea coast (e.g., Durankulak), with a secondary network up the Danube to the Pannonian Basin and the Gateway communities in the Vršac area; and a more direct network North via the Struma and the Nišava into Central Serbia and the gateway community of the Vinča tell (Fig. 9.17). There is little doubt of the attractiveness of shell ornaments for mortuary performances and public displays of hoarding, above all in the Linearbandkeramik, where Müller (1997) has estimated that thousands of shells *per annum* were required for mortuary consumption.

The *Spondylus* shell network is a good example of network linkage, with one new network (the Sofia Basin – Nišava stretch) linking up three pre-existing networks: the Western network to the Middle Danube, previously with polished stone and lithic exchange; the Eastern / Danubian network to the Middle Danube, with Ludogorje flint; the Carpathian Basin network, with multiple materials (Kovács 2013); and the North-Western network, based on Szentgál radiolarite and perhaps salt. This complex network probably introduced the Balkan-like figurines, altars, zoomorphic pottery, bone spatulae and decorated wares to the remarkable Late LBK settlement of Nauheim (Schade-Lindig 2002).

Paradoxically, although few metal objects are known from Phase 3, we can identify major production centres (nodes), such as the first copper mines in Europe at Rudna Glava and Ai Bunar (Kienlin 2010) and settlements with significant technological advances in copper smelting (Topolnitsa and Belovode) (Fig. 9.18). The dearth of metal objects may relate to re-cycling, as in Eneolithic Italy (Pearce 2009; cf. Taylor, T. 1999 for Old Europe); only two objects so far have been sourced to Rudna Glava. Lumps of unsmelted Ai Bunar copper were deposited at nearby tells, together with smelted copper objects deriving from other sources. Objects of Ai Bunar copper are known from the Early and Middle Copper Age in Bulgaria, together with early use of the Majdanpek ore field (Pernicka et al. 1997). An important result was that all of the analysed copper finds from the four Pločnik hoards were derived from the Ai Bunar area (Pernicka 1999). Lead isotope analysis of copper ornaments from two Hungarian tells – Csőszhalom[144] and Herpály – showed no decisive matches with Ai Bunar, Rudna Glava or Majdanpek but possible sources at Ždrelo near Belovode and on the Western Black Sea (Siklósi et al. 2015). This suggests a route via the Vinča tell from Ždrelo or the use of the Black Sea – Lower Danube route to the Vršac gateway communities (Fig. 9.18). These novel metal networks combined with other material networks to produce a more complex, denser pattern of networks in Phase 3.

The final material for discussion is salt. A Phase 3 downturn in salt production appears likely on the Moldavian settlements. Two other Balkan sources were demonstrably working in this Phase – one in East Bulgaria and one in upland Bosnia (Fig. 9.11). Located at the West end of the Varna Lakes, Provadia – Solnitsata shows two Phase 3 periods of exploitation – a small-scale Late Neolithic operation and an expanded Middle Chalcolithic operation with salt-evaporation installations in pits (Nikolov, V. 2008; Nikolov et al. 2009; Reingruber 2014). Although the analytical evidence for salt-boiling in this pottery is limited, the rarity of local salt sources[145] means that salt from Provadia may well have formed an important part of a network linking the Black Sea to Thrace and to the Lower Danube lithics and shell network.

The second site was the well-known Early Vinča site of Tuzla[146], where powdered salt was produced in distinctive pointed vessels for exchange to upland Bosnia and the Pannonian Plain (Benac 1972; Chapman 1981, 113 & Fig. 58). Tuzla salt may well have been transported

144 It is interesting to note that no copper objects were found on the flat (horizontal) settlement part of the Csőszhalom complex (Siklósi et al. 2015, 60).

145 There is a small number of alternative historically-attested salt sources in Eastern Bulgaria (Gaydarska & Chapman 2007) but, as yet, there is no proof of Neolithic or Chalcolithic usage.

146 'Tuzla' is an Ottoman toponym based on the Turkish word for salt – '*tuz*'.

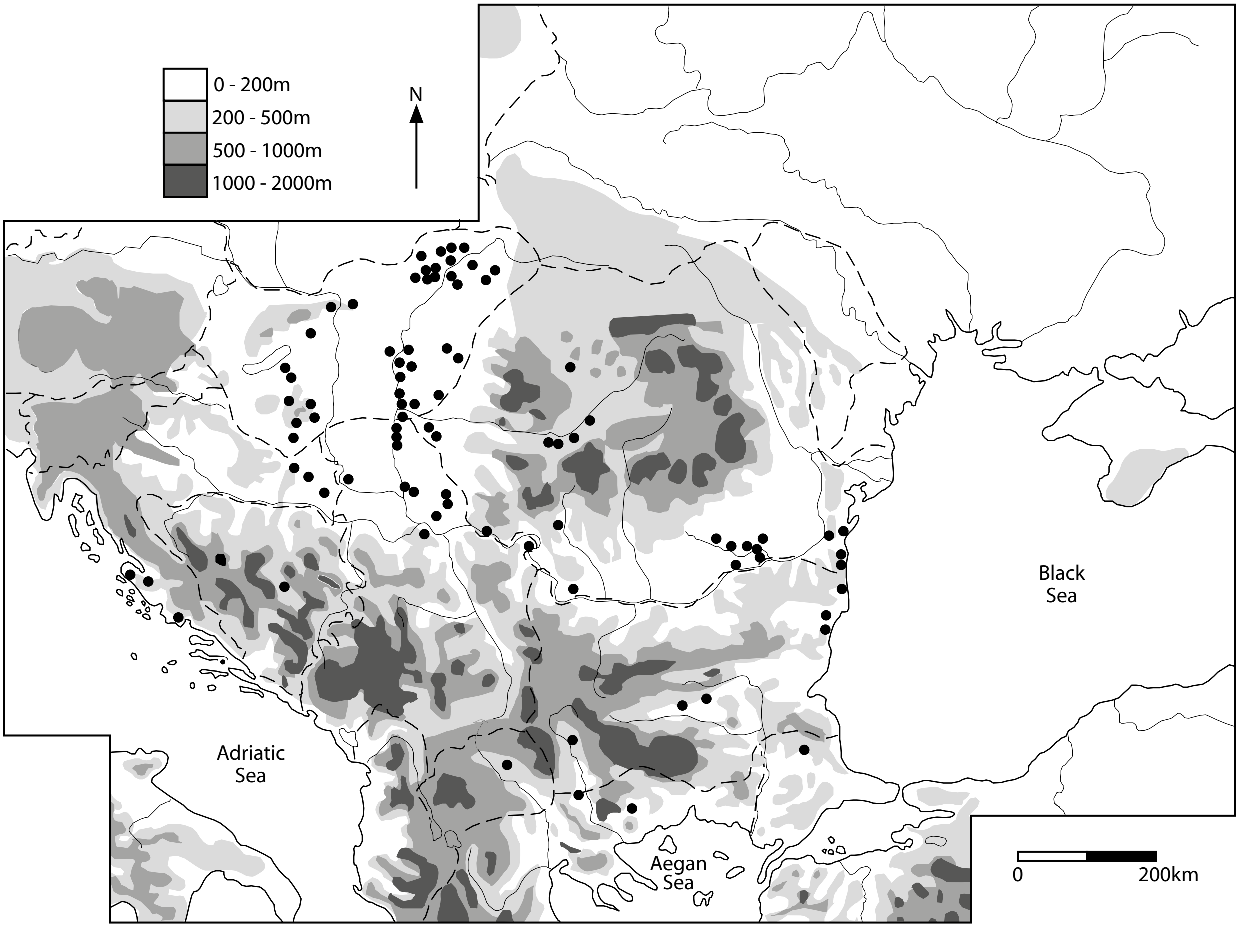


Figure 9.17. Phase 3 Exchange networks, *Spondylus* ornaments (source: author) (L. Woodard).

along networks also moving red and chocolate Bosnian radiolarite and possibly stone bowls.

The link between the distinctive vessels named 'rhyta' and salt storage (Chapman 1988) has been challenged by Slaviša Perić (1996), who interprets the vessels (Fig. 9.20b – d) as symbols of a cattle fertility cult, despite the complete absence of association between rhyta and cattle figurines. The quantity of salt potentially kept in rhyta was minimal in comparison with community salt requirements, indicating that these were additionally display vessels for feasting or ceremonial. A new approach used lipid analysis of sherds from four rhyta from the Dalmatian Middle Neolithic sites of Pokrovnik and Danilo to show lipids associated with cheese in three of the sherds (McClure et al. 2018).

The current space-time distribution of these unusual vessels (Figs. 9.19a & 20) shows potential dates of 6000 BC – c. 4000 BC, with origins in the Carpathian Basin, Albania or Italy rather than the Peloponnese, Central Bosnia or Dalmatia (Biagi 2003). This distribution suggests the linkage of a number of different networks, with a major axis up the Adriatic coast from the Peloponnese to the Trieste area but the greatest concentration of salt-pots in Albania (Fig. 9.20).

Summary of Phase 3 networks

The total nexus of exchange networks in Phase 3 was far more complex than the preceding interactions in Phase 2, in several ways:- the networks were more structured, with sites showing centrality as well as a greater number of nodes; the networks transported not only a greater amount of materials and a greater diversity of materials but also multiple materials along the same network; and, lastly, communities using the networks showed a greater capacity for network linkage, whether at a 'cultural' level or in terms of the materials flowing through the network. Nonetheless, increased network linkage was predicated on considerable continuity between Phase 2 and Phase 3 networks.

Phase 4 networks

The narrative of the Omurtag pumice-stone (see above, pp. 333-4) reminds us that the most extensive network

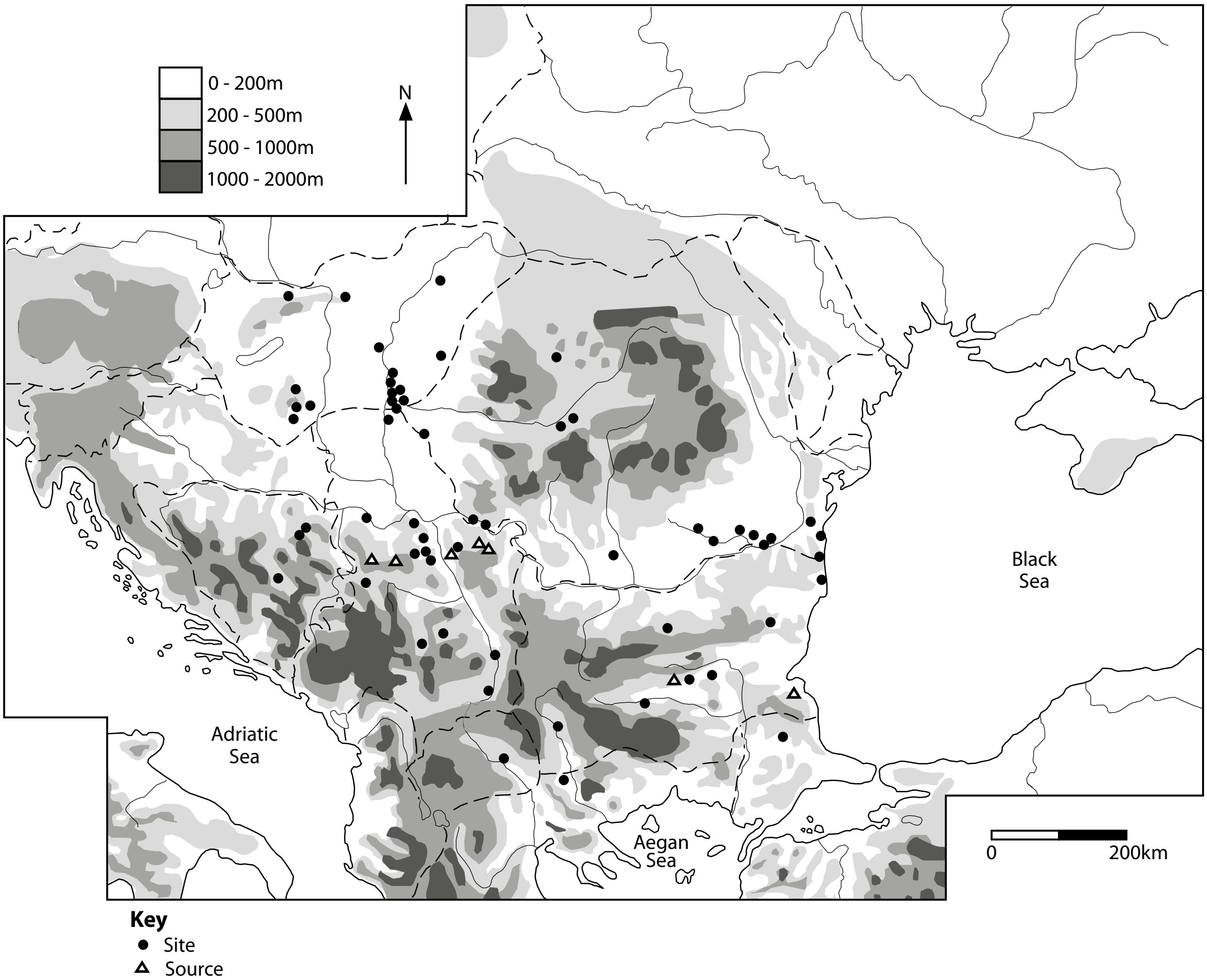


Figure 9.18. Phase 3 distribution of stratified copper finds (source: author) (L. Woodard).

linkages in Balkan prehistory occurred in Phase 4 – the time of the Varna I cemetery (Higham et al. 2007: 2018). The key social development in this Phase constituted the emergence of 'cultural network linkages' in the later 5th millennium BC – Late Lengyel groups linked to related groups to the North, the expansion of Tiszapolgár and Bodrogkeresztúr ceramic networks to North and South, the fusion of Kodzhadermen, Gumelniţa and Karanovo VI ceramic networks in the East Balkans and the expansion of Cucuteni and Trypillia in the forest steppe zone (Fig. 9.21). These linkages developed through the widespread imitation of everyday practices, which created new, more widely shared identities but also facilitated intra-cultural exchange. The widespread trend towards settlement dispersion (see Chapter 8) meant a reduction in inter-site distance and contributed to a greater focus on extra-mural cemeteries and hoards – viz., a proliferation of Deposition centres rather than other forms of central sites.

Another effect of an extended cultural network linkage was the re-definition of Locals, Others, 'Foreigners' and people from Remote communities as well as the re-designation of raw materials once considered exotic but now part of 'local' resources (Chapman 2000a, 34-37). This led to a consolidation of lithic production within the extended groups, combined with limited exchange beyond. Thus, the Kodzhadermen-Gumelniţa-Karanovo VI (aka 'KGK VI') network was heavily reliant upon high-quality Ludogorje flint from Ravno or Kamenovo (Manolakakis 2005; Gurova 2010), which dominated lithic assemblages as far away as Sitagroi, North Greece (Tringham 2003) but was rarely found outside the KGK VI distribution (e.g., Vésztő-Bikeri in the South Alföld; and Prohozeşti, near the Poduri tell). A similar process in the expanded Late Lengyel network witnessed the dominance of Szentgál radiolarite source from a cluster of production sites in the Bakony Mountains (Biró & Regenye 2007), exchanged as far away as Bavaria.

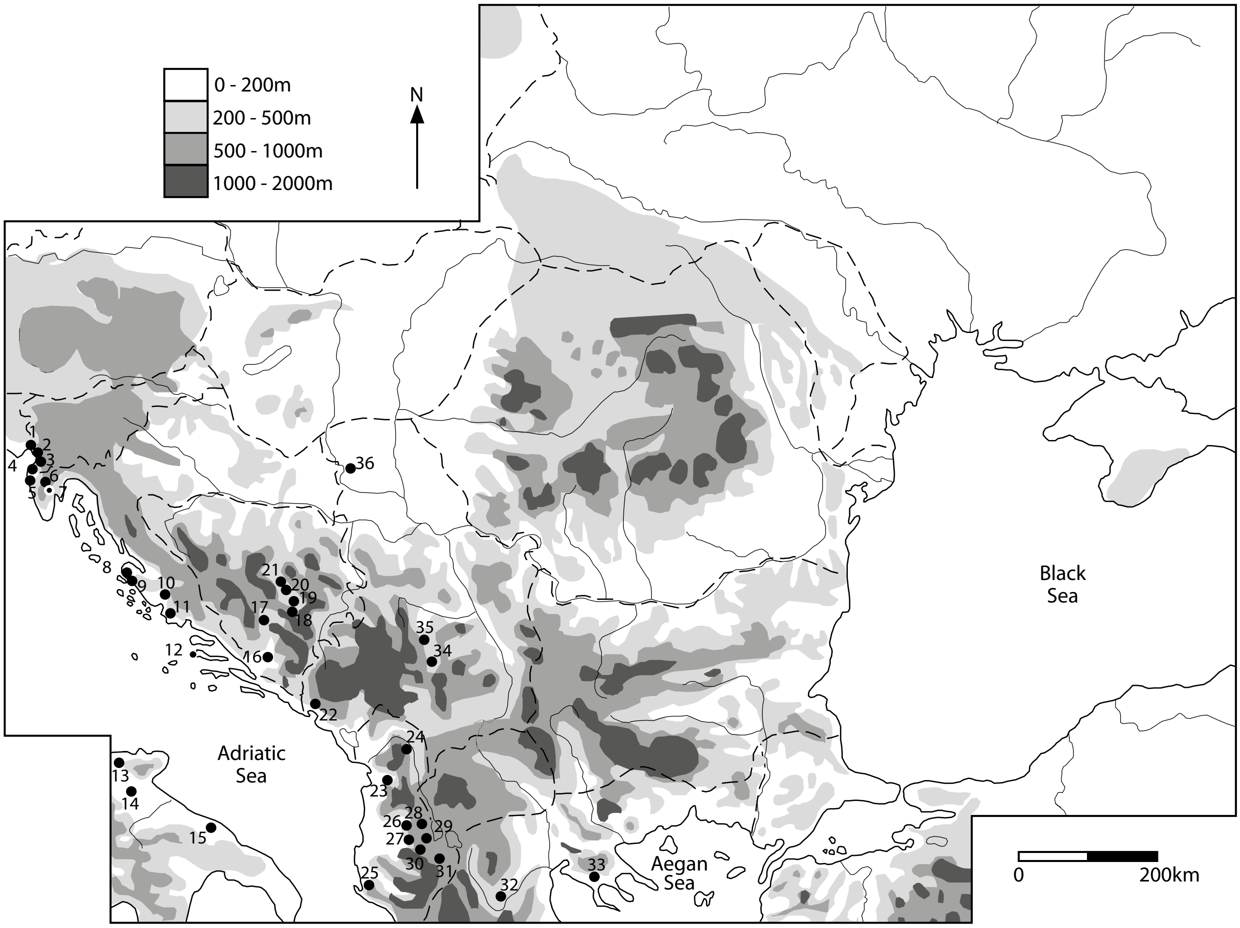
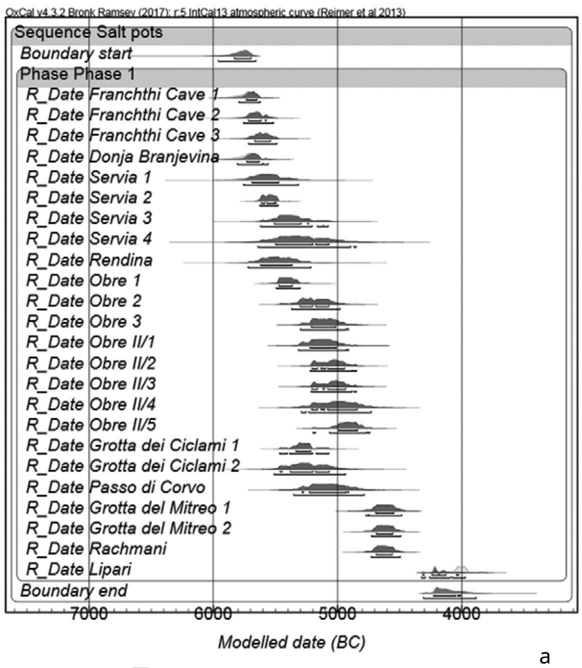


Figure 9.19. Spatial distribution of Phase 2-3 salt pots: : 1 – Grotta Teresina; 2 – Grotta del Pettirosso, Grotta dell' Edrea, Grotta del Muschio & Jama na Dolech; 3 – Grotta della Tartaruga, Grotta degli Zingari, Grotta Lonza, Grotta Riparo di Monrupino, Grotta dei Ciclami; 4 – Grotta della Gallerie; 5 – Sermin; 6 – Nugla; 7 – Pupućina cave; 8 – Islam Grčki; 9 – Smilčić; 10 – Bribir; 11 – Danilo; 12 – Markova spilja, Hvar; 13 – Passo di Corvo; 14 – Rendina; 15 – Le Macchie di Polignano a Mare; 16 – Zelena pećina; 17- Kakanj; 18 – Arnautovići; 19 – Butmir; 20 – Okolište; 21 – Obre I & II; 22 – Crvena stijena; 23 – Blaz; 24 – Kolsh; 25 – Cakran; 26 – Dunavec; 27 – Maliq; 28 – Vashtëmi; 29 – Barç; 30 – Dersnik; 31 – Kamnik; 32 – Servia; 33 – Olynthus; 34 – Priština; 35 – Reštane; 36 – Donja Branjevina (source: author based upon Montagnari-Kokelj & Crismani 1993; Biagi 2003) (L. Woodard).

The third example of cultural network linkage – the expansion of the Tiszapolgár and Bodrogkeresztúr ceramic networks into Slovakia, South Poland, Transylvania, North Serbia and even Bosnia – was partially based upon Kovács' (2013) *outer* Carpathian route (see above, p. 333; Fig. 9.14) and included a gold workshop in Transylvania (Lazarovici, Gh. & Lazarovici, C.-M. 2013; Lazarovici, Gh. et al. 2012) and probably intensive use of Carpathian obsidian.

Lastly, high-quality Prut and Dniester flint dominated lithic assemblages over the widespread Cucuteni A – Trypillia networks in the A and BI periods, with flint-mining at Kamenets Podolski (Bibikov 1966). But, unlike the Szentgál radiolarite or the Ludogorje (North Bulgarian) flint, Prut flint was regularly exchanged between extended cultural networks, in this case into Tiszapolgár sites, often via South-East Slovakia, where blocks of Volhynian flint weighing up to 25kg were moved to sites such as Vel'ké Raskovce and Tibava for exchange into the Alföld (Kaczanowska 1985, 156). The Cucuteni-Trypillia inner network also facilitated exchange of manganese- the key pigment for black-painted CT fine wares. In the continuing scientific characterisation debate on the source(s) of manganese, the latest views (Buzgar et al. 2013) return to Linda Ellis' (1984, Map 11) proposal of Eastern Carpathian sources near Suceava, although sources far to the East (Nikopol) or to the South (Crimea) have not yet been excluded (Buzgar et al. 2010).

The consolidation of the expanded networks through lithic, pigment and other exchanges brought a wider range of people into contact, leading to potential increased demand



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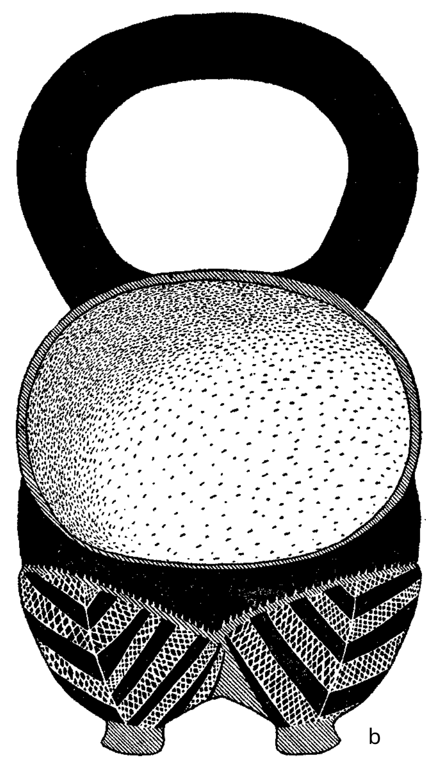

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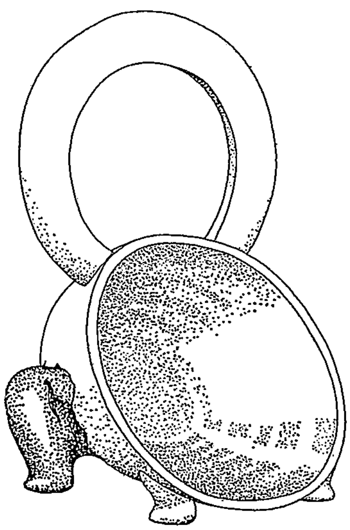

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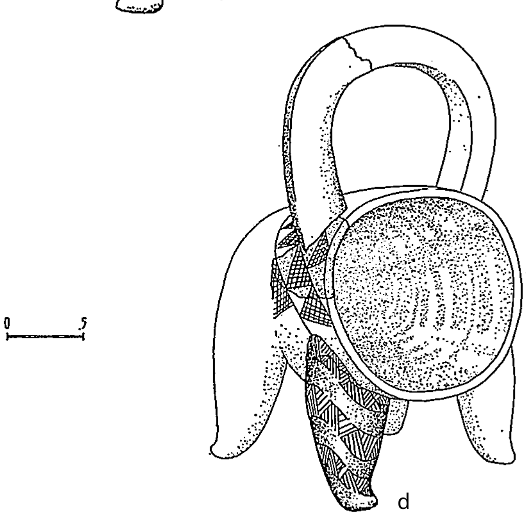

d

Figure 9.20. Phase 2-3 salt pots: (a) Bayesian model of available 14C dates, treating all dates as derived from one single phase; regional forms (B. Gaydarska): (b) Central Greek type, Elateia (Weinberg 1962, Fig. 12/1-2); (c) Danilo type, Obre I (Benac 1973a, Fig. XXVIII/15); (d) Kakanj type, Obre I (Benac 1973a, Fig. XXVIII/17: copyright – Zemaljski Muzej Sarajevo); (B. Gaydarska).

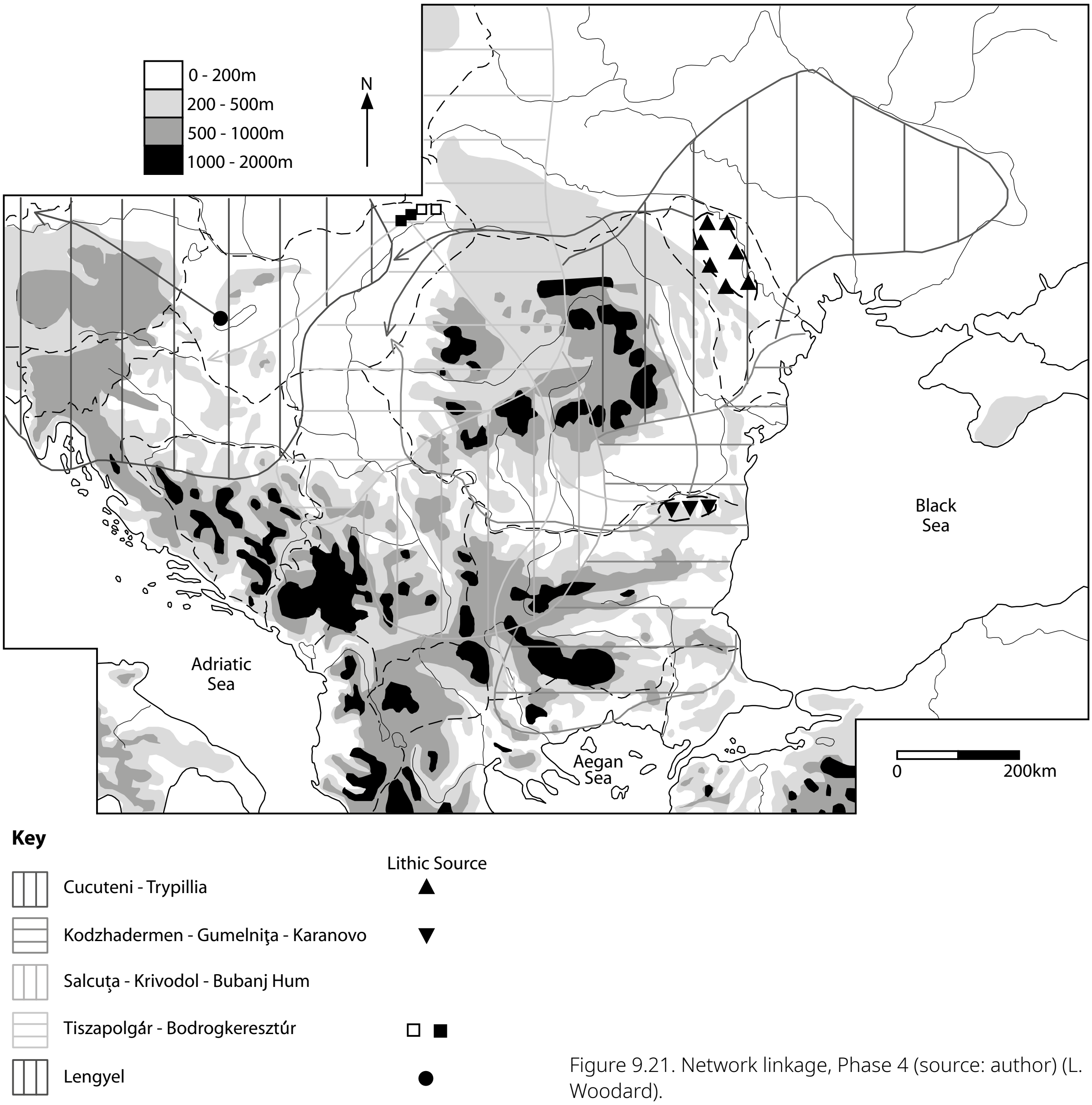

Figure 9.21. Network linkage, Phase 4 (source: author) (L. Woodard).

for exotics. But did the four linked networks influence the creation or form of Phase 4 central places (Fig. 9.22)? While the continued absence of a settlement focus for the Varna cemetery prevents its description as a focal site, the vast range of deposited materials (see below, p. 345) signified a Gateway community as well as a Deposit centre. Other Gateway communities include a rejuvenated Orlovo, with Aegean shells, Rhodopean copper, flint, axe rocks and decorative marble and turquoise for exchange further North (Chapman 2010), as well as a new Bodrogkeresztúr Gateway community at Višesava on the river Drina (Zotović 1963) for procuring upland resources for plains settlements. Betweenness centres in the Lúčka group in South-East Slovakia consolidated trans-Carpathian networks, bringing Polish and Volhynian flint into the Alföld Plain in exchange for gold, heavy shaft-hole copper axes and Polgár-style pottery, while Scânteia on the Moldavian Plateau developed as a centre for the Danube Script (Merlini 2013), boasting a striking concentration of decorated figurines and helping to co-ordinate the exchange of Prut flint for Carpathian axe rocks, salt, copper and manganese (Cotoi 2000). The only Cucuteni tell – at Poduri (Monah, D. 1991) – was a focal centre for salt exploitation on seasonal sites (Chapman & Monah 2007), perhaps exporting salt to large Trypillia A and BI settlements in salt-free areas if the salt did not derive from Black Sea limans (Mircea & Alexianu 2007). However,

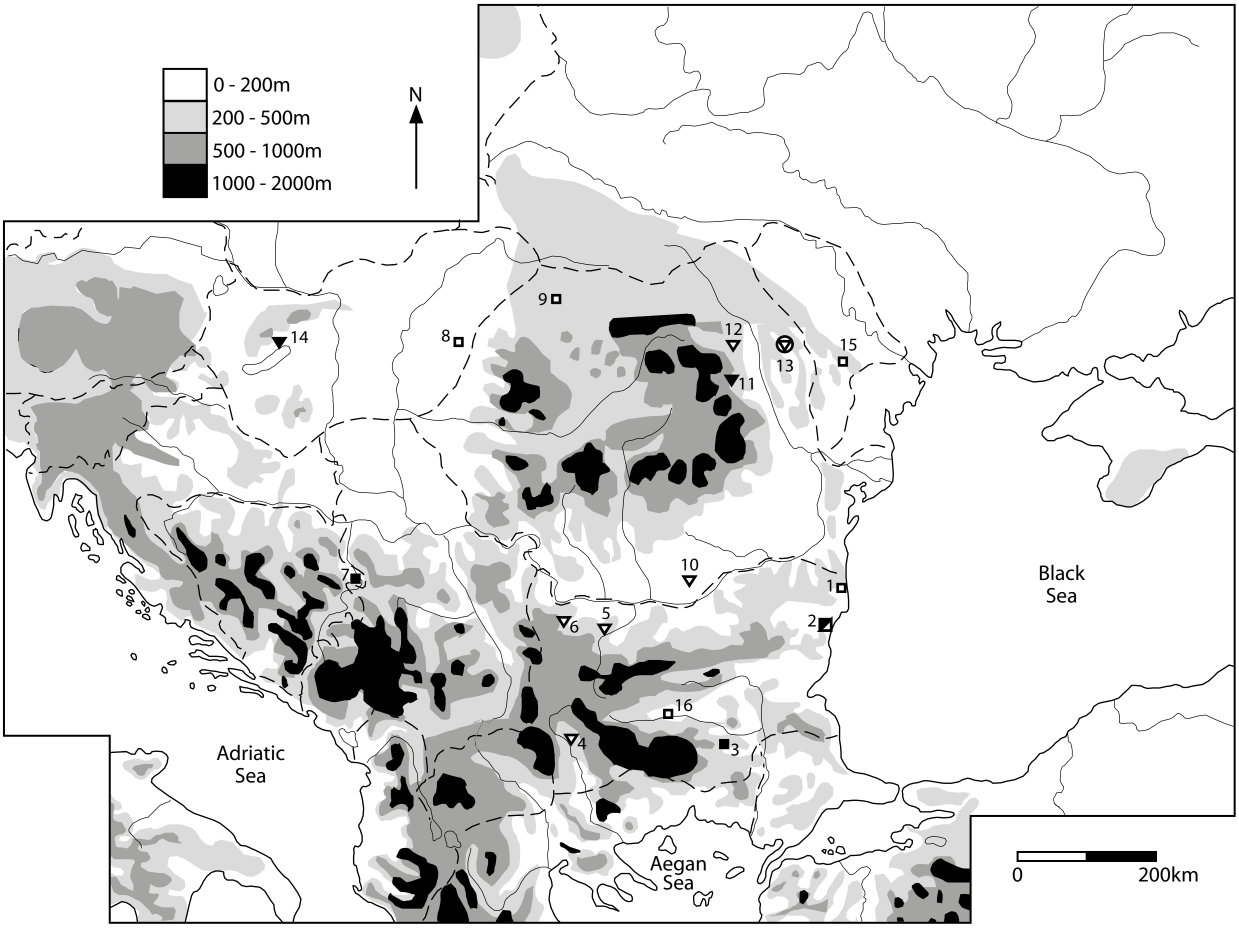

Figure 9.22. 'Central' sites, Phase 4: 1 – Durankulak; 2 – Varna I; 3 – Orlovo; 4 – Slatino; 5 – Gradeshnitsa; 6 – Borovan; 7 – Višesava – Bajina Bašta; 8 – Hencida; 9 – Ciubanca; 10 – Vităneşti; 11 – Poduri; 12 – Traian – Dealul Viei; 13 – Scânteia; 14 – Veszprém; 15 – Karbuna; 16 – Svoboda (source: author) (L. Woodard).

the limitations of Poduri as a focal site were demonstrated by its few objects from the Remote zone (Cotoi 2000)[147]. But what made Phase 4 central sites truly different from earlier examples was the dramatic rise in the number and diversity of Deposition centres – especially extra-mural cemeteries (see Chapter 7) and hoards (Chapman 2000a, 112-121). While settlement hoards were important (e.g., the lithic hoard in the Körös site of Endrőd 39: Kaczanowska et al. 1981), it was the extra-mural hoards that domesticated the landscape, shrinking the distance between lowland settlements, marking the routes of lowland and upland networks often using specific metal types and presencing key denizens (traders, hunters, foresters, warriors) in the '*agrios*'.

The increased demand for exotics in the new, extended cultural networks led to an estimated fivefold increase in the amount of copper and gold in circulation in Old Europe compared to Phase 3 (Kienlin 2010). Certain non-metals, such as *Spondylus*, suffered by comparison, with a network primarily restricted to the East Balkans (Fig. 9. 23) and the replacement of *Spondylus* ornaments by copper bracelets and limestone beads in Phase 4 Carpathian sites. Three other changes in metal use concerned a wider range of sources used, the diversity of sources used for the same type of object on the same site and the personalisation of heavy copper axes (Fig. 9.24). Reconnaissance for rocks and minerals was probably complete for the entire uplands. Given the wide range of Romanian copper sources charted by Mareş (2002; cf. Sherratt 1976, Figs. 9-10), it is not surprising that lead isotope research programmes for Old Europe (Pernicka et al. 1993: 1997; Gale et al. 2000) have defined many as yet

147 NB Cotoi (2000) does highlight the only place where serpentinite axes were deposited was tell Poduri, where the inhabitants tended to prefer limestone axes to bituminous marl tools.

unsourced lead isotope grouplets and chemical clusters. The variability in copper combinations for the same tool type at different sites underlines this diversity of supply, whether the 15 different cluster/grouplets for 42 copper borers at Ruse on the Lower Danube or nine clusters for the 46 copper bracelets in the Durankulak cemetery (Pernicka et al. 1997). A parallel morphometric analysis of almost 100 Vidra shaft-hole copper axes showed that no two axes were identical (Mareş 2002). This means that differences in the personalised biographies of copper axes were visible in shape and size, and perhaps in colour, presencing their origins and the persons moving them through the exchange networks. This conclusion makes Kienlin's (2010) finding of the widespread identity of *chaînes opératoires* for the manufacture of Balkan Copper Age shaft-hole axes and hammer-axes even more intriguing – a combination of personal weapon-tools with glocal production techniques. The same personalisation of gold ring-pendants can be proposed.

Layered over the four major Phase 4 cultural networks are two loosely constituted networks: a mid-5th millennium BC network connecting the Varna cemetery to the Atlantic, the Alps and the Volga and a late 5th millennium BC network connecting the North European Plain to Eastern Anatolia and Iran. These two networks are classic examples of 'small world networks' (see above, p. 316), with the nodes linked by relatively few objects but generating much busier local 'traffic' than the overall network.

The Western part of the first, Varna network featured jadeite axes and pendants (Klassen 2004) (Figs. 9.25-26). Pétrequin et al. (2013, 68-70) have dated the exploitation of Alpine jade sources from 5300BC to the end of the Western European Neolithic, with the main concentration of large jadeite axes in Western Europe at 4600-3700 BC. Jadeite axes were frequent in Friuli, with onward exchange into Austria, Slovakia and Hungary (Bernardini 2018). Only one of the eight Lengyel graves with jadeite axes (Biró et al. 2017) has been dated – the rich Alsónyék Grave 3060 (two dates calibrated to 4789-4688 BC at 95% probability: Bayliss et al. 2016) (Fig. 9.26b), suggesting a century earlier than the start of the Varna cemetery. Pétrequin et al. (2017) propose that the two jadeite axe hoard sites of Svoboda (Fig. 9.26a) and Orlovets were nodes in the Varna jadeite network, which extended East to at least three Cucuteni-Trypillia sites (2017, Annexe 18) (Fig. 9.26e). The axes found in the Varna I and Durankulak cemeteries were small jadeite axes, whose deposition was dated to 4650-4450 BC. The second facet of the Western network concerns the imitation of a standard form of Balkan Chalcolithic gold pendant (Fig. 9.26i) in local red sandstone, with deposition in the mid-5th millennium BC passage grave of Renozar, near Plovan (Finistère, Brittany) (Cassen 2003) (Fig. 9.26f). The highly specific nature of the parallel makes it probably that the maker of the Renozar pendant had seen a Balkan gold pendant, whether in Brittany, the Balkans or an intermediate place[148].

The Eastward part of the Varna network rests on the exchange of Balkan copper through the North Pontic zone for deposition in rich graves such as Giurgiuleşti, Krivoy Rog and the Khvalynsk cemetery (Fig. 9.26g – h). Spectrographic analysis of the copper objects in the Khvalynsk I cemetery (Ryndina 2010, 234-257) identified a Balkan source – perhaps Ai Bunar – whilst recent isotopic correction of the AMS dates for Khvalynsk I (Agapov 2010)[149] confirms its dating to the Varna period (4650-4450 BC). There is thus a loose network linking the Atlantic coast of Europe as far East as the Volga Basin – almost to the Caspian – with the Varna cemetery one of the key nodes in this exchange network (Chapman 2013: 2013b) (Fig. 9.25).

A dense exchange network South-East of Varna includes marble pointed-based beakers and bowls from Anatolia and a rich assemblage of Aegean *Spondylus gaederopus* and *Dentalium* shells (Gaydarska & Chapman 2004; Baysal & Erdoğu 2014) (Fig. 9. 27). The Balkan parts of the Varna network have been documented through lead isotopic analyses of the copper objects, showing that the metal originated from a minimum of eight and maybe as many as 20 sources. The only possible Balkan sources for the exquisitely facetted carnelian beads were the Eastern Rhodopes and the Shumen area but no scientific characterisation has yet been completed (Petrussenko & Kostov 1992; Kostov & Machev 2008). The nearest known source of graphite used in pottery decoration lay South of Burgas, near a copper source (Leshtakov, P. 2004). Recent research proposed that the Varna gold was panned in local East Bulgarian rivers (Leusch et al. 2014: 2015), although some objects derived from Transylvanian sources (Hartmann 1978). These characterisation results indicate the extent and complexity of the exchange networks connecting the Varna cemetery to many parts of the Balkans as well as far beyond South-East Europe in the mid-5th millennium BC. It is important to note that no Danube Script signs have yet been discovered at Varna; the main centre for such signs in the Western part of the Varna network was Gradeshnitsa in North-West Bulgaria (Merlini 2013) – a site with no obvious other pretensions to centrality.

148 A further possible link in the Western network concerns the Pauilhac hoard, whose highly dubious find circumstances, however, make this an unreliable piece of evidence (*contra* Classen (2004, 265-6) and Hansen (2013): for critique of the finds circumstances, see Aura Tortosa 2007; Beyneix 2007).

149 The problem of the supposedly early dates for the Khvalynsk cemetery (4900-4630 BC: Timofeev & Zaitseva 1997; Kotova 2008, 122) has been resolved through David Anthony's correction of the calibrated dates by cca. 400 years because of the high ^{15}N levels in the human bone samples. The corrected calibrated dates now stand at 4700-4600 BC (Anthony 2007, 182).

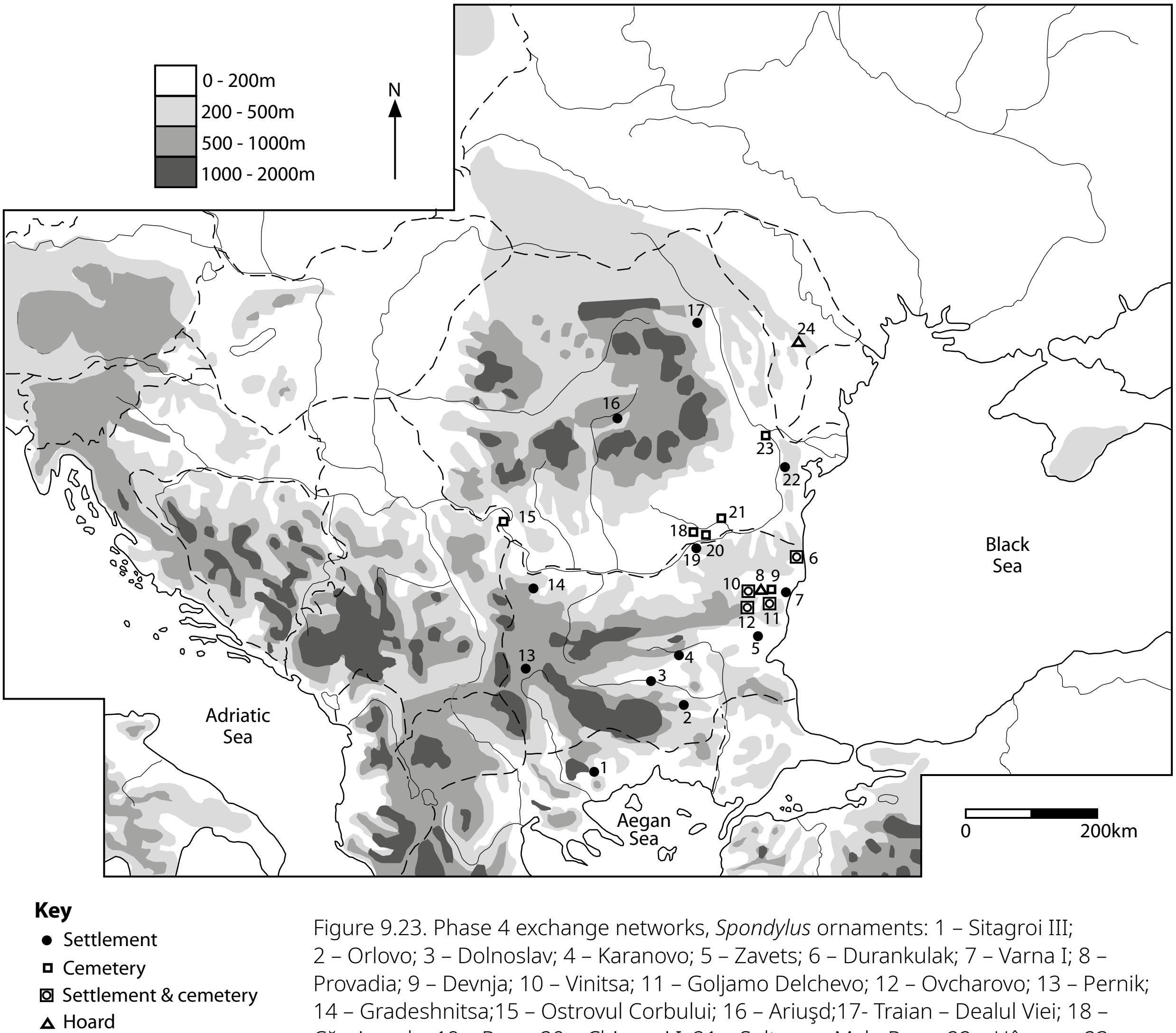

Figure 9.23. Phase 4 exchange networks, *Spondylus* ornaments: 1 – Sitagroi III; 2 – Orlovo; 3 – Dolnoslav; 4 – Karanovo; 5 – Zavets; 6 – Durankulak; 7 – Varna I; 8 – Provadia; 9 – Devnja; 10 – Vinitsa; 11 – Goljamo Delchevo; 12 – Ovcharovo; 13 – Pernik; 14 – Gradeshnitsa;15 – Ostrovul Corbului; 16 – Ariuşd;17- Traian – Dealul Viei; 18 – Căscioarele; 19 – Ruse; 20 – Chirnogi I; 21 – Sultana – Malu Roşu; 22 – Hârşova; 23 – Brăiliţa; 24 – Karbuna (source: author) (L. Woodard).

The second network connects a very different group of regions across Eastern Europe, stretching South-Eastwards to Anatolia and Iran. One of the most significant metallurgical innovations of Phase 4 was the development of heavy shaft-hole tools made in two-piece moulds (Pernicka 1990; Kienlin 2010; Boroffka 2009), with the centre of the distribution in the Balkans. However, small numbers of 'Balkan' shaft-hole copper axes have been found in the North European Plain and even further to the South-East, in Iran (Fig. 9.28). The Northern group includes four axe types each with a different distribution (Klassen & Pernicka 1998; Govedarica 2001; Gedl 2004). The first copper metallurgy on Ljubljansko Barje (Velušček 2008) and axe exports to the Eastern Alps were also part of these networks, as was the development of two additional stone axe exchange networks connecting the Balkans to Northern areas (Klimscha 2007: 2011). This network was amplified by the discovery of decorated Bodrogkeresztúr pottery in the Baltic Final Mesolithic shoreline site of Dąbki 9 (Czekaj-Zastawny et al. 2011) (Fig. 9.32c).

The South-Eastern group of metal finds was even more diffuse (Fig. 9.28), with shaft-hole copper axes reported from Susa I, Iran (Tallon 1987), as well as fired clay moulds from Ghabristan (Pernicka 1990: Taf. 9/1) and a miniature fired clay copy from the Ubaid site of Telloh (Boroffka 2009). The Anatolian gap in this network is partly filled by a few gold ring-pendants, one Gumelniţa-type bone anthropomorphic figurine found in a site in Istanbul and a graphite-painted sherd and a 'Balkan' battle-axe from Norşun Tepe in Eastern Anatolia (Klimscha 2007; Hauptmann 1982, Pl. 36, No. 5)[150].

150 Özdoğan (2014) mentions the filling-in of a relatively empty Phase 4 network in European Turkey with the recent discovery of sites with graphite-painted wares there.

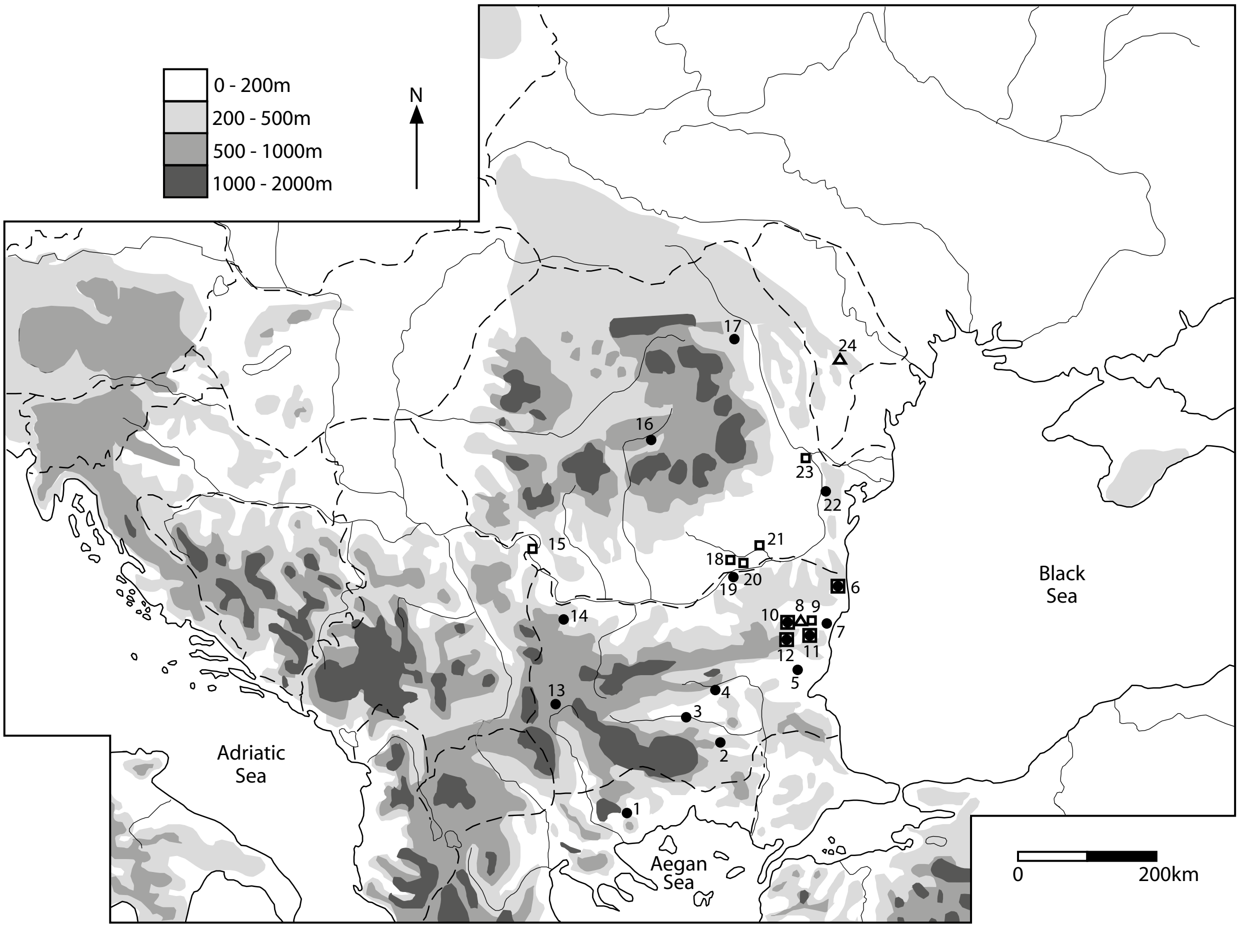

Figure 9.24. Phase 4 distribution of stratified copper and gold finds (source: author) (L. Woodard).

Nonetheless, there is no sense of a well-connected series of networks of Balkan 'exports' stretching from the Baltic to the Lower Tigris valley – rather a series of exotic and sacred objects, moving along local and regional exchange networks, which were so different from local material culture that their impact on those remote communities transformed them ultimately into inalienable objects.

Summary of Phase 4 networks

There can be little doubt that the expanded copper and gold exchange made a major contribution to Phase 4 networks, because of the larger number of sources exploited, the increased number of objects and types of objects and the variability in individual objects which produced a sense of personalisation in copper exchange. A contextual study of Phase 4 deposition of exotica indicates exclusion from non-mortuary ritual contexts but incorporation into domestic structures, intra-mural burials and hoards, with the most dramatic inclusion in extra-mural hoards as well as cemeteries such as Varna. This would suggest an inner core of non-mortuary ritual practices to be maintained as separate from the Remote zone, while exoticity contributed to identity formation in mortuary ritual and domestic practices.

What did these examples of long-distance network linkage mean in the 5th millennium BC? Did these objects have any real impact on Mesolithic, Neolithic or Copper Age lifeways in Eurasia? Kristisansen (1998) has argued that the intensity and density of Bronze Age exchange networks were so much greater than those of the preceding Neolithic that the former was transformative while the latter was incidental. It is important to acknowledge that the Phase 4 networks were not as persistent and directed as the dense

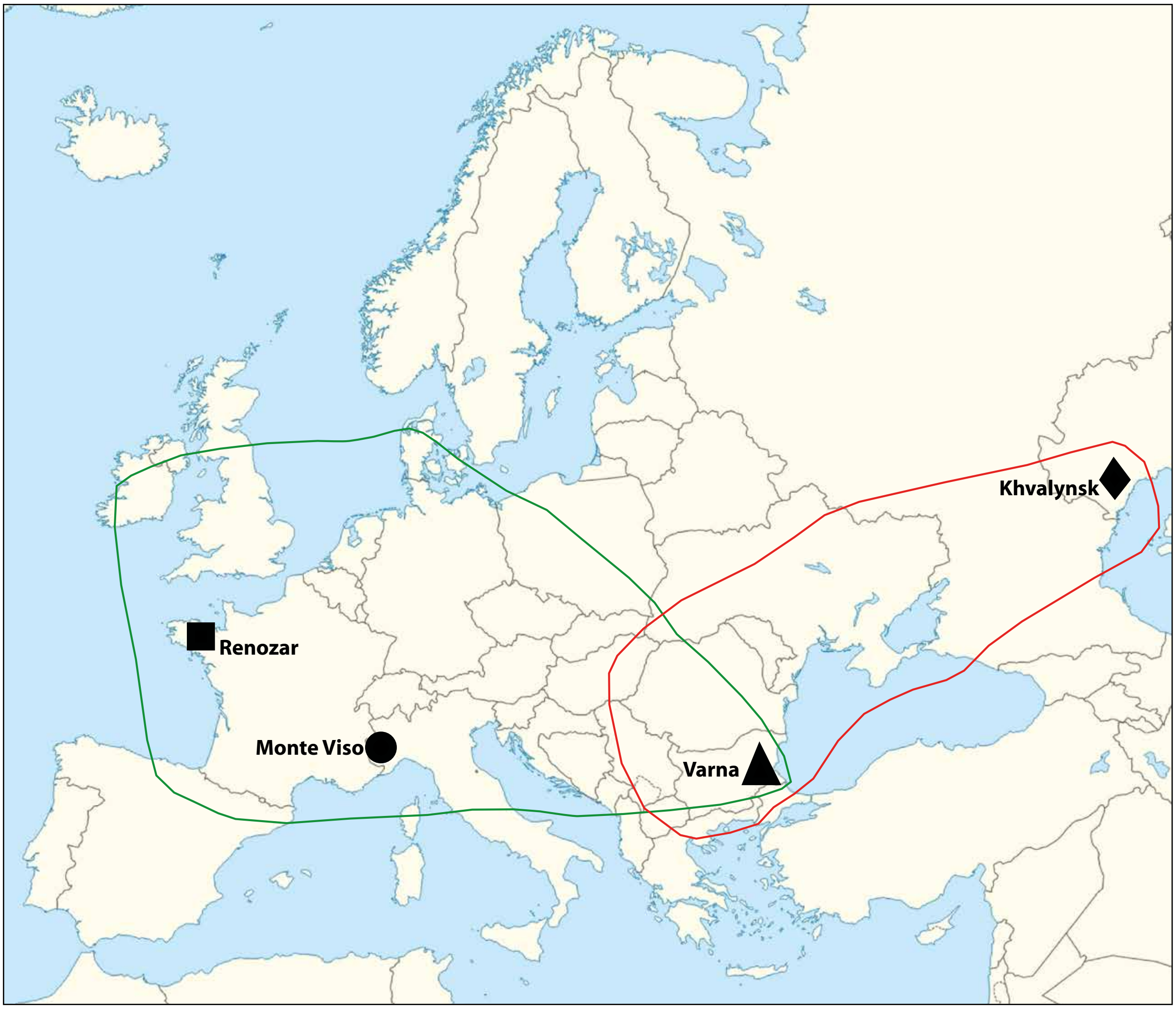

Figure 9.25. Eurasian exchange network connecting Brittany to the Volga Basin (source: author) (L. Woodard).

Phase 3 *Spondylus* network, bringing hundreds of Aegean shells into Central Europe every year. Yet the biographical wealth of even individual objects, once transformed into inalienable objects, could have been transformative of local social orders. The difference that such sacred objects made stemmed from three characteristics – their ability to presence remote peoples and places, their enchaining potential and their exceptional roles in cultural memory. The Omurtag pumice stone or the Bodrogkeresztúr vessels were so strange as to require cultural 'domestication' before they became sacred objects for the receiving community. In the case of the heavy shaft-hole copper axes, D. Bailey's (2000, 218) notion of 'extravagant inutility' emphasises the statements the axes made about power, connections and aesthetics: they too had become exotic, inalienable objects.

Phase 5 networks

The types of networks that people developed in Phase 5 are as divergent as anything that we have seen in previous phases. There was further consolidation of extended cultural networks into three main blocks – the Cucuteni – Trypillia block in Eastern Europe, centred on the 4th millennium BC mega-sites, with populations in their thousands; the Coţofeni block covering most of Romania except for Moldavia; and the Baden network, stretching from North Greece and Eastern Serbia to Austria, with the last two based on highly dispersed settlement patterns comprising homesteads or farmsteads of a dozen persons (Fig. 9.29). The smaller, nucleated settlements in Bulgaria were intermediate between these two extreme forms of settlement network. At the very least, these settlement contrasts led to totally different types of breeding network. The first type was based on between 20 and

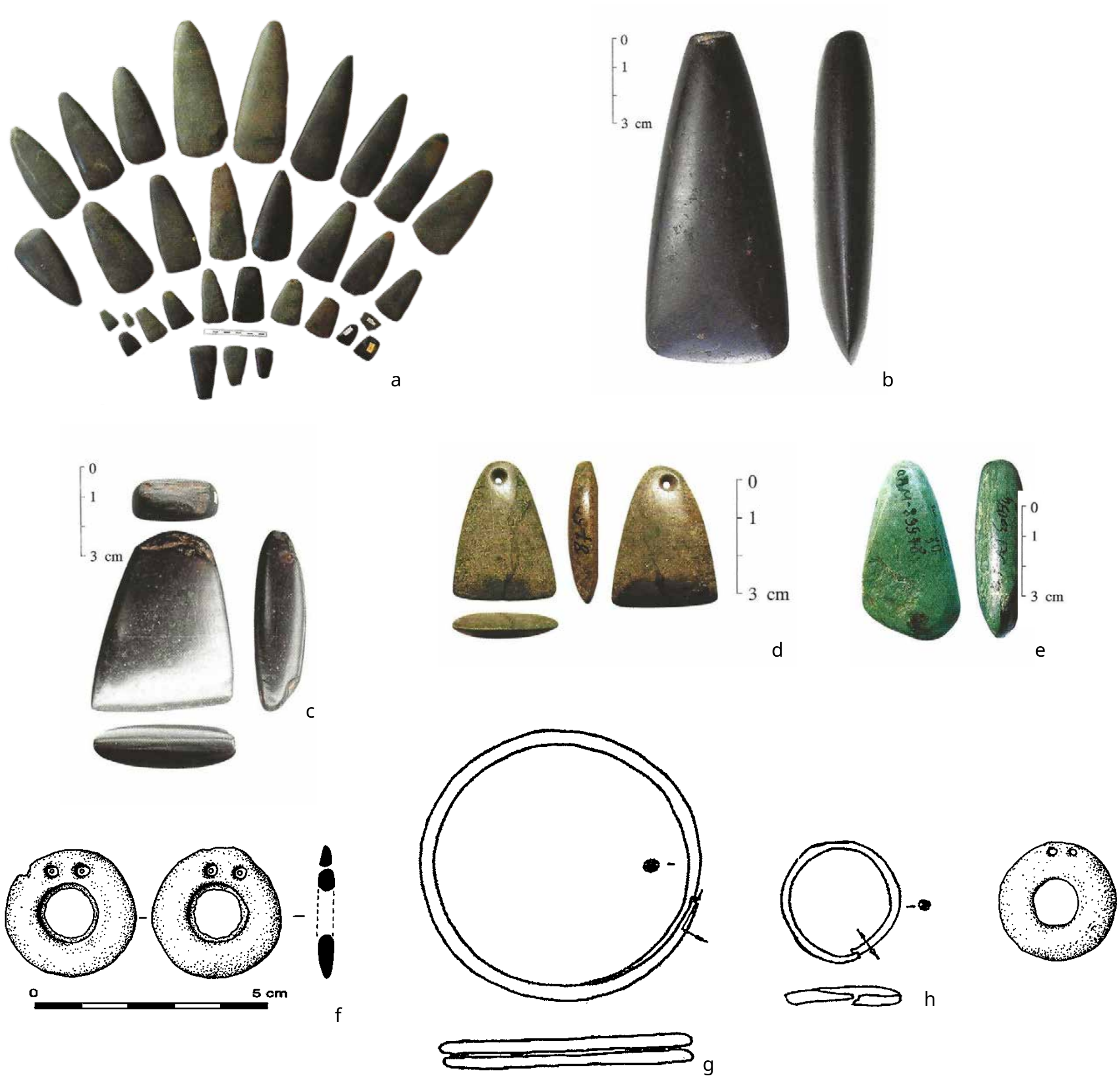

Figure 9.26. Objects represented in Eurasian exchange network connecting Brittany to the Volga Basin: (a – e) jadeite axes: (a) Svoboda hoard;(b) Alsónyék Grave 3060; (c) Tabachka; (d) Vlădiceasca; (e) Berezivka (sources: Pétrequin et al. 2017, Figs. 2, 6/2, 11/1 & 16/1; Biró et al. 2017, Fig. 19/1: copyright – Presses Universitaires de Franche-Comté); (f) sandstone pendant, Renongar passage grave; (g – h) Hvalynsk grave goods: (g) copper bracelet: inner diameter – 6cm; (h) ring: inner diameter – 2.8cm (source: Ryndina 2010, Ris. 1); (i) gold ring-pendant, Hotnitsa (source: Cassen 2003, Fig. 3).

40 Baden or Coţofeni homesteads of essentially similar size, while the second type consisted of between three and 30 breeding groups in a single mega-site, each of which constituted a central place in an otherwise thinly populated landscape.

A degree of network continuity is demonstrated by the exchange of the lithics essential to many maintenance activities on any Trypillia site. All Trypillia settlements in the Southern Bug – Dnieper Interfluve would have required lithic raw materials for basic tool-making – whether from local quarries or exotic sources in the Prut – Dniester valleys (Fig. 9.30). Local sources would also have supplied stones for grinders and mortars. While there were widespread local sources for red, white and orange pigments, black pigments from Phase BII onwards were an exotic for the Interfluve, probably from the Eastern Carpathians. Transylvanian copper replaced Balkan copper in this Phase, with routes across the Eastern Carpathians. Thus, exchange of exotic flint, copper and pigment alone would have been predicated upon an inter-regional network connecting dozens if not hundreds of sites – a network which would have been

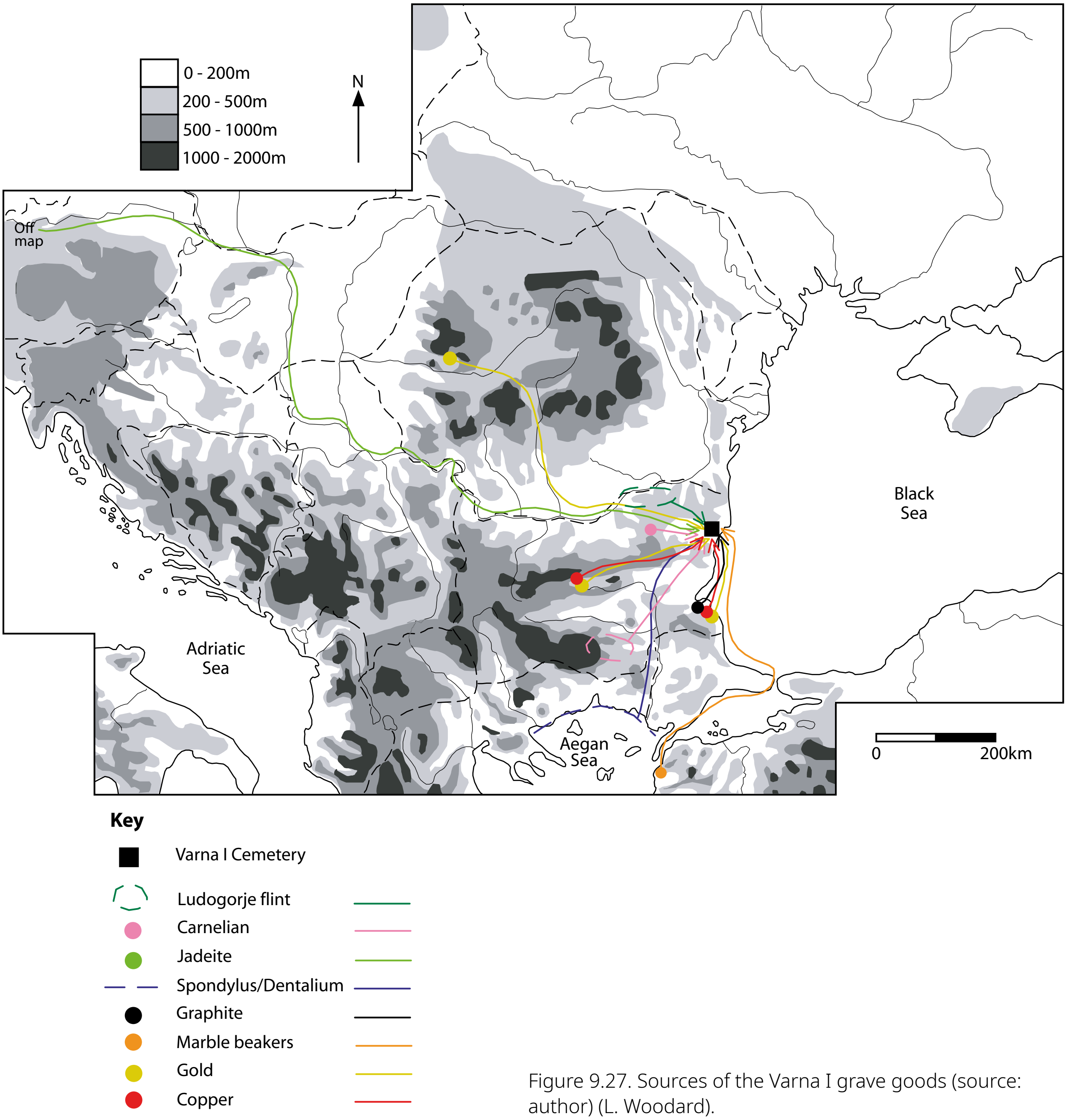

Figure 9.27. Sources of the Varna I grave goods (source: author) (L. Woodard).

instrumental in the consolidation of the Trypillia group as well as maintaining contacts between neighbouring and distant communities. An inter-regional network for exotic lithics would have been operational in Phase A, with an expansion in Phase BII to transport graphite and manganese for pot-painting and Transylvanian copper. The paradox of Trypillia exchange dates to Phases BII and CI – the peak of the megasites – when the expected social differentiation consequent upon the development of such massive sites fails to find materialisation in exotic prestige goods on the megasites themselves. This is all the more surprising when we recall that exotic prestige goods exchange was one of the foundations of the Balkan Copper Age in Phase 4 (see above, p. 59). Is it possible that we have grossly over-estimated the significance of Trypillia exchange? Or does lateral cycling hide the multiple re-working of copper objects – the first such recyclable material in prehistory (Taylor 1999)?

At the other end of the settlement size range were the Coţofeni and Baden dispersed settlement networks, mostly lacking central places. Because their networks traversed most of the areas with important material sources (e.g., copper sources: Mareş 2002), Coţofeni groups operated largely 'intra-cultural' supply networks,

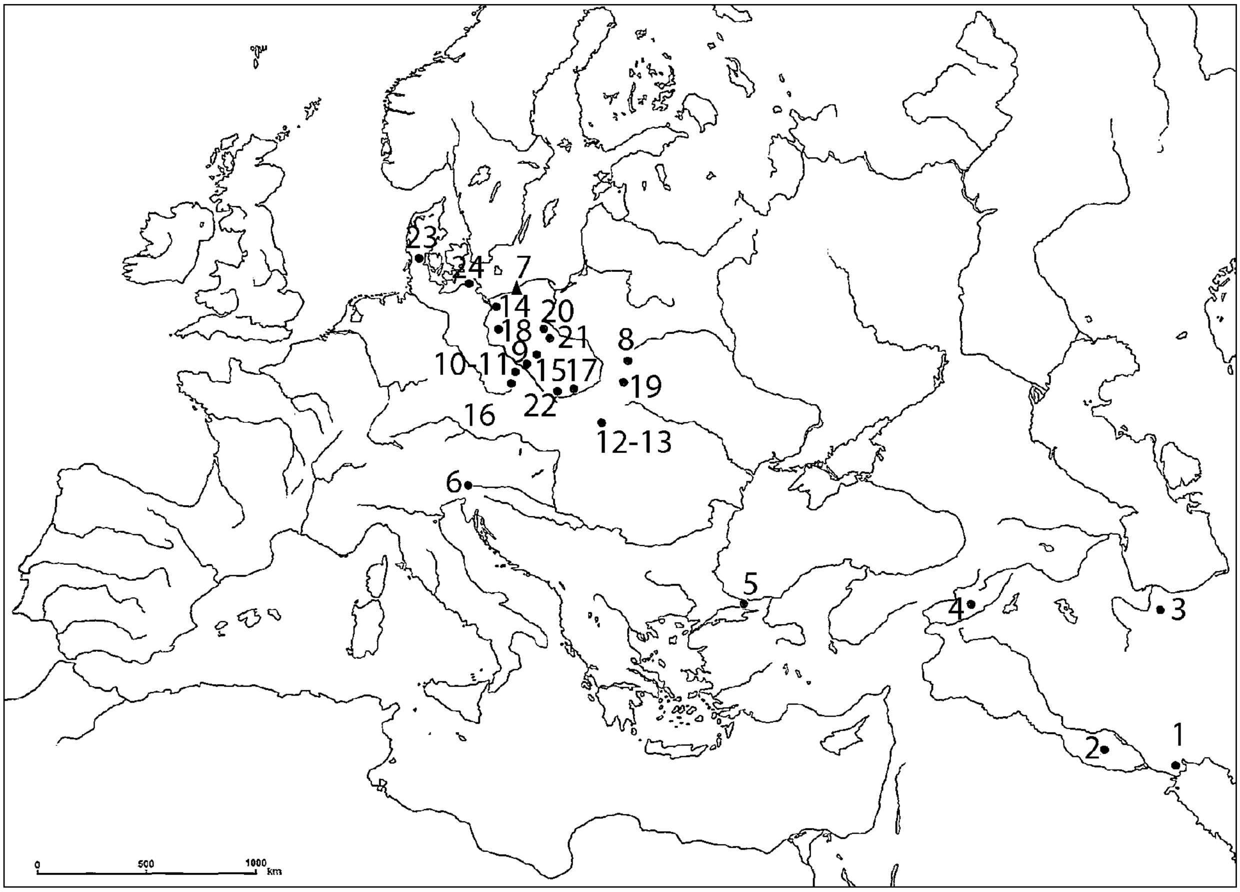

Figure 9.28. Exchange networks of Balkan' shaft-hole copper axes (unless otherwise noted) and other finds to Northern Europe and Iran: 1 – Susa; 2 – Telloh; 3 – Ghabristan; 4 – Norşun tepe (graphite-painted sherd and stone battle axe); 5 – Istanbul (Varna-type bone figurine); 6 – Ljubljansko Barje; 7 – Dąbki 9 (Bodrogkeresztúr pottery); 8 – Hanna; 9 – Opatowice; 10 – Ruszkovice; 11 – Jordanów – Śląski; 12 – Hłudno; 13 – Krzemienna; 14 – Szczeczin; 15 – near Byczyna; 16 – Starczów; 17 – Koniecmosty; 18 – Krzeszyce; 19 – Skomorochy; 20 – Pakość; 21 – Gopło Lake; 22 – Kraków -Płaszów; 23 – Denmark (site unknown); 24 – Steinhagen (source: author) (B. Gaydarska).

which included relatively few exotic objects (e.g., copper axes, stone mace-heads and sceptres).

In and South of the Danube valley, there was much continuity between the lithics networks of Phase 4 and 5 (e.g., the preference for Ludogorje flint at Hotnitsa-Vodopada and tell Yunacite (Sirakov & Tsonev 1995; Terziiska 1994) and even Sitagroi: Dixon 2003). The supply of Ludogorje flint continued through the Central Rhodopes, with Betweenness sites such as at Yagodinska peshtera and Haramijska dupka (Boyadzhiev 1995), despite the decoupling of the lowland – upland network in the Eastern Rhodopes. The general pattern for all of these sites except Telish was a decrease in the number and diversity of copper objects in Phase 5; the many copper object types at Telish were made of a remarkable diversity of copper ores from many Balkan regions (Pernicka et al. 1997).

The Baden cultural network consolidated linkages in the Carpathian Basin and in all directions except the East, where Coţofeni pottery was widespread. Dense exchange networks within the Local and Other zones are attested at the extensively excavated settlement of Balatonőszöd-Temetői-dűlő (Horváth, T. 2012), whose occupants relied mostly on stone materials shipped across Lake Balaton (Fig. 9.31a) with the addition of nephrite, serpentinite and metabasic rocks for perforated tools, most probably from Silesian sources. A similar pattern of reliance on Local and Other-zone materials was found at the largest known Baden cemetery, at Budakálasz, together with *Spondylus* beads, obsidian and limnoquartzites from the North-East and South (Bondár & Raczky 2009) (Fig. 9.31b). A rare example of a low-level focal place at Tiszalúc, in the North Alföld plain (Patay 2005), showed transport of most stone materials from the Northern Mid-Mountains and others coming from 60km away to the North-West (Fig. 9.31c).

Many of the Phase 5 materials document differentiated exchange networks, with the vast majority

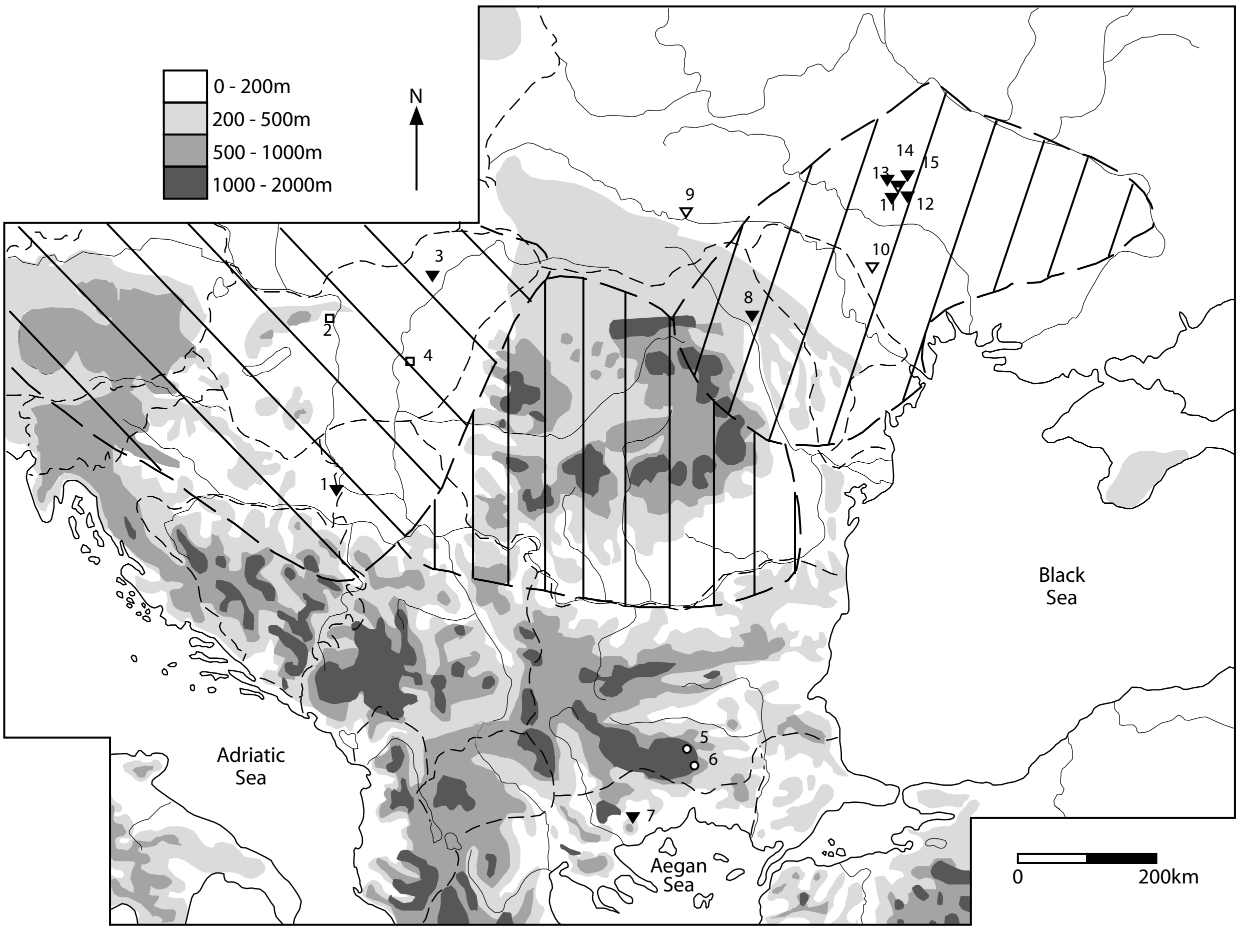

Figure 9.29. Network linkage, Phase 5, with 'Central' sites: 1 – Vučedol; 2 – Budakalász; 3 – Tiszalúc; 4 – Tiszaszőllős; 5 – Yagodinska peshtera; 6 – Haramijska dupka; 7 – Sitagroi IV; 8 – Cucuteni; 9 – Konivka; 10 – Chapajevka; 11 – Nebelivka; 12 – Volodymirivka; 13 – Taljanki; 14 – Majdanetske; 15 – Vesely Kut (source: author) (L. Woodard).

of stone resources derived from 50km radius but metals materializing much more extensive networks into the Remote zone. The exchange of Târgu Ocna-type shaft-hole copper axes into the Tadjikistan settlement of Sarazm (Boroffka 2009) indicates the continuation of the long-distance Phase 4 network linking the Balkans to Eastern Anatolia and Iran into Phase 5 (Fig. 9.28). However, these exchanges were amongst the latest in the Iranian network, since there was a general replacement of heavy shaft-hole tools by lighter, not so well-finished, flat copper axes at the start of Phase 5 (Kienlin 2010). This change is also exemplified by an expanded Carpathian – North Italian network, via Slovenia and the head of the Adriatic, which developed on the basis of the mutual exchange of local copper axe types (Hansen 2013) and polished stone axes (Bernardini 2018) (Fig. 9.32a). The supply of copper to the Phase 5 networks for North-West Bulgaria and Serbia had shifted away from the Ai Bunar mine to the Majdanpek ore field. Mines such as Rudnik and Špania Dolina also supplied local needs in Serbia and Slovakia.

Hansen (2013) has argued that, far from representing a decline in copper metallurgy, the 4th millennium marked a period of change and technical advance. Much of the innovation was related to the colours produced by the various copper alloys (Fig. 9.32b). While the early arsenical coppers were probably derived from the North Caucasus (Sherratt 1976), later arsenical coppers could have been locally produced through alloying Majdanpek copper with cinnabar from the Šuplja Stena mine (Mioč et al. 2004). The regional emphasis on copper alloyed with antimony in Slovenia and Northern Croatia, as demonstrated at the Vučedol focal place, indicates the probable use of local antimony. The minor use of Local, Other and Foreign silver sources for both large and small ornaments was another

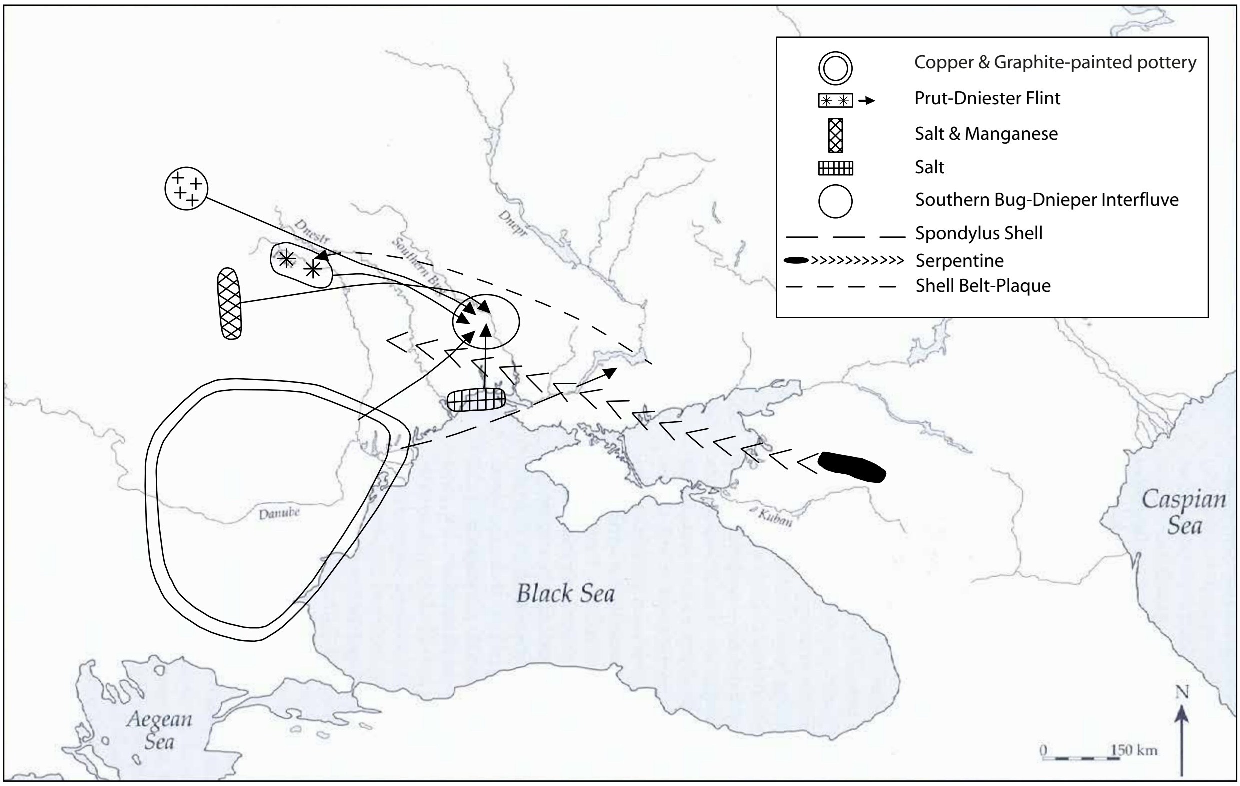

Figure 9.30. Cucuteni – Trypillia exchange networks (source: author) (L. Woodard).

Phase 5 innovation, inspired as it was by the visual magnificence of gold pendants (Glogović 2004).

Summary of Phase 5 networks

The great size of the Phase 5 extended cultural networks meant that a high proportion of exchanged objects and materials were moving in 'intra-cultural' space – 'keeping it in the extended family'. This was particularly true of stone materials but also true for a range of copper ores (e.g., Rudnik in Serbia), metal sources (e.g., arsenic or antimony) and metal objects (e.g., flat axes). Most Phase 5 objects were therefore not exotic in two senses – they were not transported from the Remote zone over long distances and they were not derived from a different 'cultural' context. This had two effects on network organization. First, the great size of the extended networks reduced the number of Gateway communities and Betweenness centres; secondly, a higher value was attributed to the relatively small number of true exotics.

The extended cultural networks based upon dispersed homesteads had a very different rationale – the overlapping mating networks of 20-40 homesteads which provided long-term demographic stability to the local groups. Although such a configuration of breeding networks was unnecessary for the Trypillia networks, the Baden and Coţofeni networks were based upon the gift exchange requirements of marriage partners in the local network. This was the bio-social premise for the establishment and continuation of Local, Other and Foreign networks through the transportation of non-exotic bling required for the special social events of the calendar. In Phase 5, the increased significance of regional networks which kept objects 'in the extended family' was a distinctive trait which has been misinterpreted as a contrast between exchange networks in Bronze Age and pre-Bronze Age groups (Kristiansen & Larsson 2005; Hansen 2013).

Chapter summary

We started this chapter with a specific narrative about a single exotic pumice stone and end it with a general commentary about millennial change in exchange networks. One of the principal changes from 7000 to 3000 BC was the transformation of the meaning of the 'exotic' itself. Two senses of the 'exotic' emerged – the spatial sense of an object coming far from a site but also the 'cultural' sense of whether objects derived from places within the 'cultural' boundary as defined by forager lithic production or, later, ceramic production. Thus, the Szentgál radiolarite sources were exotic in the 'cultural' sense in Phase 2 – outside the Starčevo ceramic distribution – but not spatially exotic – perhaps as little as 50km from Starčevo settlements. By Phase 4, the Szentgál

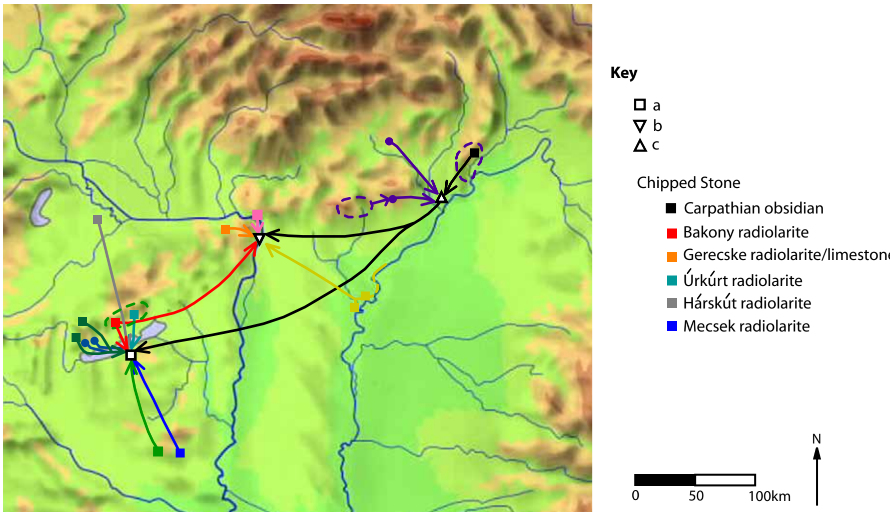

Figure 9.31. Sources of lithic objects, Phase 5 Baden sites: (a) Balatonőszöd-Temetői-dűlő; (b) Budakálasz cemetery; (c) Tiszalúc (source: author) (L. Woodard).

quarries were integral to nearby Late Lengyel settlements and thus not exotic in either sense.

The loose network of Phase 2 ceramic groups exchanged very few ceramics between the regional groups (Spataro 2007) and shared so many object types (Nandris 1970) that exchange was predominantly an internal affair, with only occasional need for Gateway communities or Betweenness centres. The main exotic exchange concerned large quantities of Moesian flint from forager territories in North Bulgaria moving South to Thracian or Greek early farming communities. The rare examples of lithics or axes moving hundreds of kilometres made political statements about the far-flung connections of specific people. Apart from Moesian flint exchange, the Phase 2 pattern resembles the extensive networks described by Golitko & Feinman (2015) (here Fig. 9.3), with highly localized clusters of nodes linked by a few weaker or longer-distance links.

The overall trend in Phase 3 was the differentiation of ceramic production in smaller networks, with the exception of the striking and highly appreciated Vinča black burnished wares. Combined with settlement densification, expansion and linkage, the greatly increased number of ceramic networks inevitably created a greater sense of regional boundedness, often to the limit of the Foreign zone of 70km, which increased the proportion of 'culturally exotic' objects in exchange networks. This led in turn to an increase in the number and diversity of central sites. At the same time, linkage of networks already operating in Phase 2 meant the outer limits of Remote-zone exotics in the spatial and cultural senses had been pushed back to over 1,000km (e.g., the *Spondylus* network).

However, the main feature of Phase 3 networks was the increased quantity and diversity of materials moving between sites. The wide range of stone sources, for example, with materials varying in functional quality, colour, brilliance and degree of exoticity, provided Phase 3 settlements with a hitherto unimaginable choice of objects. This Phase 3 pattern seems very similar to Golitko and Feinman's (2015) intensive networks, with well-defined trade routes and materials moving large distance from their sources. The emergent personalization of lithic consumption made vital political statements about contacts and social reach, especially at the central places helping to structure the form of the networks. Such personalization was linked to the creation of a wider range of exotic and sacred objects than in Phase 2, including the early copper ornaments.

One very important recurring pattern was that the same changes in Phase 3 stone networks occurred in Phase 4 but with copper exchange, with a marked personalization of heavy copper axes across a series of local and regional landscapes and a major increase in the density of exotic and sacred objects in cemeteries and hoards acting as Deposition centres. This recurrence suggests an element of substitution of copper for stone, even though gendered associations were not always similar.

What strongly differentiated Phase 4 networks from their Phase 3 counterparts were the culturally-based network linkages which changed the nature of people and objects in relation to the local and the exotic. These extensive cultural networks brought a large number of previously 'culturally' exotic sources into the same ceramic network, channelling key high-quality lithic resources within their ceramic networks ('keeping them within the extended family'). The Phase 4 extended networks required fewer Gateway communities or Betweenness centres (as in Phase 2) but they encouraged the growth of Deposition centres (unlike Phase 2). A small number of sacred and exotic objects criss-crossed

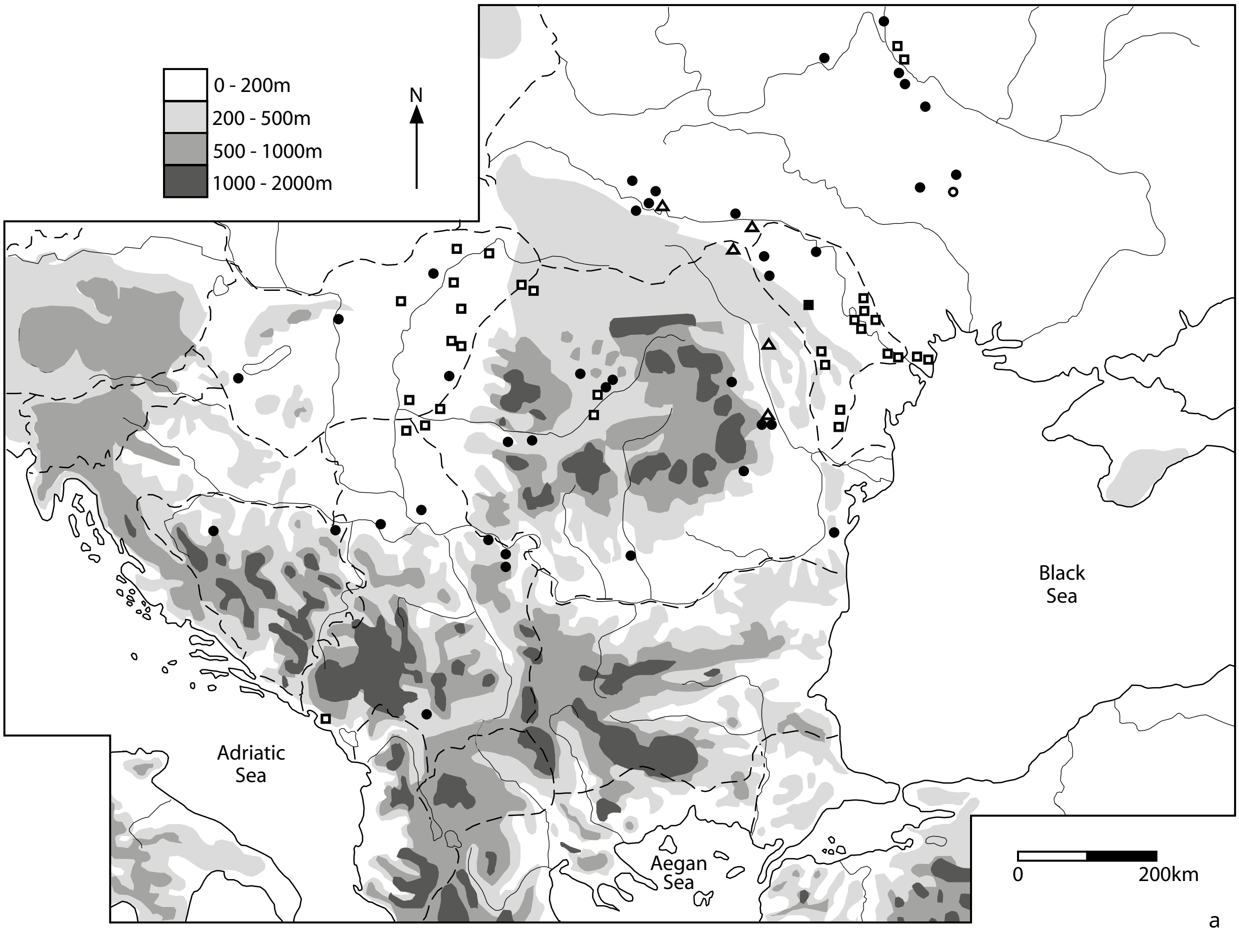

Figure 9.32. (a) Phase 5 distribution of stratified copper and gold finds (source: author) (L. Woodard); (b) Colourful metalwork, Phase 5: various scales (source: Hansen 2013, Fig. 15); (c) Bodrogkeresztúr pottery from the forager site of Dąbki 9 (source: Czekaj-Zastawny et al. 2011, Fig. 6: copyright – Antiquity) (B. Gaydarska)

these very extensive networks which connected Brittany to the Volga Basin and the Baltic to Iran, provoking social change and new political possibilities in the regions which they crossed and eventually becoming inalienable objects. While relatively few objects moved over 1,500 km, the few that did embodied a significance well beyond that of objects kept 'in the extended family'.

The strategy of widespread ceramic networks to keep most of their resources, except metal and pigments, 'within the extended family' continued in Phase 5, with an even stronger contrast of nucleation and dispersion in settlement structure. In general, however, the Trypillia network was more inward-looking than those in the Balkans. Whether this inwardness was a cause of the failure to develop long-term urban centres in post-Trypillia successor groups is uncertain; after all, the outward-looking Phase 4 Balkan and Carpathian networks hardly survived social change in the 4th millennium BC.

The exchange networks in these six millennia have revealed a greater change from the Early Mesolithic to the Varna cemetery than between Phase 5 and the European Early Bronze Age. Later networks often built on earlier linkages, showing how historical exchange trajectories influenced later networks. An important point was the exponential rise in the quantity and diversity of materials in exchange networks from Phase 1 to Phase 4, a long-term trend that stopped in Phase 5 with the disjunction between settlement nucleation and prestige goods consumption. There was no unilinear evolutionary trend in exchange networks from Neolithic to Chalcolithic to Early Bronze Age. This is not to claim that long-distance exchange networks were no longer in operation in Phase 5. But we should recall that the economic basis for exchange networks was widely affected by settlement fragmentation and dispersion in Phase 5 – a far cry from the 'central places' of Phases 3 and 4 and a social transformation of the utmost importance.

Chapter 10

Change and continuity

“If we want things to stay as they are, things will have to change” (Di Lampedusa 1958).

Introduction

In previous chapters, I examined the diachronic changes in all of the important facets of lifeways in Old Europe. In this chapter, I return to issues already discussed in different ways to address the three periods of the greatest change in Old Europe from 7000-3000 BC – the emergence of farming in Phase 2, the development of copper and gold metallurgy in Phases 3 and 4 and the development of what have been claimed as ‘urban’ sites in the Trypillia group in Phase 5. The emergence of farming constitutes by far the most fundamental change, with diverse implications for people, places and objects. Embedding metallurgical developments in their social context and coeval exchange networks allows a judgment on what difference gold and copper made to already materially complex communities. And while urbanism relates to a global debate, the Trypillia mega-sites demonstrate a regional peak in settlement trajectories which remains a challenge to all specialists.

The emergence of farming: a network model

The origins and dissemination of agro-pastoral lifeways have remained a major focus of debate in prehistory for almost a century. Gordon Childe’s concept was that the ‘Neolithic Revolution’ – a *package* of innovations comprising sedentary village life, domesticated plants and animals, pottery and ground and polished stone tools – identified an early crystallisation in the Near East and subsequent diffusion to Europe (Childe 1925)[151]. For Childe, Europe was always a secondary farming centre, not least because it lacked key foodstuffs in the Package – wheat and barley, sheep and goat, the pulses. While Zvelebil and Lillee (2000) maintained that the domestication (viz., selective breeding) of plants and animals was the *only* common denominator between different Neolithic societies (the narrow view), Hodder (1990) went beyond the Childean agenda in claiming that the key symbolic innovation was the domestication of people, just as J. Thomas (1999) highlighted changes in many social practices that made the ‘Neolithic’ different from what went before (broad views). All authors accept the great regional diversity of Neolithic communities across Europe – what Tringham (2000) has termed a mosaic of different ways of experiencing ‘neolithicization’ (the process of becoming Neolithic). Bánffy (2004: 2019) has provided useful summaries of the regional Mesolithic – Neolithic trajectories for Old Europe.

More recently, John Robb (2013) has defined the crux of the Neolithic ‘problem’ as the question of emergent causality because of the incompatibility of local histories and common continent-wide processes of change. As he puts it: “Top-down explanations … distort human action reductionistically. Bottom-up explanations … do not account for

151 For a deconstruction of the concept of the ‘Neolithic package’, see Hodder 2018.

Figure 10.1. Upper Palaeolithic figurines and shining objects (various scales): (a) Grotte du Prince, Grimaldi (copyright: Musée National de St. Germain-en-Laye); (b) Dolni Věstonice (copyright: Moravian Museum Department Anthropos Institute); (c) Vogelherd cave (copyright: University of Tübingen); (d) Hohle Fels cave (copyright: University of Tübingen); (e) Petřkovice (copyright: Institute of Archaeology of CAS, Brno); (f) Duruthy Cave (copyright: Département des Landes (France) : photography © A. Simonet); re-published in Cook 2013, Figs. 2.9, 2.20, 3.11, 3.16, 3.42 & 8.8).

why the Neolithic transition in Europe was so widespread and generally unidirectional" (Robb 2013, 657). Robb (p. 657) moves the debate further through a serious consideration of "the transformative potential inherent in the relations between humans and material things in explanations of the origins and spread of farming". The move to sedentary life and the proliferation of objects[152] "had a range of unintended consequences which changed the landscape of action" (2013, 657), with "people (becoming) much more interested in procuring and using social valuables obtained from distant places exactly when social horizons were constricting" (2013, 664).

I wish to build upon Robb's important insights to create a network approach linking foragers to early farmers from Anatolia to the Vienna Basin. This approach provides a new answer to the questions of 'how' and 'why' the Neolithic spread into Europe, integrating a practice-based account with the emergent properties of new and old materials with insights from network thinking (see Chapter 9). In this model, key relations between humans, plants, animals and things are explored in a settlement context.

It is worth noting that both bursts of Neolithic and Copper Age innovations show remarkable parallels with the Upper Palaeolithic 'symbolic revolution' (Klein 2008; McBrearty & Brooks 2000). Conneller (2011, 102-3) makes the case that the emergence of new materials in technical practice was vital to the 'symbolic explosion' – a process generating, and generated by, the emergence of new understandings of the world. The new technologies established new frameworks for action and interaction, with two of Conneller's examples particularly germane to the Neolithic of Old Europe – figurines and bright, shining objects with high potential for the creation of memory (Fig. 10.1). The emergence of figurines from 32,500 BC offered radical new possibilities for imagining the world, with lustrous, gleaming qualities as key essences of several Aurignacian materials. Conneller's major insight concerns the emergence of objects' properties through specific technological engagements, through the social and technological relations of procurement, often including new exchange relations, through the production that they generated and through the linkages of the materials with past ontologies (2011, 105). What Conneller emphasizes less is the co-emergence of personal skills which emerged from, as well as creating, the new materials. We have made a case (see above, p. 112) that the development of these new skills created new 'Neolithic' persons, as well as transforming 'Mesolithic' (in)dividuals into new kinds of person. Where the Upper Palaeolithic and the Neolithic transformations differed was in the significance for the latter of a narrow range of domestic plants and animals – species that created new landscape niches in parallel with the cultural niches so important to new Early Holocene settlements (see below, pp. 52-4).

The extraordinary variety of new materials used in farming communities and hardly ever used by late foragers in Old Europe is as striking as the new ways in which old materials were used. What is equally significant is the range of emergent properties typifying these materials and the ways in which these properties are shared across materials. For example, many of the properties of building timber were not emergent – being part of nature, with a common, local source and renewable growth. But timber also possessed emergent properties such as its organic hardness, its transformable shape and size, often into geometric regularity and its high potential for combination with other timbers. Equally, polished stone ornaments shared the emergent properties of enduring hardness, transformable surface texture and lustre, shape and size and re-cyclability. Until persons could conceive of the working of new materials, these materials remained passive parts of the landscape. These new insights changed the world of Old Europe in the 7th and 6th millennia BC, with the co-emergence of not only new materials and new technical actions but also new kinds of person with innovative and transferable skills. But where did the new materials come from and where were they transformed into objects?

The answer to these questions is fundamental to the emergence of the Neolithic. Coward (2013) has demonstrated the integration of local, small-scale intimate networks of up to 400 persons[153] into much larger, loose Early Holocene networks through a variety of weak ties. These networks brought obsidian over 800km from Eastern Anatolia to Southern Levant (Renfrew et al. 1966) and date palm cordage to Çatalhöyük from the Northern Levant or beyond (Düring 2011). These exotics made a political statement to locals about the reach and the connections of those developing new techniques to transform such novel materials. But, beyond this, there is a sense in which these exotics comprised the network itself – that not only did novel materials create new personhood but also the networks themselves which connected the new persons. Any increase in the use of new materials created new networks of exploration and reconnaissance across larger parts of local landscapes

152 Several scholars have recently emphasized the enormous increase in the number of objects in Holocene communities, whether in general (Thomas, J. 2013a; Robb 2013), in the Levant (Howard, F. 2013), Anatolia (Hodder 2012: 2018; Keane 2010) or Greece (Halstead 2011).

153 The network modelling of Wobst (1974) and Howard (2013) suggests that face-to-face communities could cope with rather more persons than the somewhat restrictive threshold of 150 proposed by Dunbar (1992).

and the discovery of new people living in these previously unknown landscapes[154].

One of John Nandris' favourite principles was that 'diffusion operated by proximity' (Nandris 1970: 1972). The proposition that novel materials as well as new domestic plants and animals were central to the spread of farming depends on networks of exploration and reconnaissance stimulated by the desire for exotics, which led to communities in each region extending their networks further North and West into neighbouring areas to find such materials. An unintended consequence of this exploration was the discovery of new forager communities whose range of materials differed from those of the exploring groups. A key idea here is the notion of 'material attractors' – forager objects which attracted farmers and farmer objects which attracted foragers. The proposition that the spread of farming was powered by the creation of new forager – farmer networks stimulated by novel material attractors has much evidence to support it. One major advantage of this proposition is that it overcomes the principal weakness of the demographic expansion hypothesis (Ammerman & Cavalli-Sforza 1984) – viz., the small number of sites dating to the local 'earliest farming' period.

The study of aDNA has the potential to revolutionise the identification of the *dramatis personae* of early European farmers, if aDNA studies can overcome sampling problems. The proportion of those persons whose aDNA has been extracted is vanishingly small, yet Booth (2019) suggests that each genome represents a large number of ancestors, potentially reaching thousands. The number of ancestors passing on their genes to a more recent individual over 40 generations may have been as many as 2,600 individuals, drawn at random from a much larger gene pool. A larger proportion of these individuals will have come from places where the person's more recent ancestors lived; therefore, the deeper ancestry of this individual will reflect the broad population histories of those nearby areas (p.c., T. Booth). It is important to realise that those individuals with identified aDNA are indeed representative of the wider populations.

According to the most comprehensive study of Mesolithic and Early Neolithic European and Near Eastern populations, the arrival of farming in Europe was accompanied by an exogenous genetic input, which is observable in genome-wide, Y-chromosome and mitochondrial DNA (Mathieson et al. 2018). The Mesolithic genetic background – whether Eastern or Western Hunter-Gatherer (EHG or WHG) was largely replaced by an estimated 98% of North-West Anatolian ancestry, with a few exceptions: the Ukrainian Mesolithic and Forest Neolithic, with major hunter-gatherer ancestry; the Iron Gates Gorge and the Maluk Preslavet cemetery, where a mixture of hunter-gatherer and North-Western Anatolian ancestry was observed; and occasional Körös individuals with aquatic diets and/or almost total hunter-gatherer ancestry (Gamba et al. 2014; Lipson et al. 2017; Gamarra et al. 2018). The closeness of genetic make-up in LBK individuals and those of the Szakálhát group may be explained by derivation from common ancestors in the Carpathian Basin – for example in the Körös group (Széchényi-Nagy et al. 2014). The hitherto unexpected resurgence of hunter-gatherer ancestry in the Hungarian Late Neolithic and Copper Age shows how foragers continued to inter-breed with farmers with Anatolian genetic roots from Phase 2 onwards up to the Baden group in Phase 5, with a gradual increase in local hunter-gatherer ancestry through time (Lipson et al. 2017).

We can conclude that these results strongly support a migrationist model, involving the movement of Anatolian farmers into Old Europe followed by mating with local foragers (Ammerman & Cavalli-Sforza 1984; Renfrew 1987; van Andel & Runnels 1995; Zvelebil 2001). At the same time, these results falsify the indigenist model, in which acculturation of local foragers is explained by the movement of ideas, things, plants or animals but not people (Dennell 1983; Barker 2006; Richards, Michael 2003). This narrows the possible scenarios drastically to the integrationist approach, in which farming lifeways in Europe emerged from networks connecting incoming Anatolian farmers and local foragers (Zvelebil 2001; Chapman 1994a; Zilhão 1997). The gift exchanges mediating these social interactions also defined and created the networks themselves, helping to establish the trust-based relations necessary for improved communication. Such networks required a series of places for sustained interaction – initially liminal places for seasonal occupations that would be hard to find but, later, dwelling sites for the incoming groups which were characterized by a high density of material discard. Such sites could be considered as sharing characteristics of Betweenness sites (see above, pp. 321-2). These early Betweenness sites were "socially charged places where innovative cultural constructs were created and transformed" (Lightfoot & Martinez 1995, 472). In particular, the exchange of colourful, shining objects as much as the transmission of techniques to work traditional materials would have promoted friendly relations between foragers and farmers.

Betweenness sites also played a vital role in the group-building process through what Jan Assmann (1992) termed 'the concretion of identity' – the building of a shared vision of the past – viz., the group's cultural memory. H. Whitehouse & Hodder (2010) have commented on the high emotional charge of infrequent ritual performances, which produced vivid, enduring memories and bound people into cohesive groups. Such infrequent rituals on

154 An obvious parallel is the exploration of the New World, in which new people were encountered at every stage of the Colonial expansion.

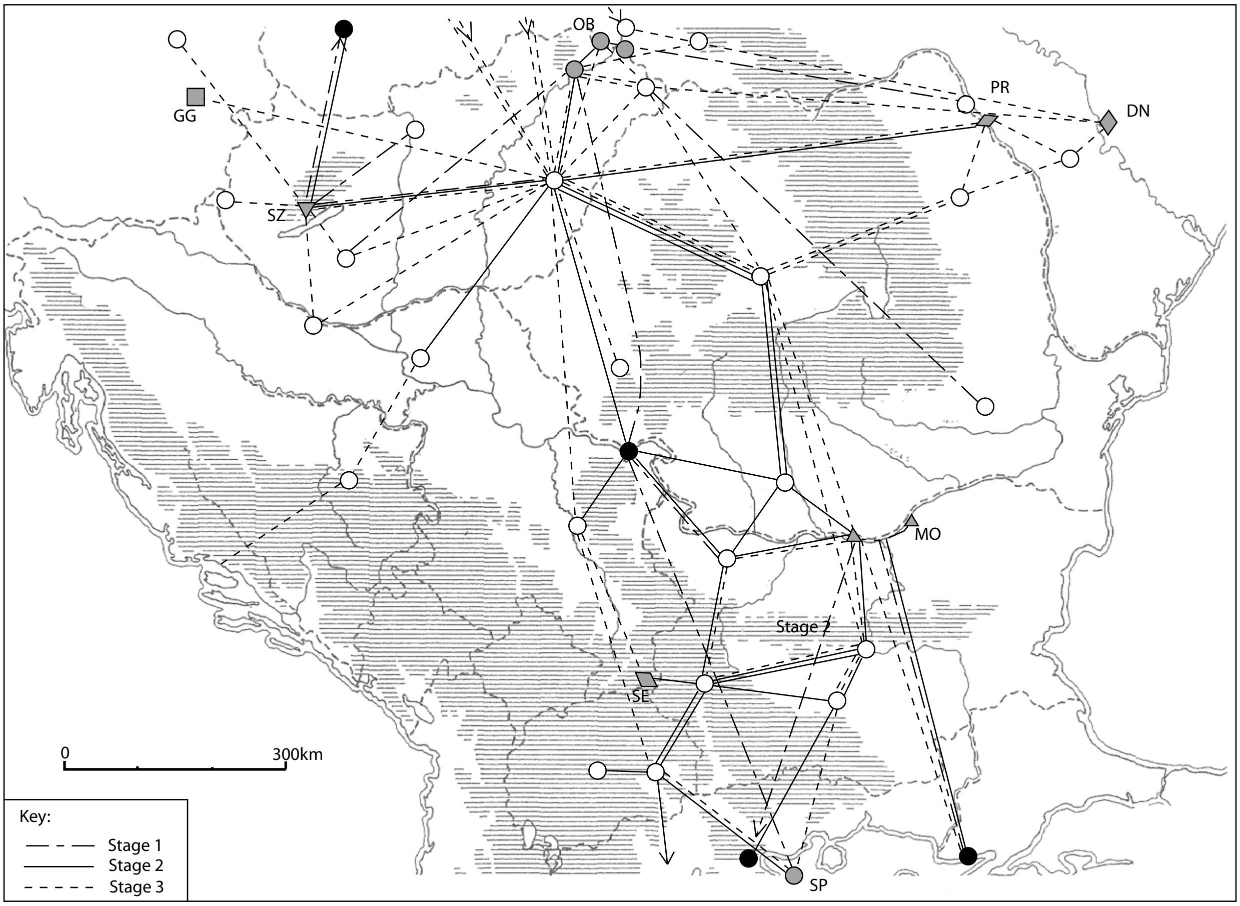

Figure 10.2. Three stages of forager – farmer exchange networks, Phase 2: (Stage 1) – 6500-6300 BC; (Stage 2) – 6300-6000 BC; (Stage 3) – 6000-5700 BC (source: author) (L. Woodard).

the early sites may have included house-burning events, burials and pit-deposition. All of these events created an expanded time-depth, stimulating increased temporal representation. The resulting dwelling sites became very different places from neighbouring forager settlements, with a deeper sense of time and ancestry and a wider range of artifacts which, in Meskell's (2004) phrase, 'realised their worlds'. Such founder places became the key nodes in the creation of denser subsequent settlement networks. It was these later networks, maybe a few generations after the establishment of the 'betweenness' sites, which have been more widely explored.

Application of the model

This general model of the emergence of forager -farmer networks in the Middle Holocene now requires a different kind of regional detail from the general accounts supplied by Bánffy (2004: 2019) or Chapman (2014a). We can distinguish three successive stages of forager – farmer network development in the millennium after 6500 BC (Fig. 10.2). Here, the database for the lithics network includes exchange data from over 30 sites for an Aegean *Spondylus* source and the 12 principal lithic raw materials and stone axe sources, with an information bias towards the Carpathian Basin. Lithics networks will be compared with the appearance of domesticated plants and animals and *habitus*-based non-ceramic material culture.

The first network

In the first forager – farmer network (6500-6300 BC, or 13 generations: Fig. 10.2a), founder Neolithic communities were established in Western Anatolia, Greece and as far North as the Danube valley. The two principal exotic lithics were Melian obsidian, brought by specialist trader – fishermen from the Cyclades to Western Anatolia (Özbek 2010; Perlès et al. 2011; Erdoğu 2014; Kozłowski 2016) and as far North as Thessaly (Perlès 2001), and the high-quality Balkan, probably Moesian, spotted flint, exchanged by foragers from North Bulgaria in large quantities to farmers further South as far as Southern Greece and perhaps Western Anatolia. It has been harder to identify materials moving North into Balkan communities but *Spondylus* and

Raw material	Territorial grouping with location of lithic source: distance from source to site	Found at
Zemplén obsidian	Foragers: 200-500 km	5 sites
'Carpathian' radiolarite	Foragers: 340 km	1 site
Kraków Jurassic flint	Foragers: 420-560 km	3 sites
Moravian greenschist	Foragers: 320-460 km	5 sites
Prut flint	Foragers: > 700 km	2 sites
Volhynian / Dniester flint	Foragers: 640 km	4 sites
Central Banat flint	Foragers: 200 km	1 site
Banat hornstone	Farmers: 380 km	1 site
Slavonski Brod radiolarite	Farmers: 310-320 km	2 sites
Szentgál radiolarite	Foragers: 200-270 km	4 sites
Other Transdanubian radiolarite	Foragers: 175 km	2 sites
Nephrite (source: North Macedonia)	Farmers: 350 km	1 site
Serpentinite (source: North Macedonia)	Farmers: 350 km	1 site
Chocolate flint	Foragers: 500 km	1 site

Table 10.1. Lithic raw material exchange between foragers, First Temperate Neolithic and Earliest Linearbandkeramik sites, Hungary (source: author, based upon data in Biró 2007 with additions).

other shells are known from the Iron Gates gorge (Cristiani & Borić 2017). In the same time-frame, graphite, Szentgál radiolarite, Carpathian obsidian and Dniester flint were exchanged within forager networks in the Danube valley and the North Balkans.

The second network

In the 2nd stage of the network (6300-6000 BC, or 20 generations: Fig. 10.2b), a sustained suite of similar forager – farmer networks continued to operate across the same area, with the earliest farming sites in the Carpathian Basin found at the end of this stage. Apart from Mezdra flint, found as a major component of assemblages in South Bulgaria and Greece (Gurova & Bonsall 2014), small quantities of materials were moved around these forager – farmer networks. The Moesian network would have led to closer ties between farmers and the foragers near the flint sources, probably with the acceptance of Neolithic lifeways in North Bulgaria c. 6100 BC.

The third network

In the 3rd stage of the network (6000-5700 BC, or 20 generations: Fig. 10.2c), the intensified expansion of farming North of the Danube – Sava valleys as far North-West as Austria and North-East to Moldova comprised the entire FTN distribution, connecting all the regions through a loose farmer- farmer network (Table 10.1). Traditional Stage 2 networks were still used for Moesian flint, much polished and ground stone materials and *Spondylus* from the Aegean. However, the upland zones were still settled by foragers, with forager – farmer networks centred on Szentgál radiolarite and Alpine grey-green rocks continuing well into the 6th millennium BC. It was not until Phase 3 that the foragers on the fringes of the FTN settlement zone adopted mixed farming.

Material attractors

These Phase 2 networks were the arteries of both forager and farmer ways of life – long-distance linkages defined by cultural information and material culture. What this study allows us to do is to characterize both forager and farmer 'attractors' – the kind of materials which would have been attractive to the neighbouring 'Others'. While South Transdanubian farmers would have been attracted by the high-quality Szentgál radolarite, shining, painted fine wares and polished stone objects would have been attractive to many foraging communities. But could these cultural and material networks have constituted the reason for the spread of farming lifeways? And was a form of peer polity pressure acting on potential network participants?

Recalling Conneller's approach to the importance of new materials with particular essences rather than only forms at the onset of the Upper Palaeolithic Symbolic Revolution (see above, p. 59), it becomes clear that four new exotic materials were central to Stage 1 networks linked through the Iron Gates Late Mesolithic node – black, shiny Carpathian obsidian, shiny, yellow spotted Mezdra flint, powdered black graphite pigment and shiny white marine shells. The attractive essence of all four materials comprised colour and brilliance – the characteristics evoking symbolic links with cultural origins (e.g., *Spondylus* shells) and the ancestors, while providing the basis for cultural memory.

The only reciprocal exchange forager – farmer link in Stage 1 was the movement of a few *Spondylus* shells to the Northern foragers and large quantities of Mezdra flint to the Southern farmers. At this stage, the main attractor in the spread of Neolithic lifeways was Mezdra flint. This flint type remained important in the spread of farming in stage 2 into the Macedno-Bulgarian zone. This spread relied on a late 7th millennium BC Mezdra flint – *Spondylus* network, with strong forager – farmer linkage between South and North Bulgaria. Early farming sites such as Anza, Kovachevo, Rakitovo and Yabulkovo formed Betweenness nodes for the expanded forager – farmer network in Mezdra flint and the farmer – farmer *Spondylus* network. The cultural network linkage between these early South Balkan farming sites was as strong a suite of links as any in the entire FTN. The strengthening of the Danube valley part of the Mezdra flint network in stage 2 brought expanded quantities of flint into central sites such as Lepenski Vir, with re-distribution further West from the Iron Gates and perhaps North to the Alföld Plain; the spread of *Spondylus* ornaments North of the Danube may well have shared the Mezdra flint network. Thus one of the principal stage 2 attractor for foragers in the Westward and then Northward spread of Neolithic lifeways into Transylvania and the Alföld was still Mezdra flint, although would-be farmers in the Danube and Sava valleys would also have been attracted to Carpathian obsidian, as well as painted pottery and polished stone tools and ornaments produced in the South. The qualities of Mezdra flint could have stimulated emulation among peers in its use over wide areas.

There was an overlap zone in the Alföld Plain between Mezdra flint and Carpathian obsidian networks, particularly in stage 3 in the early 6th millennium BC. One of the nodes for such networks was the settlement of Endrőd 39, with its hoard of 101 yellow spotted blades, but a wider exchange of yellow spotted flint was found North of the Danube – Sava line (Kaczanowska & Kozłowski 2008). Further North, the main attractor for early farmers was Carpathian obsidian, while the principal attractors for North Carpathian foragers would have been the farmers' polished stone axes and ornaments and the fine painted wares which were not so common North of the Danube. The farming attractors exerted far less effect on the foragers than the converse, with a delay in the spread of farming lifeways into the North Carpathian uplands until Phase 3. However, both forager and farmer attractors can be identified on the North-East and North-West margins of the stage 3 farming distribution. In the North-East (Moldavia, Moldova), farming attractors included obsidian and Mezdra flint, as well as polished stone axes and rare painted pottery, while forager attractors included Prut and Dniester flint. The twin results were the mutual expansion of farming lifeways and lithic exchange networks. In the North-West, the forager attractors of East Alpine fine stone materials for tools and ornaments were met by first the forager, then the farmer attractor of the high-quality Szentgál radiolarite. The high proportions of this radiolarite found at distance in Pityerdomb and even at Brünn II, near Vienna, reveal the continued attractiveness of this material to local foragers, while farmer attractors took many centuries to have an effect on foraging communities.

These patterns of the acceptance or rejection of 'attractors' – whether forager or farmer in origin – were complex and led to contrasting results in different areas. The combination of the network approach with local attractors offers two linked advantages to the question of the spread of Neolithic lifeways – local agencies and overall linkages. The 'domestication' of novel materials by foraging or farming communities meant a future commitment to obtaining further supplies of this material attractor, (viz., the strengthening of local networks) to mutually acceptable benefit through the exercise of local decision-making processes (viz., agency). The cumulative effects of the exercise of local agency revealed larger-scale patterns; the network linkage map for lithic exchange provided the social context for the consolidation of the FTN through the spread of multiple cultural innovations and shared memories.

Other early farmer networks

The farmer – farmer networks linking all of the regional foci of the Early Neolithic may have been loose but it was, above all, meaningful in terms of objects used in daily practice (Nandris 1972). An assessment of the links between Early Neolithic communities in Thessaly and Eastern Hungary (Chapman 2003) showed a wide range of *habitus*-forming linkages. Here, the extension of this analysis to all Phase 2 regional groups is based upon the distribution of 26 object types at 16 well-published and other unpublished sites. The principal assumption is that the site sample is representative of Phase 2 daily practices in their specific regions. The resultant network linkage diagram (Fig. 10.3) shows the extent and depth of inter-regional connections in the FTN period. Each line represents the presence of an object at the two sites joined by the line, even if the two sites are far apart (e.g., the ornament line linking Anza and Obre I, which denotes the absence of such ornaments in the Serbian Starčevo). It is noteworthy that very few of these *habitus*-forming objects have been found in forager contexts (except the pintadera at Arconciel, in the Jura: see above, p. 328).

There is an obvious contrast between networks carrying one single object type between remote sites (e.g., the ornament link between Lepenski Vir and the Körös sites) and dense networks transmitting multiple object types between regions in close contact with one another – most obviously North and South Bulgaria. Such gross contrasts have the advantage of showing up strong, if possibly unsuspected, inter-regional links and weak inter-regional links once presumed strong. For the former, there are strong links between Serbian and Bosnian Starčevo sites, Bosnian and Croatian Starčevo sites, Croatian Starčevo and East Hungarian Körös sites and between North Bulgarian and Moldavian sites. The latter is exemplified by the weak links between North-West Bulgarian and the South Serbian Starčevo sites and the North Macedonian and South Serbian Starčevo sites. Expected strongly-linked networks include the connections between Thessaly and North Macedonian, South-West Bulgarian and Thracian sites and between the Criş sites in Transylvania and Moldavia. The centrality of the Central Balkans suggests that it should

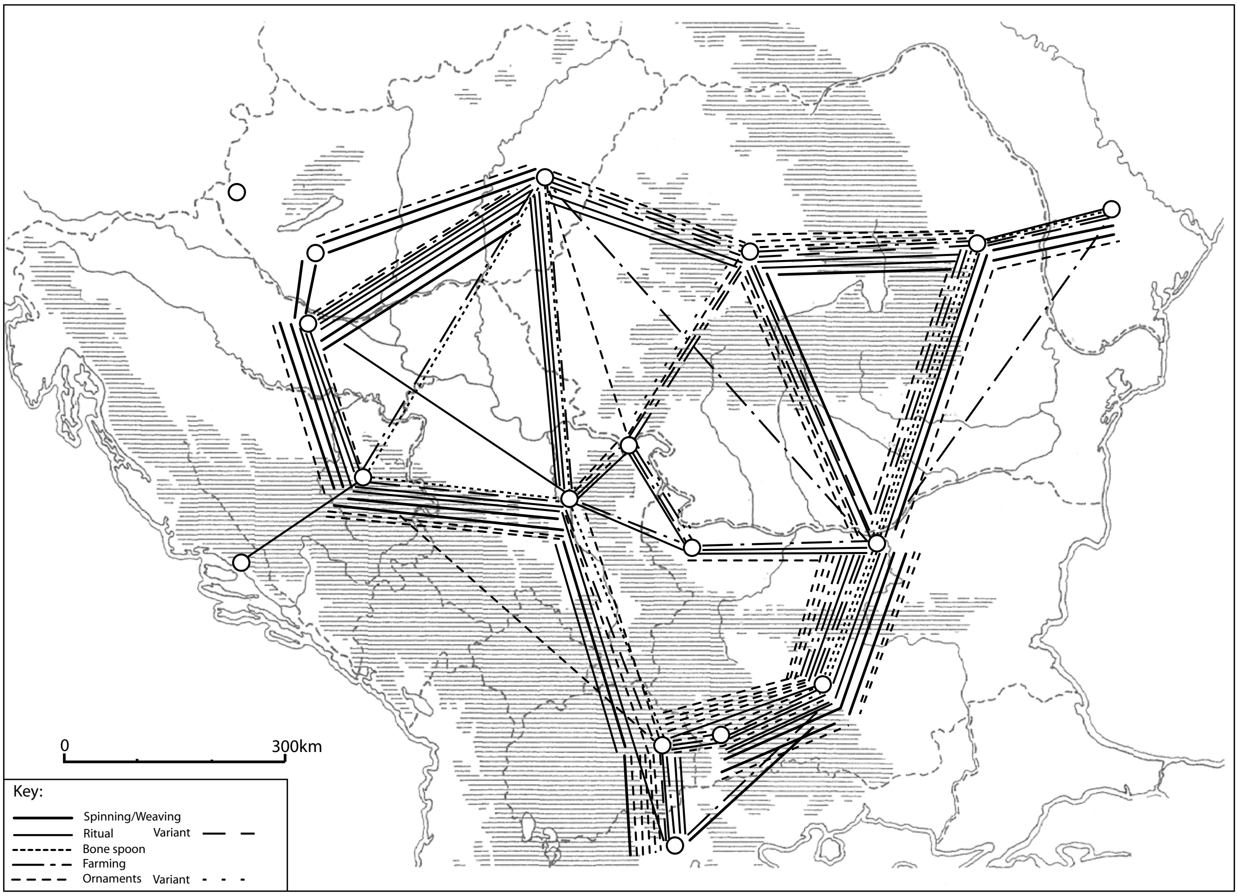

Figure 10.3. Network linkage map, Phase 2 objects (source: author) (L. Woodard).

play a more important role in the overall network[155]. There is a hint of core – periphery patterning in the network, with the two most marginal sites (Pityerdomb and Sakarovka) linked to their neighbouring regions mostly through objects of clothing and ornaments concerned with the presentation of the self.

The network linkage map reinforces Nandris' (1970) insight that early farmers shared an inter-regional identity materialized by object types often specific to that group alone. In comparison with the earlier findings (Chapman 2003), polished stone and bone personal ornament were more widely distributed. However, not all object types were found in each region; there is a complex pattern of presence and absence, with common types (loom-weights and spindle-whorls, miniature and large polished stone axes, fired clay lamps), rare types (pintaderas, slotted antler sickles, fired clay spoons) and patchy distributions (bone spoons, rod-head figurines, personal ornaments). If sampling bias can be excluded, these findings suggest that the spread of Neolithic lifeways was less an overall package as a dynamic network process in which all practices were available to many communities but communities drew on only certain practices. It is important to underline the similarity of Southward Mezdra lithic networks and the Northward *habitus*-forming networks.

A third network linkage map targets the spread of domesticated plants and animals. Preferences for the main domestic animals were divided zonally across the Balkans, from West to East (see above, pp. 94-7). Taking these husbandry preferences as signs of network links, the resultant map (Fig. 10.4) shows a predominance of caprine husbandry in the Adriatic zone and the Western Balkans – as derived from Greece and North Macedonia – but also in the East Central Balkans. However, cattle husbandry was preferred in the Central Balkans and Transylvania as well as in the East Balkans, with mixed husbandry patterns in Moldavia and Moldova. These faunal networks showed a poor correlation with the lithics networks (Fig. 10.2) but a better fit to the cultural networks (Fig. 10.3). However, there were two major mismatches between faunal and cultural networks, between North Macedonia and the Central Balkans

155 However, the weakness at the centre of the network may be the result of sampling bias: there are as yet no major small finds reports from large infrastructural projects for the Serbian Starčevo group.

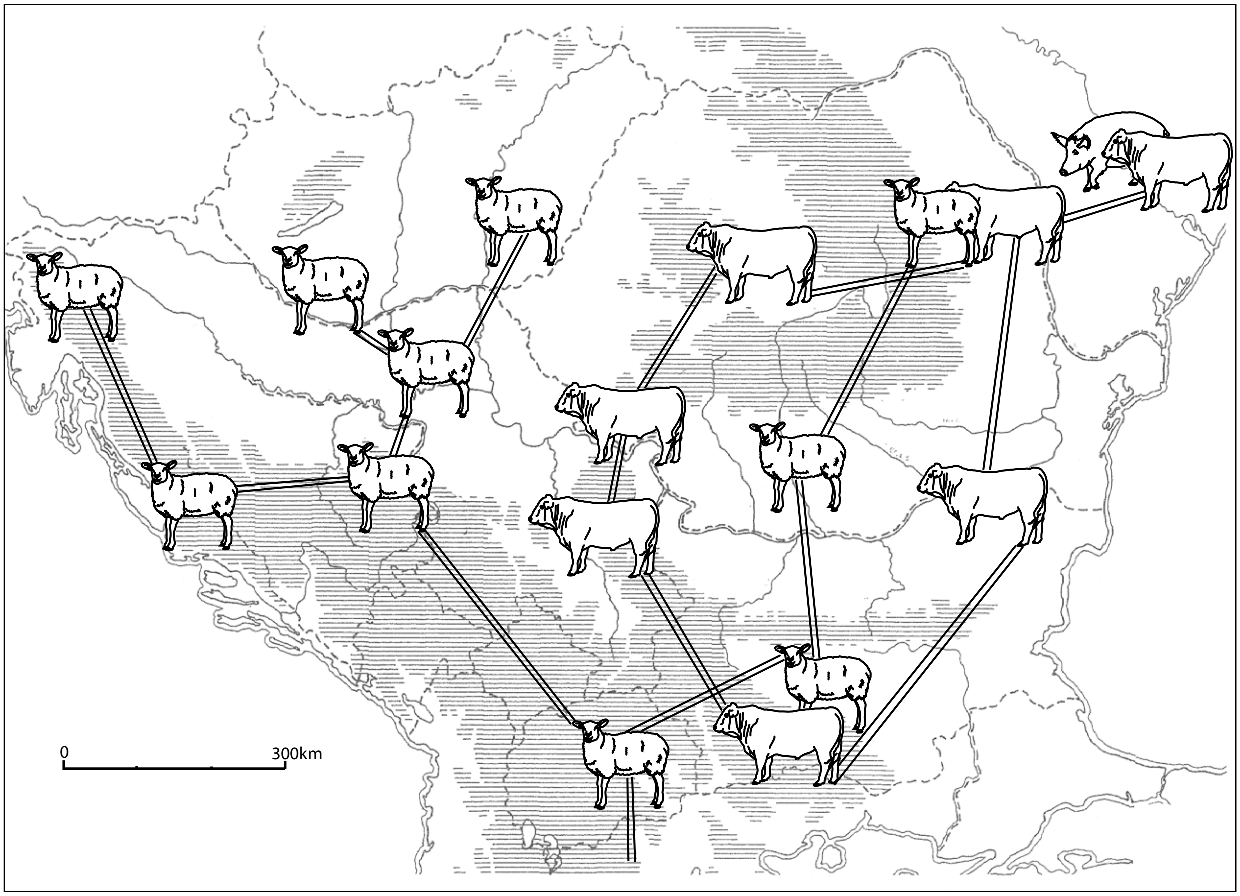

Figure 10.4. Network linkage map, Phase 2 domestic animals (source: author) (L. Woodard).

and between the Central Balkans and the Bosnian uplands, with twin contrasts between caprine and cattle husbandry. The potential of domestic animals as larders on the hoof (Halstead & O'Shea 1981) made them important attractors for foragers in expanding forager – farmer networks.

Since a botanical network linkage map is sensitive to excavation recovery techniques, there is a limited number of nodes included (Fig. 10.5). Even with this limitation[156], however, there is a close match between the botanical network and the cultural network (Fig. 10.3), with moderately close similarities with the faunal map (Fig. 10.4) but weak overlaps with the lithic raw materials networks (Fig. 10.2). The close match between the botanical and cultural networks shows the importance of agriculture at the heart of early farmers' social practices, both in terms of cuisine (see Chapter 3) and exchangeable surplus for lean times (Halstead & O'Shea 1981). However, it is debatable whether the rather bland taste of cereals, pulses and unleavened bread would have proved strong attractors for foraging groups.

156 The only links not found on both network maps are caused by missing nodes on the botanical map (e.g., the gaps in the Central and West Balkans).

Summary of the emergence of farming

A network approach to the emergence of farming in the Balkans has shown how it is possible to account for major changes in social practices across a large area through the analysis of forager – farmer lithics exchange networks and farmer – farmer cultural, faunal and botanical networks. An account of the spread of Neolithic lifeways based upon major 'fixed' boundaries between Greece and Macedno-Bulgaria, Hungary and the North Carpathians or in the middle of the Alföld Plain (the CEB AEB or 'Central European – Balcanic agroecological barrier': Sümegi & Kertész 2001; Kertész & Sümegi 2001; Kozłowski 2009; Kozłowski & Raczky 2010), is too static to account for these dynamic forager – farmer interactions. Instead, the basic process of exploration of first the Familiar, then the Other, then the Foreign and then the Remote zones around any early settlement would have been necessary to provide information about neighbours, potential dwelling places, surrounding soils and other resources. New places would have been dwelt in, with some abandoned and others re-settled. The likelihood of long-term successful relations with neighbouring forager communities would have been assessed through the calculus of friendly and hostile

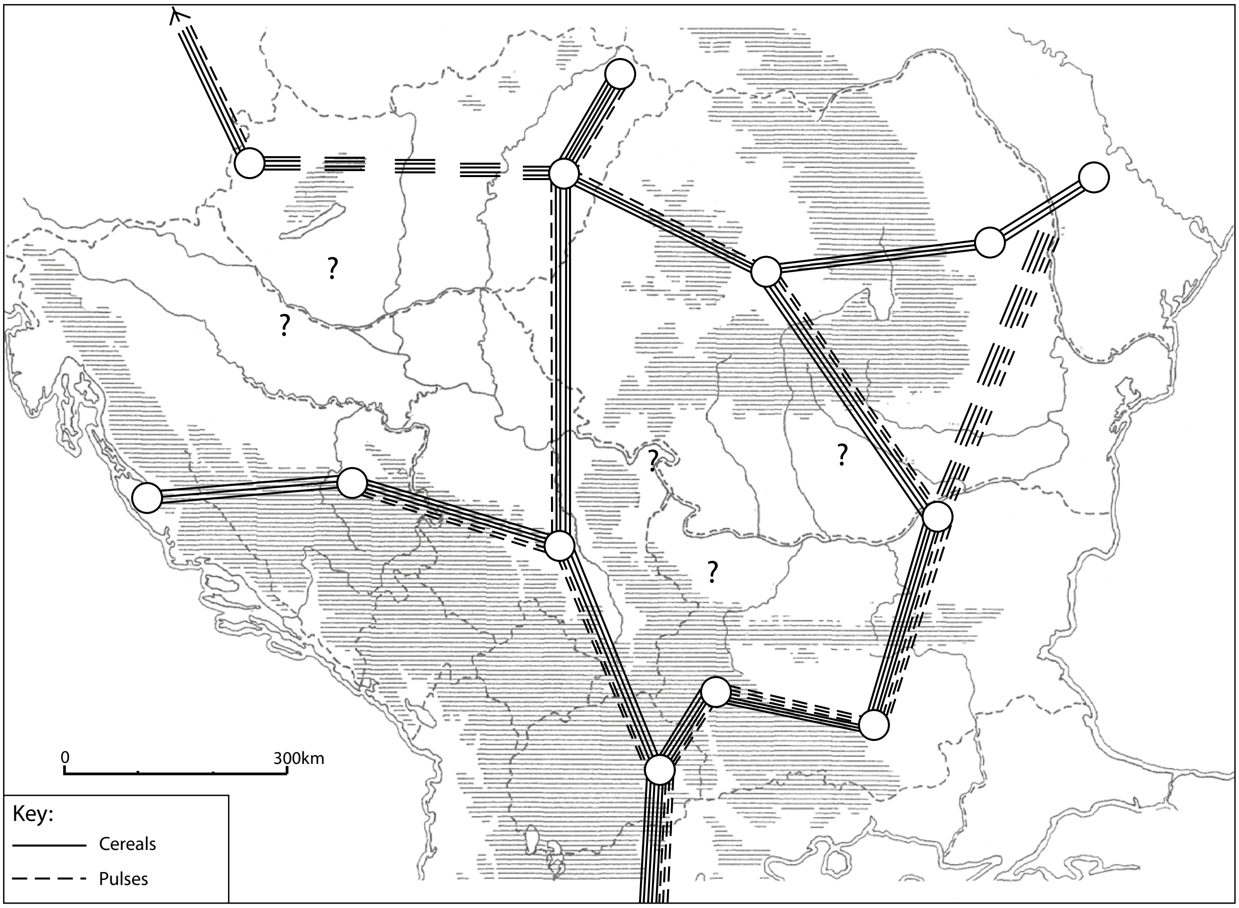

Figure 10.5. Network linkage map, Phase 2 domestic plants (source: author) (L. Woodard).

interactions, with good contacts cemented through gift exchange and perhaps marriage partners. The stronger the forager – farmer network became, the more the foragers were exposed to the benefits, and hard work, of farming lifeways, with some forager groups settling down and beginning to farm. The wider range of places where it was possible to dwell, the greatly expanded range of objects which they could use and the construction of more comfortable houses symbolising their new social practices – all of these were benefits from mixed farming.

There were three principal forager-controlled lithic sources which attracted early farmers – Mezdra flint in North Bulgaria, Carpathian obsidian and Szentgál radiolarite. Moesian flint moved in mostly forager – forager networks for 500km before reaching the closest early farming site in Northern Greece. Later, as farming lifeways spread into South Bulgaria, the network began to include more farming nodes but it took a further 300 or 400 years for farming groups to emerge near Mezdra flint sources. It is surely significant that the southward Mezdra flint network was identical with the best-documented Northward cultural, faunal and botanical networks linking South to North Bulgaria. The southward Carpathian forager – forager obsidian network in the Late Mesolithic period had already moved obsidian to South-West Hungary, the Iron Gates, Eastern Wallachia and the Prut valley but with little effect on the earliest farmers. It was not until betweenness sites emerged in the Alföld in the late 7th millennium BC that the attractiveness of obsidian became more valued in the Danube – Sava valleys, with the decision to settle and farm deferred for another 700 or 800 years in the areas with the obsidian sources. The forager networks moving Szentgál radiolarite were more strongly linked to the North, with foragers not choosing to use Starčevo pottery for 500 years. The decisive rejection of certain kinds of farming material culture blocked the expansion of the forager – farmer network to the North and West of Lake Balaton for an equally long time.

These three attractive raw materials constituted three variations on the basic theme of forager – farmer networks, with different persons accepting or rejecting the potential for change. The Moesian flint network was central to the spread of farming in the East Balkans, while decisions concerning obsidian and radiolarite held back the faster spread of farming to the North and West. But the foragers' material attractors were not the only show in town – farmers' bright, colourful material attractors such as painted wares, shell ornaments and polished stone axes and ornaments were also important in the spread of Neolithic lifeways even when forager lithics were not sufficiently attractive to farmers. The decline in painted wares North of the Danube – Sava line may well have contributed to the slowing pace of Neolithic spread – with incised and impressed wares in the Alföld and Transylvania far less dazzlingly attractive to foragers in these areas.

If it was the lithics networks that stimulated initial personal, visual and symbolic impacts, it was the development of inter-linked cultural, faunal and botanical networks that helped to consolidate farming lifeways across the Balkans. However, the notion of a 'Neolithic package' no longer does justice to the variable adoption of innovations (cf. Zeder 2009). Instead, we can conceptualise strings of homesteads, hamlets and villages with variable connections to the main networks of the day. Longer-lived tell settlements may have had an advantage over homesteads or any flat site in terms of traditional, trusted links to ancestral, kin-based networks. But, all over the network, people were learning new personal skills to become new persons through dividual links with new materials, new houses and new exchange partners. In such dynamic networks, any advantage accruing to tell communities may well have been short-term. Equally, new homesteads founded after social stress in traditional settlements may have failed for the lack of short-term network connections. The spread of Neolithic lifeways was neither even nor inevitable but was contingent upon the development of enchained linkages, personal skill-sets and communication between different kinds of people. The variety of regional results after a millennium of such networks emphasizes the range of responses to a core set of social practices – what we call 'the Neolithic'.

This network model of the spread of farming compares cultural networks – especially lithics -with domestic plant and animal networks to demonstrate the principal inter-regional links from c. 6500 BC to 5700 BC. The key material attractors for both foragers and farmers brought new networks into life through the agency of exotic objects, animals and plants. It was the North-Western expansion of some people but, predominantly forager- farmer and later farmer – farmer exchange networks that led to the adoption of the Neolithic in Old Europe.

The onset of copper and gold metallurgy

The appearance of metal has often been associated with technological advances interpreted as a mark of social complexity (cf. Roberts, B. & Radivojević 2015 with Pernicka & Anthony 2010). However, there was often a long delay between the first use of copper and its marked effect on social life (Thornton & Roberts 2009), attested by at least one millennium[157] of cold- and hot-hammering before the smelting and melting of copper in Anatolia and Old Europe. Thus, in this early Stage (Stage 1), the rare metal objects can be included with other bright, shining objects of flint, stone or shell whose 'material attraction' was so generative of forager – farmer networks. The key metallurgical breakthrough, dated to Phase 3, was the smelting of black-and-green copper ores to produce melted relatively pure copper as well as the smelting of polymetallic ores to produce the earliest tin bronzes (Koukouli-Chryssanthaki et al. 2007; Radivojević 2015; Radivojević & Rehren 2016). These discoveries suggest that the development of smelting soon after 5000 BC was widespread across the Central and South Balkans, initiating a second stage of copper-working focused on larger, heavier tools often cast in one- or two-piece moulds (Kienlin 2010). It was this Stage-2 metallurgy that defined the start of the Late Chalcolithic in the East Balkans (Chernykh 1992).

There has been a great variety of views on the relations between copper metallurgy and social change. The divergencies are represented by, on the one hand, Müller et al.'s (2013) view of a hierarchical settlement pattern and social differentiation at the Phase 3 Late Neolithic tell of Okolište which did not depend upon the development of copper metallurgy and, on the other, by Hansen's (2013) assertion, based upon the Phase 4 Pietrele tell, that copper was vital to the success of Chalcolithic exchange networks, since the essential properties of copper – its repairability and its convertibility – defined a new form of value leading to the accumulation of copper objects. One way to reconcile these views is by noting the different date of the two tells – Phase 3 Okolište and Phase 4 Pietrele – with a massive expansion in the use of copper in the latter. But the other way to resolve this clash of views is by querying the interpretation of hierarchical social order at Okolište, whose population was probably far smaller than Müller suggests and whose position at the upper level of a simple two-level settlement hierarchy did not necessarily mean a social hierarchy. But was copper metallurgy necessarily linked to social hierarchy in Phase 4?

The more modest approach of Tobias Kienlin (2010: 2014) begins with the denial of a causal link between metallurgical developments and social change, since copper metallurgy in South-East and Central Europe in the three millennia after 5000 BC had been adopted by groups with widely differing cultural and organizational complexity (2010). Kienlin's (2010) alternative to a centrally-controlled copper production and distribution is mining as a communal activity, with kinship production in some but not all settlements, with kinship links promoting the dissemination of specialized (? sacred) knowledge across

157 This period of gestation may have been as long as three millennia in Anatolia (Yener 2000).

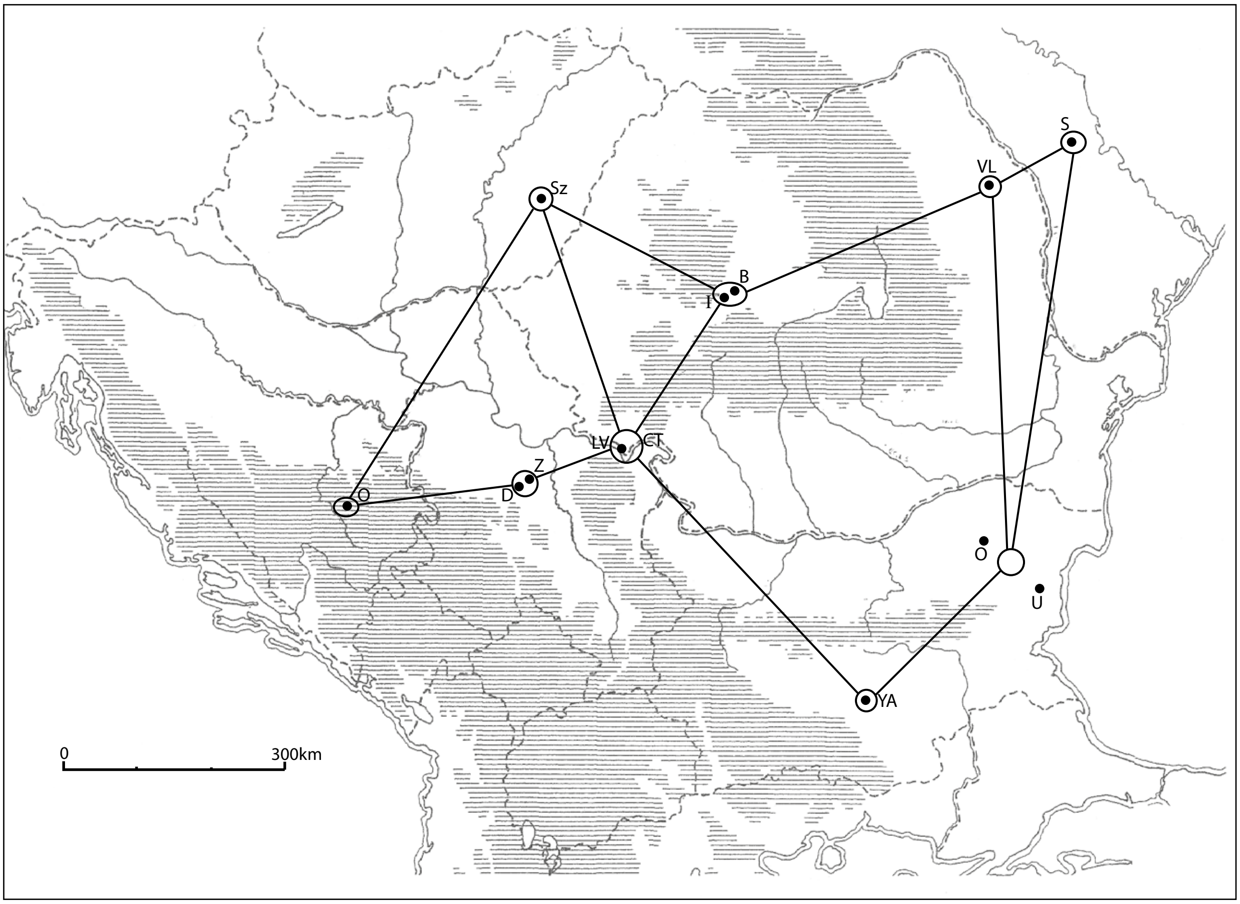

Figure 10.6. Network linkage map, Phase 2 copper objects (source: author) (L. Woodard).

widespread exchange networks. Kienlin does, however, accept that some of the heavy shaft-hole copper axes possessed, in D. Bailey's (2000, 218) phrase, an 'extravagant inutility', having an expressive function of telling different stories of life through the performances of unused big copper axes, while the biographies of other heavy shaft-hole axes included clear signs of use as working tools.

As a way of understanding the relationship between Stage-2 metallurgy and social change, I shall focus on the exchange networks of these copper and gold objects, as well as the agency of these new ornaments and heavy tools in the traditional context of settlement dwelling but also in the relatively novel contexts of mortuary deposition and deposition in the landscape. I begin with early copper networks.

The most impressive evidence of metallurgical production by sedentary foragers derives from Cayönü, Eastern Anatolia (Muhly 1998; Yener 2000, 20-22). More copper objects were found at Cayönü alone than at all the known late Phase 2 (5700-5300 BC) examples from Old Europe together (Fig. 10.6). A comparison of the Phase 2 object-and-subsistence network (Fig. 10.3) with the copper network shows several major differences, notably the paucity of copper finds from the South Balkans. However, further North, the majority of links in the copper network connecting Bosnia, Central Serbia, the Iron Gates and the Rudna Glava copper mine mapped onto multiple, strong links in the object-plus-food network. These network overlaps not only support the idea of an independent development of Stage-1 copper-working in Old Europe but explain why copper finds at sites such as Szarvas 23, Valea Lupului and Selishte I could have been deposited 200km or more from known copper sources.

In Phase 3 (5300-4700/4500 BC)[158], the number of sites with copper finds grew in line with the increased number of copper finds. This development is clearly related to the appearance of the earliest known copper mines in the world and the emergence of mortuary-zone demand for copper grave goods (see above, Chapter 7), despite settlement deposition of most copper finds. The early Phase 3 copper network (5300-5000 BC) showed a similar

158 The later date of 4500 BC is included in Phase 3 because of the dating of the Hungarian Late Neolithic to late Phase 3 *and* early Phase 4.

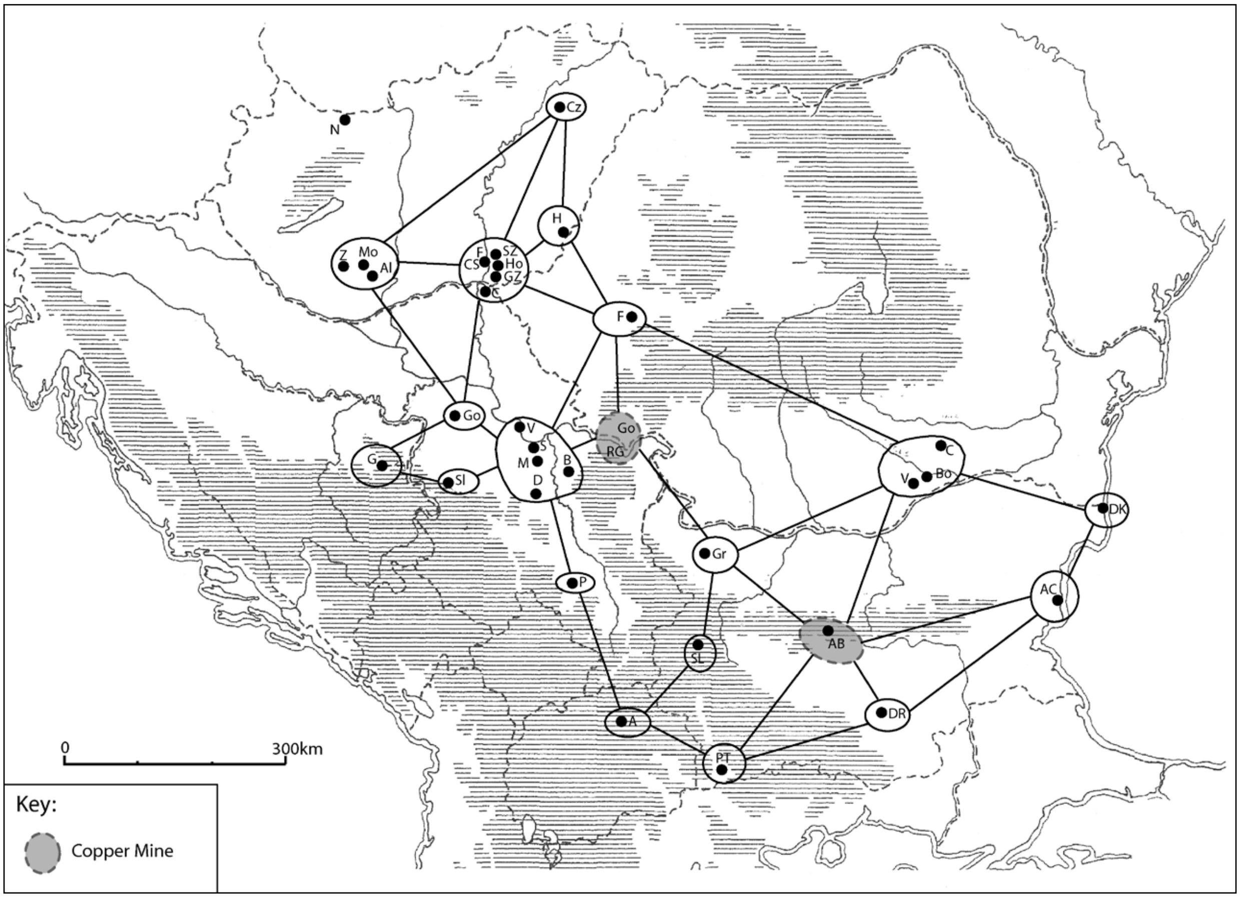

Figure 10.7. Network linkage map, Phase 3 copper objects (source: author) (L. Woodard).

number of linkages and nodes as in late Phase 2 but no evidence for network nodes North or South of the Lower Danube Basin (Fig. 10.7). This picture changed dramatically in the late stage (5000-4700/4500 BC) (Fig. 10.8), with both network growth and densification, four times the number of nodes found earlier and the appearance of an East Balkan network based upon Ai Bunar copper extending to the Pontic zone. However, the corresponding network related to the rich Transylvanian copper sources was defined by landscape deposition more than settlement deposition of copper objects. The predominant network is South – North, including several production sites and incorporating the Rudna Glava mine and early use of the Majdanpek sources.

In the next 700 years of Phase 4, hundreds of heavy copper axes, weighing over 2,000 kg in total, were produced in the East Balkans and the Alföld Plain, typically using copper from the Ai Bunar mine, the Majdanpek area and many other minor sources. The majority of these axes[159] were deposited in the landscape, as much as single items as in hoards. In addition to the focussed deposition of goldwork, the novel use of lead on tells such as Pietrele has recently been documented (Hansen et al. 2019). The dominant North – South axis was largely replaced by a new West – East network connecting Central Serbian and the Majdanpek sources, as well as Ai Bunar, to the Black Sea coastal sites. The network map of Phase 4 materials (Fig. 10.8) includes only those copper objects deposited in settlements or cemeteries which have been sourced, as well as lithic, ground stone and *Spondylus* shell data. Even though this network map is not directly comparable to that for late Phase 3, a plot of sites with copper objects would highlight the same nodes in the dominant East Balkan routes (e.g., Radivojević & Grujić 2018, Figs 6-7). What is missing from the Phase 4 network are the Moldavian and Moldovan site clusters with copper claimed to derive from Balkan sources (Ryndina 1998; Monah 2003), since most objects were deposited in their own dispersed network in the landscape (Dergachev 2002a).

The fundamental change in Phase 4 concerned the transformation of the traditional Old European basis for enchained relations through fragmented objects

159 E.g., in Romania, two-thirds of the heavy shaft-hole copper axes were deposited in the landscape (Vulpe 1975, 8).

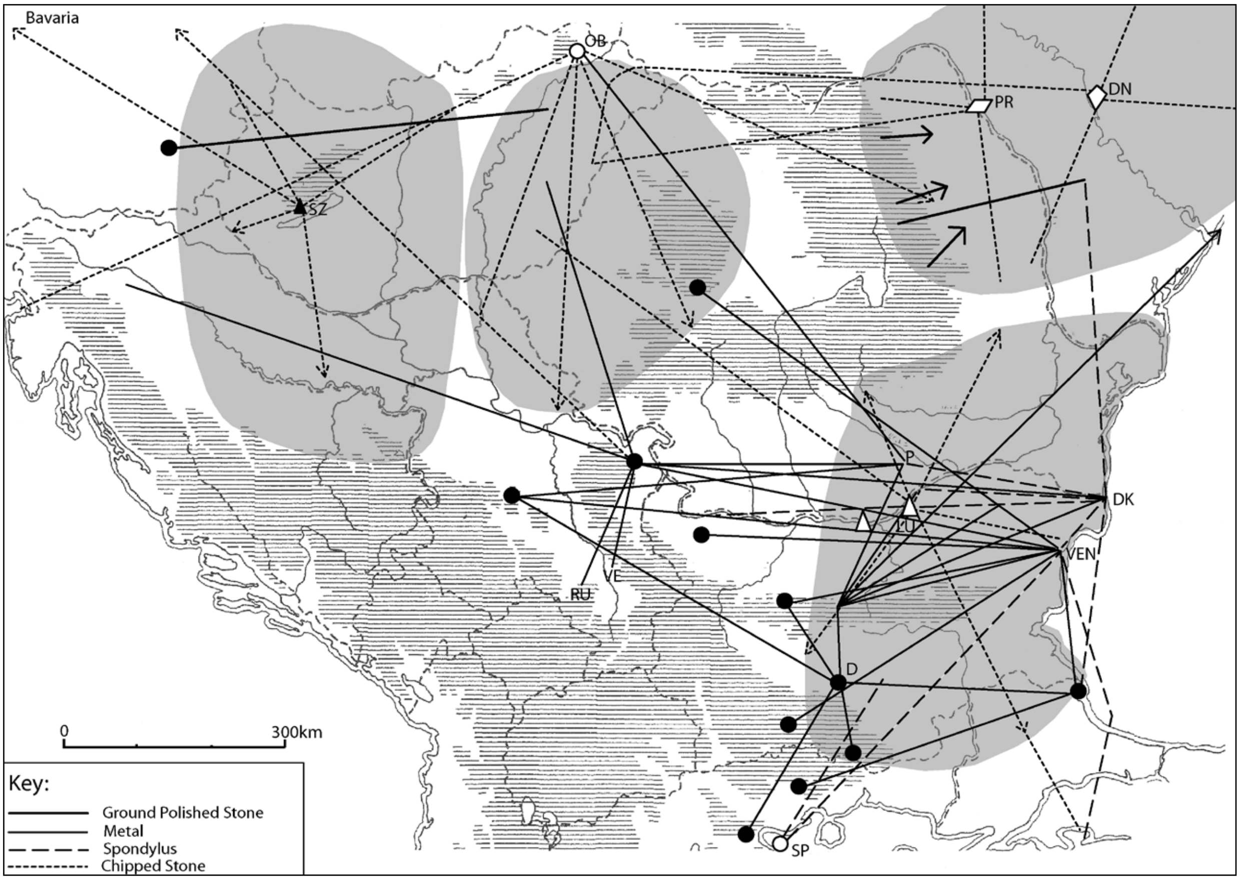

Figure 10.8. Network linkage map, Phase 4 objects (source: author) (L. Woodard).

(Chapman 2000a) through the emergent properties of the smelting, melting, alloying, re-melting and re-cycling of molten metal (Taylor 1999). These properties not only offered ways of creating larger, heavier objects such as massive shaft-hole axes but also created the potential for the formation of new objects from old, perhaps combining two or more different metal sources. It was one thing to include offerings made of copper from three different sources in a Varna grave (Pernicka et al. 1997) or to place beads of different materials, each with a different source, on the same necklace (Ivanov 1988, Abb. 30). It was quite another to allow the fusion of different metals, people (a series of makers and users) and places (a multiplicity of sources and places of use) in a single object. It must be recognised that some – perhaps most – large copper objects may have been manufactured using copper from one source in one place. However, re-cycled copper offered a new form of shorthand for complex biographies. If this opportunity was realised, then it was not only the impressive physicality of large copper objects that made them so important but also their compressed biographical information that demonstrated wider political links to their social hinterland.

Archaeo-metallurgical science cannot always give us a clear answer as to the re-cycling of tools, let alone a derivation from the number of different metal sources (Roberts, B. & Thornton 2014). However, the visual aspects of metal alloys can give some clues as to the component metals (Hansen 2013; here Fig. 9.32b), as noted for the colour of different gold objects at Varna (Leusch et al. 2015; here, Fig. 7.17). But the lack of visual clues made it far harder to elucidate the sources of copper in a re-cycled object. If the re-cycling of metals became common, it would have created a form of privileged, perhaps magical, communication unnecessary for the exchange of Razgrad flint or decorated fine wares whose origins were visually transparent. I suggest that the fusion of biographical knowledge and special technical skills opened up the possibility for impressive copper-alloy objects to become inalienable objects *sensu* Godelier (1999), in a way that could not have happened with small, Stage-1 copper objects, single-source large copper axes or most chipped stone objects.

Godelier (1999) has highlighted the role of 'inalienable objects', maintained in the most intimate, yet most significant cultural contexts without the possibility of outward exchange. The best way of recognising 'inalienable objects' in prehistoric contexts is their deposition in settlement contexts, especially in houses (e.g., the Galabnik necklace: see above, p. 121) or 'special' places (the house on the Hotnitsa tell with its wooden box full of gold finery: Angelov 1959). This trajectory underscores the fluidity of object meanings, since most objects deposited as inalienable in settlement contexts were once exchanged as exotics, subject to local, 'cultural domestication' at only a late stage of their biographies (e.g., the Omurtag pumice-stone: see above, pp. 313-4).

There was a long history (Phases 2-3) of the deposition of most small copper objects in settlement contexts and very rarely in the landscape, without these undemonstrative objects necessarily becoming inalienable. In Phase 3, the first, very rare cases appeared of special grave goods placed in a different context of *mortuary* inalienability, not so much 'removed' from living contexts as associated with a specific, ancestral person still active in cultural memory. This occurred on settlements (e.g., the Tărtăria tablets placed with the cremation in a special pit: see above, pp. 99-102) and also in early extra-mural cemeteries (e.g., the Durankulak *Dentalium* shroud in Grave 609: Avramova. 2002, Abb. 236). The distance between these inalienable objects and other objects may have been maintained by not 'domesticating' them as happened with other exotic objects. The rare landscape deposition did not appear to have been focussed on inalienable objects.

Phase 4 communities chose new and varied priorities for the deposition of copper, extending places of deposition from the settlement, to the mortuary domain and to the landscape. One driver for social change was the co-emergence of extra-mural cemeteries and the extension of inalienability from the domestic domain into the new mortuary domain through a final, memorialised exchange with the ancestors; yet another concerned the expansion of landscape deposition. In terms of the sheer bulk of Phase 4 finds (and the same is even more true of Phase 5), increasing emphasis was placed on landscape deposition. The contrasts between the contexts and contents of landscape deposits, grave goods and settlement finds created the potential for telling nuanced narratives in many areas: there were far more copper finds placed in the landscape than on the tell than in the cemetery, with rare exceptions such as the Durankulak cemetery (Todorova 1997; Chapman et al. 2006). The majority of landscape deposits was performed by heavy shaft-hole copper axes (e.g., Dergachev 2002a). At the Goljamo Delchevo complex, copper tools were placed only in the graves, with more copper ornaments in the houses than in the graves (Todorova 1975; Chapman 1983: 1996). Such contextual variations suggest rivalries between differing corporate groups (? lineages), some more focused on the ancestral tell space, others using the emerging mortuary domain to advance its members' claims (Chapman 1996) and still others colonising the landscape in new ways. The continuing Phase 4 practice of including inalienable objects in intra-mural hoard deposition is demonstrated by the four Pločnik hoards, placed in the upper level of the tell and comprising the greatest weight of copper in hoards in the Central Balkans (Radivojević et al. 2010), as well as the Karbuna hoard, placed in a Trypillia BI vessel in a house (Dergachev 1998) and containing as varied an accumulation of objects as in the richest Varna grave[160].

In Phase 4, landscape deposition took the form mostly of single finds but also comprised hoards. The increased frequency of landscape deposition marked a move away from the nucleated deposition of many quotidian finds in Phase 3 pit sites and settlements to the more dispersed performance of gift-giving to the landscape in Phase 4, with generally fewer but more special copper and stone objects. This widespread colonisation of the landscape with special finds, some of which were inalienable (Chapman 2000a, 112-121), created new, dispersed networks of deposition in the landscape based upon the marking of a place through the gift of a valuable copper object or hoard – a transformative performance linking persons, object(s) and place and creating new place-value in specific locales. These new places conveyed very different messages[161] from the places of an intra-mural hoard or the digging of a 'rich' grave at the Tibava cemetery – messages in tune with an emerging fluidity of social relations across the landscape. One message may have been the 'ostentatious demonstration of the pre-eminence of particular people', especially if the creation of obligations owed by the gods to the living impacted on personal status (Edmonds 1995, 133)[162].

Much archaeo-metallurgical analysis is necessary to understand the many copper objects and hoards found as landscape deposits – in particular, whether single massive shaft-hole axes were indeed made from re-cycled metal from one or more sources and could therefore have been treated as inalienable (Pernicka 1999; Pollard, A. M. et al. 2018; Radivojević et al. 2019). We are not yet in a position to relate landscape deposition to the re-cycling of copper into new objects. But there is a sense that the emergent properties of

160 Many of the Cucuteni – Trypillia hoards were placed in settlements (Monah 2003).

161 For an example of a rich and varied narrative linking Ireland, Central Europe and Southern Scandinavia in the 3rd millennium BC, see Vandkilde's account of the Pile hoard (Vandkilde 2017, esp. pp. 165-168).

162 While Edmonds' insight arose from a discussion of British Neolithic stone axe deposits, it seems just as applicable to copper axe deposition in Old Europe.

re-cycled metal had a strong effect on the creation of personhood. I have argued (see above, pp. 108-110) that persons characterised by the Tiszapolgár form of personhood could not have emerged without the active presence of copper or gold objects and the biography of at least some of these objects contained a re-cycling / re-forming phase. Thus, the presence of inalienable objects, as in the Rákóczifalva cemetery (see above, p. 269), may well have marked the graves of the keepers of those objects, while landscape hoards such as Stollhof or Hencida may have marked the places in the landscape favoured by those keepers. In each case, the tenure of the keepers of inalienable objects was extended into ancestral time.

Varna played a triple role in the Late Copper Age of the East Balkans – as a centre of innovatory metallurgy for both gold and copper, as a Gateway community connecting many different zones over 3,000 km and as a Depositional centre, honouring the dead with already-famous local and exotic objects (see above, pp. 262-7). It is perhaps not surprising, then, that the greatest concentration of inalienable objects in any extra-mural cemetery in Old Europe was found there. Marked by complex goldworking techniques, unique objects such as the great gold lozenge and the massive gold-painted dish, as well as large bone figurines and *Spondylus* bracelets repaired with gold fixings, these special finds were even more spectacular than the vast range of smaller gold ornaments found in a wider range of graves. Mostly placed in cenotaph graves with or without clay heads, as well as with the arthritic senior male in Grave 43, these finds marked the essence of Varna-ness, with a social power cemented in and by its ancestral context. Given the wide range of copper sources represented at Varna, the heavy copper shaft-hole axes and weapons locally produced (Dimitrov 2007) in a narrow range of distinctive, 'Varna' forms were a second group of objects which could have been made of re-cycled copper, enhancing their inalienability.

The emergence of new kinds of persons dependent on the agency of copper and gold objects led to a richer, more diverse social panorama, with a wider range of persons of different kinds and cross-cutting forms of categorization enabling the creation of networks linking these persons. If this is what is meant by social complexity in the prehistory of Old Europe, then social complexity increased dramatically at Varna. In the post-Varna period, the key role of gold objects in hoards and grave goods, whether unique forms or large sets of similar items, was filled for the most part by copper objects. This substitution increased the agency of copper objects at the expense of the agency of gold. The 'golden warrior' of Tiszaszőllős (Makkay 1989) was perhaps the last example of his kind in the Copper Age of Old Europe.

The emergence of urbanism in the Ukrainian forest-steppe

The exuberant mortuary domain of the Varna, Durankulak and Rákóczifalva cemeteries presents one extreme in the diverse cultural worlds of Old Europe. At the other extreme – apparently with an almost monastic self-denial of the pleasures of metal objects – stands the Cucuteni – Trypillia group, what Dan and Felicia Monah (1997) have called 'the last great Chalcolithic civilization of Europe', which maintained the Trypillia emphasis on settlements, comfortable houses, some of the finest painted pottery in the Old Europe and a cast of many thousands of anthropomorphic and zoomorphic figurines into the 3rd millennium BC. Yet the ultra-conservative Trypillia group created what has been a largely overlooked phenomenon – the development of the largest sites in 4th millennium BC Europe and possibly the world – the Trypillia mega-sites (see above, pp. 305-6). The largest site class – the mega-sites – ranged from 100ha to Taljanki at 320ha, forming the most highly nucleated settlements in Old Europe.

The current prevailing view of the mega-sites – the 'maximalist' view – has been the dominant model for over 40 years: the mega-sites were extra-large settlement examples of the Childean 'Neolithic package' of permanent settlement, domesticated plants and animals and artifact assemblages containing polished stone tools and pottery. Trypillia mega-sites have therefore been viewed as permanent, long-term settlements comprising many thousands of people[163]. Opinions have varied on the status of these extraordinary sites – as large villages, central places, proto-urban sites or fully urban settlements – in effect, the first Eurasian cities (Videiko 2012; Müller et al. 2016).

However, a tipping-point for the 'maximalist' view has emerged from multi-disciplinary investigations at the mega-site of Nebelivka, South-Central Ukraine, with ten lines of independent evidence combining to create serious doubts about a massive, permanent population at Nebelivka (Chapman 2017a). Striking palaeo-environmental evidence from a pollen core 250m away from the edge of the Nebelivka mega-site showed few traces of the expected massive human impact from the mega-site, whether in deforestation, burning episodes or erosion (Albert et al. 2020). One response has been the replacement of the standard model with three alternative models – two forms of less permanent, more seasonal settlement (Nebbia et al. 2018; Chapman & Gaydarska 2019a) and a smaller permanent settlement involving coeval dwelling of far fewer people (Gaydarska 2020: in press).

One of the major issues about not only mega-sites but Trypillia settlements in general is the 'paradox' of

163 The highest, and wildly optimistic, population estimate for Majdanetske of 46,000 (Rassmann et al. 2014) has steadily been reduced over the last five years to 12,000 (Müller et al. 2019).

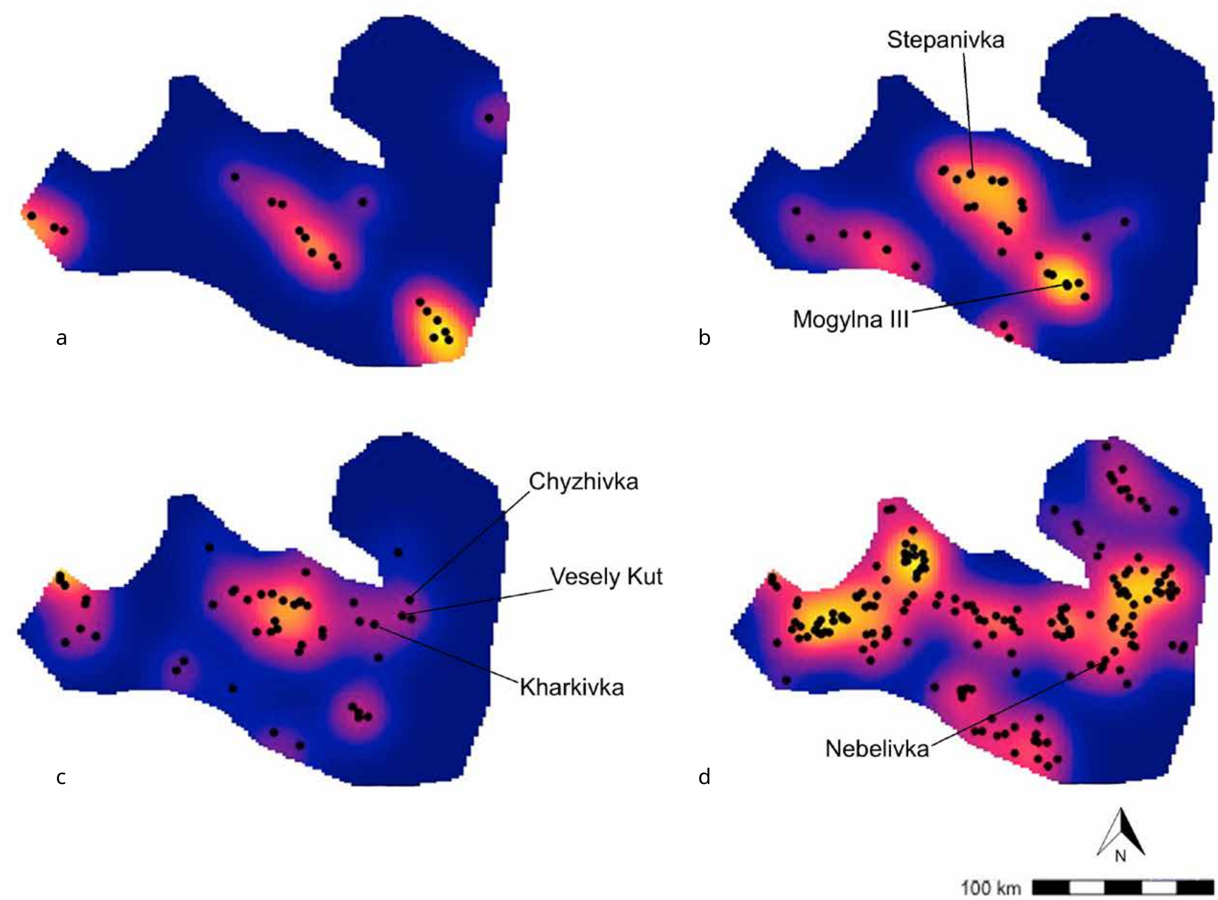

Figure 10.9. Kernel density surfaces, South Central Ukraine: (a) Forest Neolithic; (b) Trypillia Phase A; (c) Trypillia Phase BI; (d)Trypillia Phase BII; Key – blue to yellow – low to high densities; actual sites as black dots (source: M. Nebbia, in Chapman et al. 2019, Fig. 5).

Trypillia-Cucuteni exchange – the combination of major logistical achievements in attracting large quantities of materials (flint, axe materials, salt) to megasites with few signs of the materialization of hierarchical leadership, including a marked scarcity of exotic copper. The essence of copper as a re-cyclable material may explain this scarcity (Taylor 1999). While there may be entire classes of site with metal deposition that we are currently missing (e.g., cemeteries and hoards), the picture of a thriving prestige goods network would appear to be hard to sustain (*contra* Müller et al. 2018). Wengrow (2015) aptly suggests that the Trypillia communities were much more inward-looking than the extrovert networks of the first Uruk cities in the Fertile Crescent. However, acceptance of the alternative models for smaller-scale, less permanent megasite settlement removes the Trypillia exchange paradox while including an increased scale of Trypillia settlement with increases in site nucleation after 4300 BC (Chapman et al. 2019), to which I now turn.

The spatial distribution of sites in the Dniester-Dnieper interfluve suggests increasing levels of clustering/nucleation from the Forest Neolithic phase onwards (Chapman et al., 2019) (here, Fig. 10.9). An important development is the inclusion of sites much larger than the usual in two of the clusters. This dwelling strategy led to a growing number of site clusters in the Southern Bug – G. Tikych system, some of them including early (BI and BI-II transition) megasites. The two principal benefits of site clusters were as attractive loci for forager – farmer interactions and buffering opportunities in case of poor harvests, which became increasingly important with the growth of site sizes. Shukurov et al.'s (2015) model of the agro-pastoral potential of Trypillia landscapes showed that local soil and forest resources were capable of supporting settlements up to the size of 35ha. However, the growth of BI and BI-II settlements to beyond 100ha may well have involved the provisioning of the largest sites from smaller settlements in exchange for ritual services and exchange items. The site clusters could thus have opened up a space

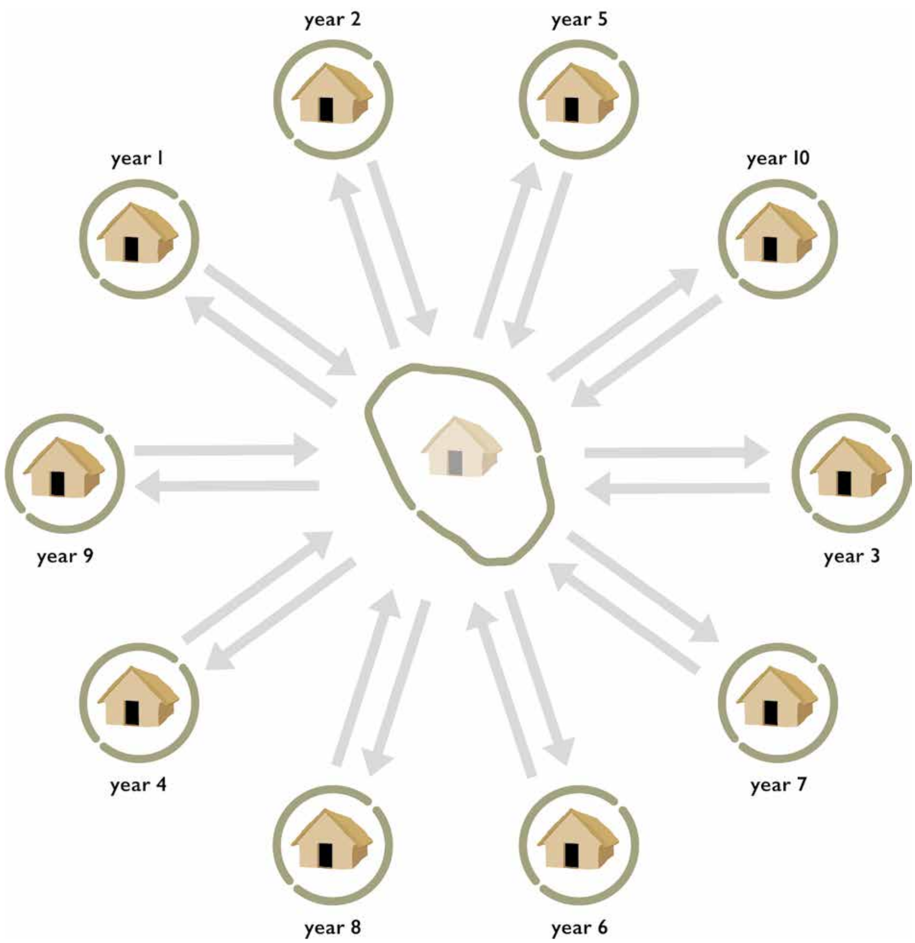

Figure 10.10. Alternative models for the emergence of Trypillia megasites: Distributed Governance model (source: C. Unwin, Nebelivka Project).

for inter-site functional differentiation involving ritual leadership and the transfer of food and drink to such centres, kick-starting a long-term role of assembly places in Trypillia site clusters. But the creation of +100ha megasites would have required the foundation of an assembly place which attracted people from more than one site cluster. Nebbia's modelling of Trypillia site interaction showed an increasing scale of interaction to 100km (Nebbia 2017; Chapman et al., 2019), with assembly places of sufficient reputation attracting participants from different site clusters in Phase BI. In Phase BII, the close proximity of site clusters across the Southern Bug – Dnieper interfluve reflexively created the opportunities for visits between site clusters. But we are still far from an account of the cultural foundation of Trypillia social networks.

There is a long tradition, exemplified in Childe (1957), of praising the advantages of autarky – living in independent, face-to-face communities – a strategy which has limited the scale of settlement nucleation in prehistoric Europe. The existence of the Trypillia megasites is an obvious negation of small-scale communities such as the coeval Cucuteni A settlements. In his influential study of *Imagined Communities*, Anderson (1983, 4) reminds us that all communities larger than a single village are 'imagined communities'. Chapman et al. (2019) suggest that integration of people beyond their normal, face-to-face groups required a vision of how those diverse communities could live together to derive benefits from the new settlement form. For, on the Eurasian landmass of the 5th – 4th millennia BC, the Trypillia megasites were unique in size and scale. A better understanding of the question of *imagination* comes from understanding what social relations were in place before the emergence of the megasites. Three practices – Trypillia lifeways, inter-regional exchange networks and the development of settlement planning – underpinned the emergence of megasites (Gaydarska 2020).

The massive size and great temporal depth of the CT group was founded upon a strong social network connecting communities at both the local and the regional level, with houses, figurines and decorated fine wares as mediators for a network of shared conceptual structuring principles (Kohring 2012, 331). The attraction of these mediators was that they were sufficiently general and significant to attract the support of most members of society but sufficiently ambiguous to allow the kinds of localized alternative interpretations (Chapman and Gaydarska 2018, 267). This corresponds well to the myriad regional and local variations in house-building, pottery and figurine production known from Trypillian archaeology which demonstrated an overall attachment to Trypillia identity. In the context of megasite origins, shared participation in the supra-regional ideologies and their quotidian materialisation created pre-existing bonds between communities in different sites living in different site clusters, often quite remote from each other.

The second part of the ancestral past which Phase BI and II communities relied upon to create megasites consisted of pre-existing exchange networks. Although little metal is known from Phase BII – CI megasites, all Trypillia settlements in the Southern Bug – Dnieper Interfluve would have required lithic raw materials for basic tool-making – whether from local quarries or exotic sources in the Prut – Dniester valleys. Local sources would also have supplied stones for grinders and mortars. While there were widespread local sources for red, white and orange pigments, the black pigment manganese from Phase BII onwards was an exotic for the Interfluve, probably from the Eastern Carpathians (Buzgar et al. 2013). Transylvanian copper would also have been transported across the Eastern Carpathians. Thus, a consolidation of flint, copper and pigment exchange networks from the Eastern Carpathians, across the Prut and Dniester valleys, provided stable supplies of vital resources.

The evolution of planning on Trypillia settlements provided the spatial context for megasite living. The megasites were not only about size, although this was key to their significance – they were also concerned with spatial order and the provision of structure for such huge settlements, based upon the principle of concentricity. Videiko (2012) has claimed that all of the four key megasite planning elements – concentric house circuits, inner radial streets, sectoral growth (e.g., in Quarters) and an inner open space – were already present in earlier sites. However, a careful re-examination of the plans of pre-BII megasites shows that not one single early megasite contained all of the four key planning principles of the developed megasites – rather, they rarely contained more than one element (Chapman et al. 2019, Fig. 7). Rather than inheriting the blueprint of a complete megasite plan, planner-builders of BII megasites such as Nebelivka improvised a complete plan with all four planning elements as they built the site (Chapman et al. 2016). This result emphasises the creativity of the BII megasite planner-builders in forming a fresh, previously unknown megasite plan from elements selected from the ancestral past. The result was the spatial formalisation of an assembly place in terms of the two principal spaces – the outer space for dwelling and the open, inner space for assembly. Another planning development was the appearance of a series of public buildings we have termed 'Assembly Houses'.

The picture emerging from recent Trypillia research shows a dynamic Phase BII, in which changes in settlement planning, exchange networks and lifeways came together at certain very large megasites. Three alternative models have been proposed to replace the 'maximalist' model and account for the functioning of the Nebelivka megasite (Gaydarska 2020). The models were tested against, and met, four basic criteria: the total number of houses; the number of burnt houses; the low level of human impact as shown in the Nebelivka 1B core; and the number of coeval houses modelled by Millard (Chapman et al. 2019, Supplementary Materials 7).

The Distributed Governance Model

This model (Gaydarska, in press) (Fig. 10.10) envisages Nebelivka as a smaller but still permanent settlement with up to 400 contemporary houses, organised through a regional alliance of ten clans which emerged from the existing settlement network. Each clan drew on its wider network to complement megasite subsistence with food, salt, timber and other resources for one year before passing on the leadership role to another clan. The clans built a single house circuit over the first three years, with expansion into a second circuit and the inner radial streets over the following decades. Seven to ten houses were built and burnt every year, keeping the number of contemporary houses around 400, which accounted for the low environmental impact. Decision-making at Nebelivka was taken through a Council consisting of clan representatives, with the leading clan in any year organising major festivals. But political power was distributed, with each clan in control for one year in ten. The greatest strength of this model is that it fits well with the traditional view of permanent long-term occupation, but with greatly reduced population estimates. This model also best conforms to the construction of the solid timber-framed houses typical of all megasites.

The Assembly Model

The second model (Nebbia et al. 2018) (Fig. 10.11) interprets Nebelivka as a regional centre for large-scale assembly over one month *per annum*, with a small group of 'Guardians' living all-year-round as an agro-pastoral community and maintaining the centre outside of assembly times. This Model exploited the shorter period for more concentrated interactions which brought a wide variety of benefits to participants, principally the opportunity to meet a far wider group of visitors than was ever possible elsewhere. The Assembly place developed out of the central settlements in earlier settlement clusters. The site would have developed through the formation of Quarters, with five founded in each of the first and second generations and four more in

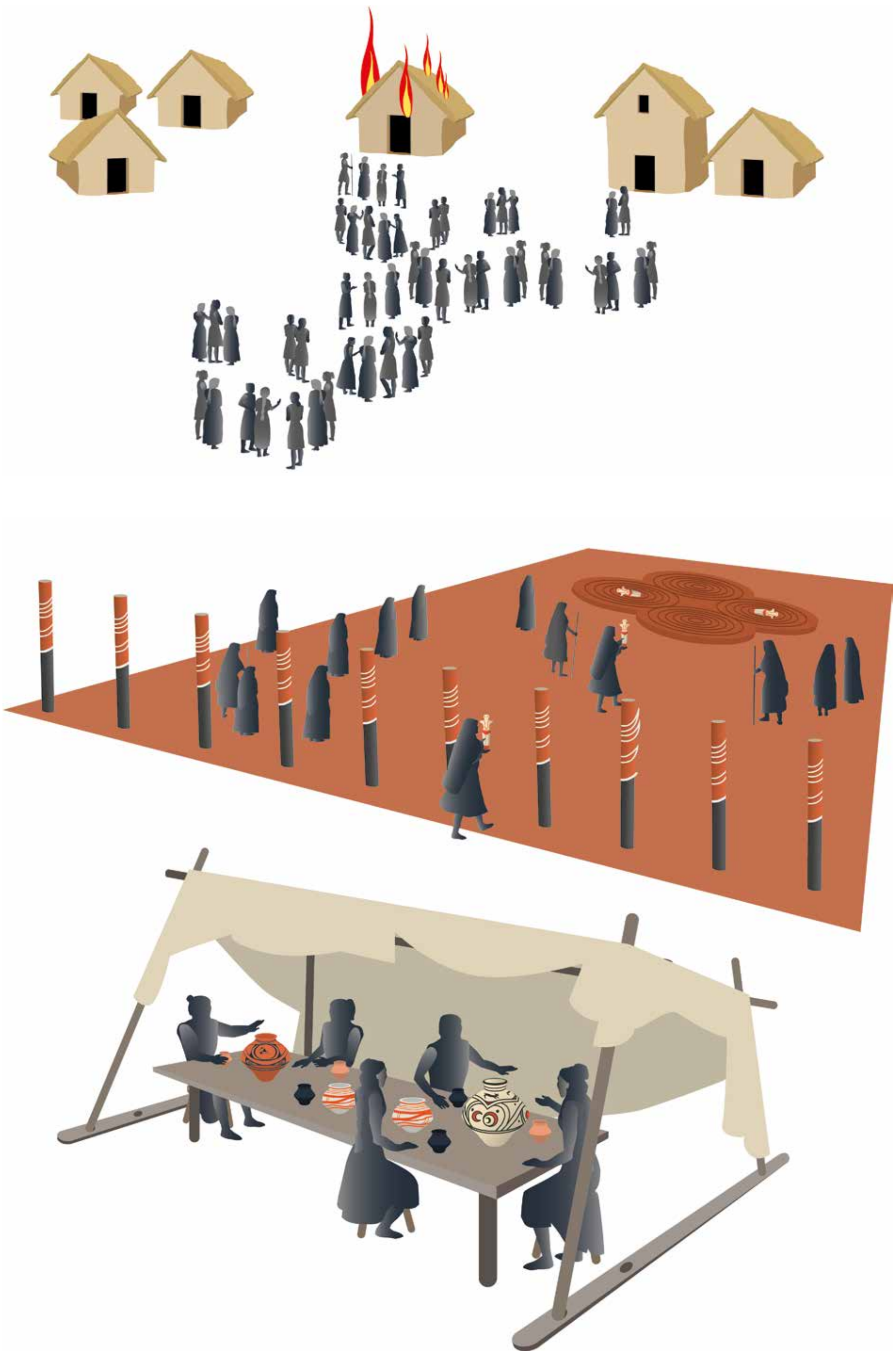

Figure 10.11. Alternative models for the emergence of Trypillia megasites: the Assembly model (source: C. Unwin, Nebelivka Project).

the third generation – a slow development of the overall plan that was perhaps a weakness in this model. These Quarters had the dual purpose of materialising the local identities of the home communities through bottom-up planning while at the same time providing an overall framework for the creation of a 'central' or 'Nebelivka' identity. These two identities were in tension throughout the use of the assembly site, with the 'Nebelivka' identity dominant only at the time of the assembly.

The Pilgrimage Model

The third model (Chapman & Gaydarska 2019a) (Fig. 10.12) is an extended version of the Assembly Model but with a much longer, eight-month, pilgrimage season. This model is based upon extensive pre-existing social and ritual networks linking sites across regions, as materialised in widespread figurines and decorated pottery. Pilgrimage centres were selected for a range of different reasons by ritual leaders who became 'site guardians', who prepared the ground and

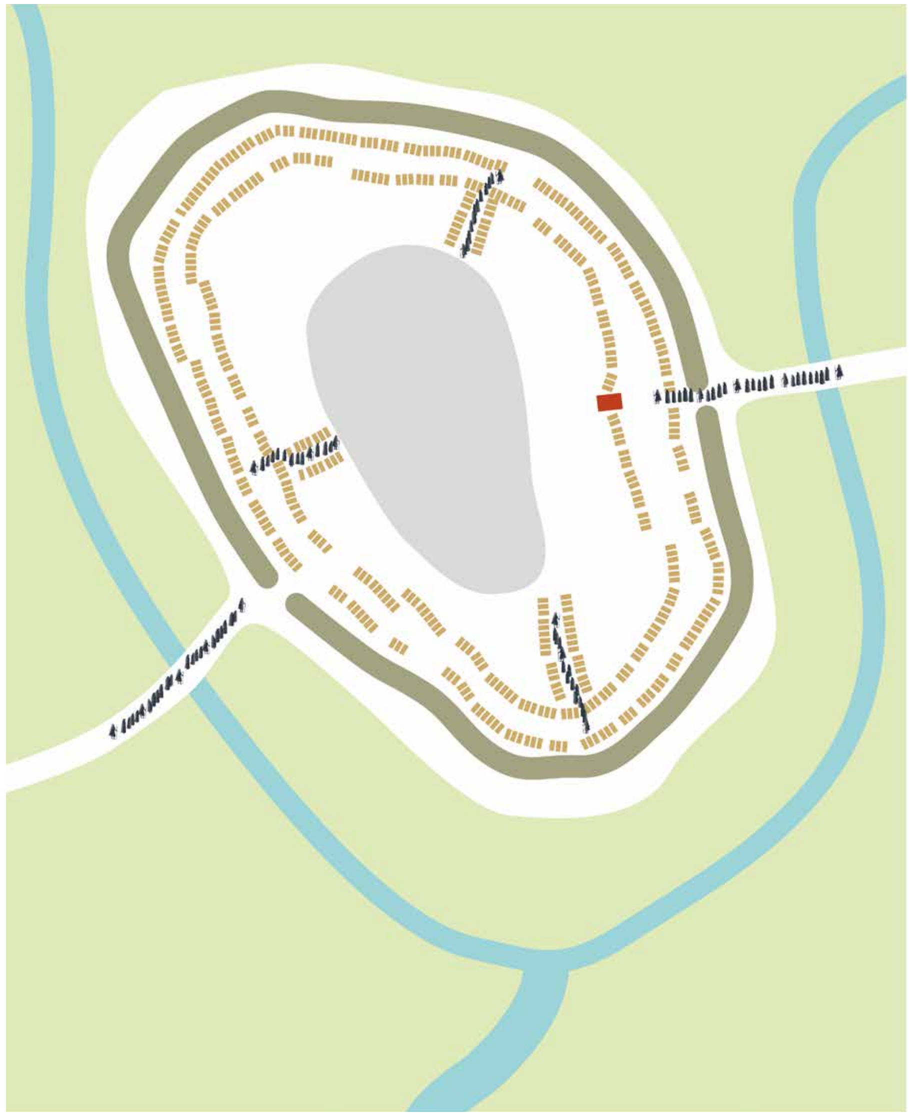

Figure 10.12. Alternative models for the emergence of Trypillia megasites: the Pilgrimage model (source: C. Unwin, Nebelivka Project).

organised the 'Pilgrim-Builders" large-scale construction of an entire house circuit and the excavation of the entire perimeter ditch in the first two seasons. The advantage for this effort was the creation of a spectacularly large pilgrimage centre which would have become famous across the whole Trypillia world, with much slower later building rates and home communities living in the same houses for a succession of one-month visits. This model provides the most cogent explanations for many of the planning elements of the megasite – the location and multiplicity of Assembly Houses and the concentric ditch, house circles and radial streets as framing devices for processions from the outside of the site into the sacred open inner area.

Each model has its advantages and disadvantages, with the Distributed Governance Model relating well to the multiplicity of timber-framed houses, the Assembly Model requiring an inner open area for its principal meeting space, while the form of the house circuits and radial streets created ideal processional spaces for the Pilgrimage Model. However, the failure of any model to explain all of the megasite planning elements is an indicator that we cannot yet reject any model for the growth of the Nebelivka megasite. This conclusion inevitably complicates the debate over the urban status of megasites, to which we now turn.

The growth of research into large settlements has complicated the task of differentiating between non-urban and urban, with problems of inter-regional comparisons and the inherent weaknesses of the check-list approach (Gaydarska 2016). An alternative approach is concerned with regional, contextual variations between urban and non-urban sites, using a relational calculus to show the very different lifeways current on the two classes of settlement (Gaydarska, 2016). This relational approach has been applied to the Trypillia megasite of Nebelivka and the representative smaller site of Grebeni (Kolesnikov 1993), with the result that the gulf between Nebelivka and Grebeni on all twelve aspects of the lifeways under analysis makes a strong case for relational urbanism in the Trypillia case (Gaydarska 2020).

Current research on low-density urban sites has provided a realistic alternative to the Childean model of high-density urban centres (Fletcher 2009). The roots of low-density urbanism remain unclear but the Trypillia mega-sites of Ukraine and Moldova emerge as one of the candidates for an early form of low-density urbanism (Chapman & Gaydarska 2016a). The mega-sites share a large number of features common to low-density urban sites in global perspective (Gaydarska 2020). The size, residential density and boundedness linked the mega-sites to a number of parallel low-density urban cases, such as Great Zimbabwe, Cahokia, Angkor Wat and Co Loa, as did the timespan after the initial regional emergence of agro-pastoralism, the lack of a clearly materialised mortuary domain and the modular form and house-based nature of social space. What was not so similar was the lack of higher-density precursors to the mega-sites and the smaller scale of Trypillia building projects. The juxtaposition of these traits with the almost complete absence of metal objects and other prestige goods suggests that the best characterisation of Trypillia mega-sites is currently an egalitarian, pre-state form of early, low-density urban settlement. The fact that Trypillia urbanism was not transformed into a long-term, ‘successful’ urban tradition should not be considered to be an argument against the recognition of this settlement form. In this reading, Trypillia megasites emerge as the earliest form of low-density urbanism in Eurasia. The hypothesis that the megasites constituted the centres for the spread of the plague, *Yersinia pestis* (Rascovan et al. 2019), concatenates two fundamental errors – the extremely high population densities, which the Nebelivka Project has done much to dispel – and the three separate peaks of megasite growth which cannot be readily explained by the plague hypothesis. The almost total lack of human remains from the megasites raises almost insuperable barriers to the direct testing of this hypothesis.

Chapter summary

Much light can be shed on the three most significant changes in the prehistory of Old Europe through an approach using network thinking rather than formal network analysis. It has been possible to develop a model which explains the spread of the Neolithic way of life from Anatolia to South-East Europe in the millennium spanning 6500 BC and 5500 BC. The key interaction concerned forager – farmer networks relying upon material attractors to maintain an expansion to the North-West. Once the initial networks had been established, generally by lithic exchange, there were opportunities for foragers to evaluate and perhaps adopt the agro-pastoral way of life of their exchange partners. As John Robb has demonstrated (2013), once farming lifeways were adopted, it was difficult to withdraw from that uni-directional change, leading to a widespread adoption of a range of regionally variable resources and skills drawn from the same original range of plants, animals, objects and building styles.

Metals played a minor role in the spread of Neolithic lifeways, with the occasional copper mineral object manufactured using often lithic techniques. The sources for Phase 2 copper objects tended to be close to the place of deposition; consequently, copper networks mapped neatly onto the other Phase 2 networks involving lithics and polished stone. This pattern changed after 5000 BC (late Phase 3), with the expansion in the use of copper, the discovery of a wider range of sources which included two of the world’s earliest copper mines, the development of smelting and melting technologies and the realisation of the potential of the re-cycling of copper for novel forms of enchainment. The dominant North – South copper network grew out of an earlier, minor network but his network was replaced after 4700 BC (Phase 4) by a West – East route linking the Central Balkans to the Black Sea coast. The Phase 4 network carried far more copper than before, because of the increased demand for copper for hoarding and the emerging mortuary zone. This signified a significant growth in the importance of the agency of heavy copper objects, some of which became inalienable objects kept not only in settlements but also placed in new contexts of inalienability – in hoards and cemeteries. The Varna cemetery emerged as a nodal site because it combined three roles – a centre for innovative copper and gold metallurgy, a Gateway community linking the inland East Balkans to the Black Sea and a Deposition centre for extraordinary mortuary performances. In the long post-Varna Copper Age, potentially re-cyclable copper replaced gold in most burial contexts.

The documentation of a case for Trypillia urbanism would be of global significance, pre-dating the earliest cities of the Near East by several centuries and the next earliest European urbanism – the Minoan state – by almost two millennia. The size and complexity of Trypillia megasites make it impossible to consider these sites as merely ‘overgrown villages’. The Nebelivka Project has developed three alternatives to the traditional ‘maximalist’ view of long-term, permanent mega-sites with massive populations of many thousands of people; the Distributed Governance Model, the Assembly Model and the Pilgrimage Model. All have advantages and disadvantages for the explanation of megasite trajectories. The congruence of megasites with low-density urban sites in other parts of the world and the salience of a relational model of urbanism defining an urban centre relative to the surrounding smaller sites combine to make the megasites the earliest forms of low-density urbanism in Eurasia.

Chapter 11

Summary and conclusions

"Each of us has an ancient and universal human need to be seen and to be remembered" (Wiking 2019).

"The past cannot be returned, because it does not go anywhere. One has only to find the link that connects it to what is now and what is to come" (Drndić 2019).

"finding lost things is the best way of losing yourself" (Frances Wilson, Guardian Review, 21/III/2020, p. 31).

Summarising without writing a Grand Narrative

At this point, and after a long period of quiescence, the two kinds of historian mentioned in Chapter 1 (p. 29) are resuscitated. The truffle-hunters not only have the task of amassing nuggets of information but also placing them in a thoughtful social context and then selecting those suited to wider consumption. For these tasks, the truffle-hunter needs the qualities of the parachutist to provide the broad view, the overall context and the balance. Gordon Childe was one of the very rare prehistorians who combined the skills of the parachutist with the talents of the truffle-hunter. We should acknowledge the mutual dependence of these skills in writing a narrative.

The primary aim of a concluding chapter is to answer all the significant questions posed at the outset. I posed three such questions: what was the basis for the formation of social relations in Balkan prehistory?; why Balkan late prehistory was dominated by the settlement domain rather than the mortuary zone; and why so much material culture was produced? While there have been some fairly broad hints at the answers which I propose to these questions, I have not yet consolidated all of these observations into a single narrative strand. Sequence is vital to our understanding of Old Europe – for example, we cannot fathom social change if we date the Varna cemetery to a period coeval with the tells of the Central Balkans and the Carpathian Basin. This is why, even in a summary chapter, I use the sequence of five Phases, with its attendant absolute chronology, to provide the framework for the plot. To remind the reader, these are: Phase 1 (8000-6300 BC); Phase 2 (6300-5300 BC); Phase 3 (5300-47/4500 BC); Phase 4 (47/4500-4000 BC); and Phase 5 (the 4th millennium BC).

Which kind of narrative is required to explain the changes in Old Europe over four millennia? There is clearly no continuous Bronowskian 'Ascent of Man' (1973) – or even women and men – but, rather, a punctuated sequence of change, with bursts of innovations with widespread consequences, separated by long periods where people used those innovations, trying to cope with the accompanying unintended entanglements. The emergence of the Neolithic clearly stimulated a massive concentration of novel people, places and objects. But, in the spread of the 'Neolithic' across Old Europe, many communities selected only certain elements of what we once called 'the Neolithic package' but rejected others – whether lamb, porridge, barley beer or grindstones. Any narrative has to consider those 'laggards' who stubbornly could not, or did not, see the potential of such innovations. The same is even more true of metallurgy, which was ignored by many communities for many centuries[164].

One alternative to a single narrative of increasingly upward mobility – of a unilinear increase in social complexity – is the telling of enough small narratives in the book chapters to intertwine the ways that social relations were formed with a practice-based account of this area. I have sought to balance the fine-grained contextual detail of specific lives, sites and areas with general interpretations. Before turning to the three main research questions, I summarise in tabular form the main conclusions reached in each chapter (Table 11.1).

Research question (1): how to form relations

There were four ubiquitous forms of relationship in Old Europe and indeed beyond, viz., the individual, the dividual, the communal and global – local relations. The tension between the four forms of relationship often led to the dominance of one or two relations in any given context, creating a diachronic social dynamic specific to our study region. One part of the answer to the question of how social relations were formed there is perhaps surprising – the fundamental importance of dividual relations. The implications of this conclusion help to frame a broadening of the standard practice-based approach to include a person-centred relational approach. Here, I reverse the direction of the book chapters to begin with the global and the local.

The Global and the local

The scale of any network was a political statement about the 'reach' of persons in the group. In a famous evolutionary narrative, Sherratt (1982a) argued that the scale of the exchange networks of Carpathian societies showed a linear increase from the Early Neolithic (local) via the Late Neolithic (regional) to the Copper Age (inter-regional). However, this narrative has been overtaken by three decades of new data, with the result that we can now define exchange networks covering the full range of spatial scales in all Phases of Old Europe. What changed were the quantities of materials in different Phases and the proportions of materials from different distances.

A case has been made that the spread of farming was the result of explorations for new contacts and new raw materials with special essences – brilliant, colourful and especially exotic. Each new expansion of settlement by people living Neolithic lifeways enabled the formation of new networks with foragers on the edge of the farming world, until some foragers accepted the advantages of the new lifeways to become farmers themselves. Some of the forager – farmer networks were themselves based upon earlier forager – forager networks (e.g., obsidian, Moesian flint, Mediterranean shells), with forager – farmer networks often metamorphosing into farmer – farmer networks (e.g., Szentgál radiolarite, Mezdra flint). An important Neolithic attractor was fine painted pottery; the fall-off in painted pottery North of the Danube coincided with a slowing in the rate of forager acceptance of farming lifeways. One aspect of all Phase 2 networks was the transport of relatively small numbers of colourful, shining materials across hundreds of km, an extreme example being the deposition in Lepenski Vir of a necklace of paligorskite beads derived from either the Urals or Anatolia. The network approach to the spread of farming underlines the important role of foragers in this process, especially after 6300 BC.

The 'domestication' of such exotic materials was usually achieved within settlement contexts, albeit with the exclusion of exotics from core ritual performances. The cultural integration of the early farmers' regional groups (after Nandris (1970), the 'First Temperate Neolithic') (here, Figs. 10.3 & 4a) reduced the need for central sites, which were found more in foraging clusters such as the Iron Gates Mesolithic.

In Phase 3, continuity in the spatial scale of most exchange networks contrasted with the expansion in the diversity and quantity of materials for exchange. Alongside the long-distance movement of small quantities of fine materials were found the bulk movement of Carpathian obsidian, North Hungarian limnoquartzites and Mezdra flint, often through central sites. Thus, the Gateway functions of the Vinča tell and the Vršac settlement cluster – linking upland resource-rich areas to adjacent lowland settlement zones – could hardly be separated from their role as focal sites with a wider range of practices than other, nearby sites. However, Gateway communities without other signs of centrality flourished in other regions, generally because the differentiation of cultural networks into smaller units created more 'frontiers'. The first evidence for a major 'Continental' exchange network, based upon *Spondylus* ornaments, connected the Aegean via Central Europe to the Paris Basin, resulting from the linkage of many regional networks, which transcended increasingly local identities. There was also a small number of exotic ceramics travelling great distances, with Szakálhát sherds from Eastern Hungary deposited in Central Greece and Central European *Stichbandkeramik* vessels reaching Northern Hungary and Brittany. The dominant

164 For a beautiful fictional account of how a 'Late Neolithic' community responded to the innovation of copper metallurgy, see Jim Crace's (1988) *The Gift of Stones* (London, Picador).

Chapter / point	Finding	Key sites
1/1	This chapter underlines the fundamental difference between the Neolithic and Copper Age in Old Europe from all other manifestations of the European Neolithic	
1/2	The absence of any attested rapid climate change pulses in the five millennia covered here, including the alleged '8200BP event' and 'Noah's Flood'	
1/3	The importance of large samples of AMS dates for the production of precise temporal site sequences, as exemplified by the 'TOTL' Project	Vinča – Belo Brdo, Uivar, Alsónyék
2/1	Dwelling in later Balkan prehistory was an engagement with all other related entities in a multi-dimensional set of rules and practices inherited from the ancestral past.	
2/2	Five forms of relations – dividual, individual, household, communal and global-local – created the identities of all of the persons in the Old European pageant, with each form making its own distinctive contributions to how people grew on homesteads, tells and urban settlements.	
2/3	The aesthetic principles of geometric order, colour and brilliance were fundamental to the making of Neolithic structures and objects.	
2/4	Though not as frequent as the objects produced and consumed locally, exotica made a political difference to Global – Local relations, broadening the impact of the three principal aesthetic principles.	
3/1	Neolithic- Chalcolithic everyday menus comprised 14 dishes, with an additional 8 dishes for feasting and relatively little cross-over between the two menus.	
3/2	Dietary diversity was related not so much to environmental variation as to cultural choice of sites at the site level (e.g., Gumelniţa sites) or the regional level (Phase 2 caprine vs. cattle-herding).	Căscioarele; Gomolava; Csőszhalom; Ecsegfalva 23; Măgura; Divostin I
3/3	Perhaps surprisingly, there was little difference in cuisine between tells, enclosed sites and flat sites.	
¾	There is no evidence for a secondary products 'package' in the Neolithic or Chalcolithic – rather, a mosaic of inventions occurring in various time-places.	Schela Cladovei; Budakalász; Stare Gmajne; Ovcharovo.
3/5	The first signs of the transcendence of small-scale intensive agriculture that persisted so long in Old Europe came in Phase 3, with settlement growth, forest clearance and the first signs of large-scale cattle-herding – perhaps related to the value of cattle as a form of wealth.	Selevac; Stubline; Sarló hát pollen core;
4/1	The contrasts in the number and complexity of relationships that persons experience on homesteads, villages and megasites, leading to the creation of different kinds of person with different skill sets and aesthetic experiences, cuts across the basic shared experience of childhood in Old Europe.	Opovo; Selevac; Vinča – Belo Brdo; Nebelivka.
4/2	Another difference for children in Old Europe was their specific socio-cultural context, in which we can identify at least four ways in which personhood could have been created – the Lepenski Vir mode, two modes based on figurine practices (Hamangia and Dolnoslav) and a fourth related to age-grade mortuary deposition (Tiszapolgár).	Lepenski Vir; Hamangia; Dolnoslav; Tiszapolgár – Basatanya.
4/3	Diachronic categorical analysis of Bulgarian pottery assemblages has shown the growing importance of integrating many different kinds of individual at the expense of contrastive relations. Part of this narrative concerns the increasing emergence of 'individual identities' (portrait figurines, mortuary costumes), which was in tension with the dividuality of mortuary offerings.	Rakitovo; Nova Zagora – Hlebozavoda; Azmashka mogila; Dolnoslav; Varna I;
5/1	House size was found to be a useful primary referent, with correlations often found from Phase 3 onwards with more solid construction, more interior furniture and fittings and sometimes two-storey constructions.	Lepenski Vir; Karanovo; Divostin II; Herpály; Baia-În-Muchie; Taljanki; Tiszalúc
5/2	The house emerged as the template for the workshop, the shrine and the assembly house, with separation between sacred and profane and domestic and specialised production rare until Phases 4 and 5.	Drăguşeni; Căscioarele; Parţa; Nebelivka;
5/3	Especially in Phases 3-5, there was a tension between increasingly autonomous (read 'individual'), larger households with greater economic and ritual power, a wider range of combined personal skills and a larger stock of accumulated prestige goods *and* a household increasingly integrated into local and regional networks (read 'dividual') whose identity was created by a denser mesh of material links to other households and settlements.	Polyanitsa; Ovcharovo; Radingrad; Targovishte;
6/1	A moderate proportion of settlements, especially hamlets and villages, showed no or little planning in their house layouts. The weakness of site-level authority – perhaps chiefly its failure to gain agreement between different households – was mostly responsible for this widespread lack of corporate planning.	Rakitovo; Aszód; Alsónyék sub-site 5603
6/2	A basic dichotomy running through planned sites in Old Europe was the focal layout and the linear or grid layout. The former embodied a centre or focus of either dwelling or deposition. By contrast, linear layouts lacked a single focus but had open access on all sides of houses. However, the attractions of a focal layout can be seen by the many examples, from Phase 2 onwards, of linear planning transformed into hybrid plans through the addition of foci.	Polyanitsa; Ovcharovo; Radingrad; Targovishte;
6/3	While most of the basic modules of settlement layout were created in Phase 2, Phases 3 and 4 village communities were responsible for the consolidation of focal, concentric planning and linear house rows into everyday social space, as well as for developing many hybrid forms.	Öcsöd; Csőszhalom; Grivac
6/4	The emergence and subsequent consolidation of neighbourhoods into a key element of settlement structure dated to these Phases, enabling the formation of 'local' neighbourhood identities in counterpoint to both the household and the entire community.	Szeghalom; Nebelivka; Majdanetske

Chapter / point	Finding	Key sites
7/1	One basic long-term regularity was the 'normal' burial given to adult males, adult females and children throughout all Phases -inhumation burial in a separate grave of an articulated, complete body. Burials deviating from the 'norm' are widespread if rare. The rite of normal burial linked all participants together in an overarching mortuary belief system that was drawn upon and played out in different ways in local circumstances.	Kisköre; Zengővárkony; Goran-Slatina;
7/2	Two recurrent patterns of mortuary association were house-burning and intra-mural burials on tells, in contrast to extra-mural cemeteries found with dispersed settlements (hamlets or homesteads). However, strong regional preferences in mortuary practices were expressed in Phases 3 and 4.	Karanovo; Azmashka mogila; Maluk Preslavets; Botoš; Cernica; tell Sultana
7/3	The predominance of adult females in intra-mural burials in Phases 2 and in Phase 2 and 3 cemeteries was reversed by strategic placing of more male burials in the Phase 4 cemeteries found near tells, in the core area of 'rich' graves in Varna I and in Phase 5 barrows.	Gomolava; Varna I; Kétegyháza
8/1	The pinnacle of 'village' life in European prehistory was Phase 3 in Old Europe – essentially the 5th millennium BC, with early urban forms developed in the 4th millennium BC in Ukraine.	Nebelivka; Taljanki; Majdanetske
8/2	The widespread return to settlement dispersion (hamlets and homesteads) can be dated to late Phase 3 and Phase 4 and is an important overlooked transition in European prehistory. It was also found in East Balkan tells and Cucuteni flat sites before the dramatic change to nucleation seen in Trypillia megasites.	Vésztő-Bikeri; Donje Moštre
8/3	The two basic forms of social reproduction mapped onto tells (the strong place-value of an ancestral site) and flat sites (site clusters in the ancestral landscapes of Multi-Community Zones), with occasional hybrid form (tells in MCZs).	Vinča – Belo Brdo; Csőszhalom; Szeghalom
9/1	There was no unilinear evolutionary trend in exchange networks from Neolithic to Chalcolithic to Early Bronze Age. The long-term, exponential rise in the quantity and diversity of materials in exchange networks from Phase 1 to Phase 4 was broken in Phase 5 through a disjunction between settlement nucleation and prestige goods consumption.	
9/2	One of the principal changes from 8000 to 3000 BC was the transformation of the meaning of the 'exotic' itself. Two senses of the 'exotic' emerged – the spatial sense of an object coming far from a site but also the 'cultural' sense of whether objects derived from places within the 'cultural' boundary as defined by forager lithic production or, later, ceramic production.	
9/3	The varying frequencies of the four kinds of 'central' sites was related to the degree of network linkage in each Phase, with maximum linkage leading to a decline in Gateway and Betweenness Centres and an increase in Deposition Centres (Phase 4), in contrast to Phase 3.	Vršac sites, Potporanj; Karbuna; Varna
9/4	An emergent personalisation of lithic consumption in Phase 3 was mirrored in Phase 4 for copper consumption.	Öcsöd; Ruse; Durankulak
10/1	Using network thinking rather than a formal network approach, the emergence of farming was modelled as a series of forager – farmer networks relying on material attractors (especially lithics) to sustain expansion to the North-West.	
10/2	A millennium-long early copper network mapped onto pre-existing lithics networks. After 5000 BC, the rise of complex metallurgy was demonstrated by early mines, melting and smelting technologies and the development of the first re-cyclable material.	Rudna Glava; Ai Bunar; Belovode
10/3	The development of early urban forms in the Trypillia group in the 4th millennium BC constituted the world's earliest cities, as defined through a relational approach to urbanism.	Nebelivka; Taljanki; Majdanetske

Table 11.1. Summary of chapter conclusions (source: author).

role of the Central and West Balkans in terms of the extent and density of exchange networks emerged for the first time in Phase 3.

In Phase 4, the hub of long-distance exchange networks shifted to the East Balkans, with a particular focus on the Gateway community and deposition centre of the Varna I cemetery. The Varna network was not only denser than earlier networks but constituted a massively expanded, loose exchange network stretching from the Atlantic coast in Brittany to the Volga Basin near the Caspian. Loosely constituted post-Varna Phase 4 exchange networks were hardly less impressive, though the direction of the networks changed to the Baltic (pottery, metalwork) and Iran (metalwork) – the latter forming a network which continued into Phase 5. Phase 4 and 5 networks mostly fell within the large-scale integrated network linkages consisting of hundreds of sites using similar pottery, transforming 'inter-cultural' exchange into a series of 'intra-cultural' networks with reduced needs for Gateway communities or Betweenness sites but greater needs for Deposition centres for concentrations of special deposits.

In each Phase of our study period, many persons were linked to hundreds of other people and places in long-distance exchange networks. The frequent preference for exotic objects in place of functionally equivalent local objects showed the importance of politically charged relations over ease of local supply. For want of suitable data, we are currently unable to reach any conclusions as to the relative importance of men and women in these extended networks, although marriage alliances may well have strengthened links between remote communities.

Communal relations

One way of assessing the success of corporate groups was their ability to create long-term cultural groupings, settlements and/or cemeteries. There was a striking similarity between the villages of long-term forager sites in the Iron Gates gorge and the tells settled by farmers in the South Balkans in Phase 2 (Chapman 2000a), with both site types contrasting with the hamlets and homesteads of shorter-term, flat farming sites in the North Balkans. But the diversity of houses and house arrangements revealed the limits to corporate power in what appears at first sight to be a strongly communal phase. Although the basic linear and focal forms of settlement layout were first seen in Phase 2, the clear trend towards unconstrained, diverse settlement layouts suggested few corporate groups could secure the agreement of different households to a 'formal' settlement plan. The rare occurrence of corporate cemeteries and enclosed sites in Phase 2 (the small Maluk Preslavets cemetery, the Yabulkovo and Cârcea enclosures) supports the notion of the limited reach of corporate control. Perhaps the most important communal practices in Phase 2 involved the performance of Early Neolithic cultural traditions through the production of slotted antler sickles, bone spoons and rod-head figurines (Nandris 1968; Choyke 2007), constituting a loose cultural network across the whole of Old Europe.

The creation of new local and regional identities related to distinctive ceramic styles, such as the small Vădastra network (Dragoman 2013), contrasted sharply to the largest inter-regional ceramic distribution in Phase 3 – the Vinča group, based upon the attractions of colourful, shiny vessels in the black burnished ware tradition.

While the number of cemeteries continued to be low in Phase 3 – at least outside the Hamangia zone and the LBK of Central Europe – the appearance of cemeteries with several hundred graves indicated strong development of communal relations at Cernica, Sultana – Valea Orbului, Durankulak and the extraordinary Lengyel cemetery of Alsónyék, with c. 2,300 graves. Communal values were underlined through the principal traditions of burial – whether symbolic or inhumations in crouched or extended form. The emphasis on grave good association with a multiplicity of age-sex categories at Cernica suggests an emphasis on communal identities as much as dividual identities. The occurrence of *Rondels* at Lengyel sites in South Transdanubia showed the strength of local group autonomy in selecting their own communal focal site.

In the domestic domain, strong communal relations led to the consolidation of focal, concentric planning and linear house rows into everyday social space and the development of many distinctive hybrid settlement forms. The early occupations at North-East Bulgarian tell villages formed the high point of settlement planning in this Phase, which also saw the emergence of neighbourhoods as clusters of houses with a common identity at a communal level below the whole settlement and above the dividual household. This additional layer of communal organization stimulated a more complex, heterarchical decision-making structure.

Just as sedentism often brought increased opportunities for the creation of household identities, the increased commitment to sedentary lifeways in many Phase 3 villages reflexively consolidated the labour of many households into community-wide practices, such as the procurement of salt or upland trips for copper mining, leading to the first copper mines known in the world. The proliferation of Gateway communities and Betweenness sites in this Phase was related to expanded communal organization and corporate control at the neighbourhood and/ or settlement level.

The fragmentation of Phase 3 regional ceramic traditions was widely reversed in Phase 4 through extensive network linkage. The parallel Phase 4 expansion of the mortuary domain in relation to the domestic domain, especially in the Central and West Balkans and the Hungarian Plain, led to cemeteries becoming the dominant, most persistent features in large multi-community zones of dispersed homesteads. The performance of communal tradition was expressed as age/ gender-based rules for burials in Copper Age cemeteries in Eastern Hungary, although an overlap between Copper Age ceramic networks could indicate two coeval but distinct corporate groups from differing settlement clusters, each using ceramics to re-calibrate relations of similarity and difference with the other group.

In the East Balkans, the diversification of Phase 4 sites into cemeteries, tells with intra-mural burial, bounded islet sites, enclosed tells and open, flat sites suggests tensions over the use of space at the communal level. New site types opened up because threats to the social order could hardly be contained, let alone solved, within existing site forms. Detailed studies of grave good deposition and mortuary costumes in East Balkan cemeteries have shown that specific communities variously drew upon a shared material repertoire to define their own relational identities at a communal level. The same was true of communal traditions of burial form and it may have been true of the value given to new materials such as gold and copper. While some communities, such as Vărăşti, rejected the new bling, others such as Varna made gold the defining focus of communal practices. Post-Varna, there was a steep decline in the quantity of gold deposited, with those communal values prioritising gold giving way to more traditional preferences for copper, shell and stone.

In Phase 5, network linkage continued to expand over all of Old Europe. The main contrast was between the continuation of 'Old European' communal, domestic values in Eastern Europe (the Cucuteni – Trypillia groups) and settlement dispersion with the continued expansion of the mortuary zone in Central and Western parts of the Balkans and Hungary. The perplexing lack of materialised social differentiation at Trypillia urban megasites points to the strong domination of communal values based upon the traditional elements of house, pottery and figurines. By contrast, the large cemeteries of the Baden group – focal centres for dispersed homesteads – combined the strong communal values of long-lasting corporate groups with the assertive potential of differentiated grave goods for the building of personal identities; the prevalence of animal burials, usually cattle, betokened new and closer relations between animals and humans, plausibly connected to secondary products. These decentralised patterns of settlement pre-dated Kristiansen's supposed expansion of decentralised societies around 3000 BC (Kristiansen 2015, 1096-7) by at least one millennium. The dominance of the mortuary zone in these areas opened up new opportunities for self-realisation through material accumulation that were in tension with the traditional egalitarian values of the domestic domain. Although some prehistorians have maintained that adult males were key agents in the process of accumulation, the gendered mortuary data suggest that both women and men had important voices to be heard in this long-term conversation.

Dividuality

The practice of enchainment through material culture – whether fragmented or whole – as a way of creating and maintaining dividual relations is strongly exemplified in the later prehistory of Old Europe (Chapman, 2000a). Enchainment is now so well attested in all Phases that it seems that dividuals, rather than individuals, were the norm in Balkan prehistory, with widespread tension between dividuals and individuals mediated by other axes of relationality (Fowler, C. 2016). The use of the principle of *synecdoche* – the part standing for the whole – is thus very widespread.

All of the exotic objects exchanged across the social networks discussed above (Chapters 9 and 10) were originally part of a material landscape whose nodes were social centres or ordinary places, linked by pathways and routes. The fundamental point was that the removal of rocks from the Eastern Alps for transformation into a polished stone axe in the Great Hungarian Plain activated the same process as the excavation of copper from the Ai Bunar copper mine for the making of a copper axe in Varna – the *presencing* of a remote place through the material remains of that place. The notion of a grave as a collection of biographical stories about each of the grave goods gives way to the picture of a cemetery as a library of biographies. The re-cycling of copper consolidated much more biographical information into a single object than was hitherto possible. A grave good was linked to the newly-dead of whatever gender and age, to the persons who owned or used the object during its lifetime and to its place of origin and the places where such use took place. Every global – local network was the harbinger of dividuality – of the presencing of distant landscapes in intimate households at the centre of their Local world. Nonetheless, the individualizing tendencies of the costume graves at Varna remind us that individual personhood played an important role within the network of dividual biographies.

In addition to the fragmentation of place, there was another level of deliberate object fragmentation which created enchained personal relations between people, objects and places, whether within sites (e.g., the fragmentation of an anthropomorphic vessel and the deposition of many of its fragments around the Öcsöd tell: Raczky & Füzesi 2018) or between sites (Chapman 2000a; Chapman & Gaydarska 2007). A common practice in Old Europe was the deposition of a fragment of an object in a grave with the rest of the object missing, showing not so much the closure of a social relationship with the deceased but enchained links between the mortuary zone and the land of the living. Over 90% of all graves in the Phase 4 Tiszapolgár – Basatanya cemetery contained fragments of vessels, with the other parts of the pots presumably taken back to the hamlets and homesteads of the mourners. This figure had fallen to 70% in the Phase 5 Budakalász cemetery, with shell or copper perhaps gaining importance in dividual links. The multiple cases of such enchainment between the Varna mortuary domain and the land of the living (see pp. 143-6) include fragments of pottery, shells, beads from necklaces, bone figurines and human bodies. The enduring nature of such enchainment indicates the fundamental importance of maintaining relations with the newly-dead, soon to become ancestors.

The third element of fragmentation concerns the human body itself. In contrast to the long-term pattern of 'normal' burial as the single burial of a complete body in its own grave, there have been many examples of so-called 'deviant' burials, comprising both the addition and removal of body parts and pointing to the deliberate fragmentation of the human body. Some of the most intriguing concerned burials of composite humans, with the parts of two individuals of different age and sex combined in a 'normal' articulated position; in others, there were 'cyborg'[165] burials where either human and animal parts had been conjoined or a body part was replaced by an object (e.g., a vessel replacing a mandible). These relatively rare examples of deviant burials were found throughout the period in most areas, just as partial, disarticulated intra-mural burials were

165 After Donna Haraway (1991), the term 'cyborg' connotes an entity of mixed origins, typically fusing organic and inorganic (e.g., a human with replacement metal legs and a pacemaker).

occasionally found on many settlement sites in each Phase. A different scale of this phenomenon, however, concerns four concentrations of dividual burials: the Iron Gates Mesolithic and Neolithic, enclosures in Neolithic Greece, Lower Danubian Chalcolithic tells such as Pietrele and the remarkable concentration of disarticulated bones deposited in pits at the Alba Iulia – Lumea Nouă site in Transylvania (Chapman et al. 2014c). These foci share the common feature of a much more complex *chaîne opératoire* of burial than 'normal' burials, indicating large-scale movement of body parts, some between sites, in the same way that object fragments were moved between settlements.

There is a clear diachronic development of the four forms of dividual personhood recognised so far in Old Europe[166]. The earliest form of personhood was found most fully at Lepenski Vir in Phase 2 in the Iron Gates gorge and can be seen to emerge from the connections between the human-fish hybrid boulders, the Danube and the metamorphosis of the body in death. The changing form of the eyes on the hybrid boulders defined stages in the life course, while the location of the boulders in the trapezoidal structures divided the world into aged and gendered spaces. The decoration of most of the boulders represented the waves of the Danube, with specific 'costumes' standing for particular individuals, whose burials faced downstream to mimic the return of the anadromous sturgeon to the Black Sea.

Emerging in parallel with the Lepenski Vir form of personhood in farming sites was the '*Hamangia*' type, defined by an androgynous identity at birth, with a shift to a single gender in mid-life (12-15 years) and a return to androgyny in death (see above, pp. 143-6). Materialised by androgynous figurines in Phase 2 and, classically, in the Phase 3 Hamangia group, this form of personhood is best termed 'essential' insofar as sexual division was presented as essentialised.

The third form of personhood – named after the Final Copper Age) tell of *Dolnoslav* in South Bulgaria but starting far earlier – became dominant in most of Old Europe in Phase 3. This 'incremental' form of personhood consisted of a life with three stages of development: the birth of a person without gender characteristics; the gradual growth of one gender – predominantly female – during maturation; and the gradual fading of that single gender for post-menopausal women and older males. It was characteristic of many areas outside the Hamangia zone in Phase 3 and progressed to become a dominant form of personhood in Phases 4 and 5. The Dolnoslav forms of personhood differed radically from the Hamangia form, with its emphasis on the higher value placed upon age and gender as a characteristic of growth and personal maturation rather than on the inheritance of both genders from birth – nurture rather than nature.

Intermediate between the Hamangia and Dolnoslav forms, the *Tiszapolgár* form of personhood is a formalization of Sofaer Derevenski's (2000a) study of the changes in grave good deposition at different stages of the life-course. The Tiszapolgár form of personhood is so far dated to Phase 4 and could be viewed as a variant on Dolnoslav personhood, with the shared feature of 'incremental' personhood advantageous in more complex communities where the categorization of people was based on cross-cutting rather than binary criteria.

These four forms of personhood in Old Europe show the varying extent to which each created local age – gender structures, as well as dividual and individual relations. Dividual relations lay at the core of each form of personhood, with their specific materializations based on both complete and fragmented objects. But individuals were also central to the creation of personhood.

Once the notion of the fragmentation of place is recognized as the third part of the fragmentation story (Bradley 2000, Chapter 6; Chapman, n.d. a), it becomes clear that the creation of dividual relations was a common thread connecting object-rich sites and monuments, with *synecdoche* operating at both the inter- as well as the intra-site level. Can we go further than this and posit that the fundamental, 'normal' relationship in Mesolithic, Neolithic and Chalcolithic communities was a dividual relationship linking persons to places, objects and other persons? Any evaluation of such a claim requires the discussion of what is meant by an 'individual'.

Individuality

The stories scattered throughout this book have introduced the reader to a motley crew of 'individuals' – the old lady buried at Tărtăria from Transylvania, the military group of Stubline from Central Serbia, the house-person from Tumba – Madžari in North Macedonia (all chapter 5), an (admittedly deceased) lady from Kisköre in the Great Hungarian Plain (Chapter 8) and the unique artifactual individual of the Omurtag pumice stone from North-East Bulgaria (Chapter 9). Other distinguished members of this cast of hundreds of thousands included the arthritic warrior from Varna Grave 43 from the West Pontic zone (in Chapter 7), the snake-and-hare woman from Pusztataskony, in the Hungarian Plain, the Cucuteni potter from Vărvăreuca in Moldova and the maker of the nephrite sceptre deposited at Galabnik, in South-West Bulgaria (all three appearing in Chapter 4). By far the majority of the individuals who lived and died in later Balkan prehistory did so in relative anonymity, loved, respected, feared or hated by their families, occasionally known beyond their home settlement for a feat of skill or daring and, at death,

166 I should like to emphasise that I do not consider these to be the only ways of creating personhood; prehistorians are very likely to discover alternate ways.

mourned by an increasingly dwindling stock of seniors. In that sense, they resembled the great mass of humanity now, for how many of us will rate an obituary in the Guardian newspaper? We are indebted to the vast prehistoric silent majority for their contributions to changing patterns of social practices in the past.

But the wider question for the narrative of individuality is the degree to which each person can be considered an 'individual'. The dividual qualities of the old lady of Tărtăria have already been rehearsed (Merlini 2011, 2013; see above, p. 99-102):- the partial skeleton, the fragments of figurines and ornaments – all those enchained relations which made the old lady who she was, just as much as her physical ailments, her purported skill at reading the Danube Script and her powers of healing. The block of nephrite, with its essential qualities, colour and form, which was magically transformed into the sceptre placed in Galabnik was a co-creator of the sceptre as much as the stone-carver, with their personal skills and long socialised training. The skills of preparing the clay and pigments, carving the wooden turn-table, shaping the clay into vessels, painting the vessels and firing them in a kiln – these constituted such a wide range of cognitively and energetically different skills that we can imagine a team of potters – 'the Vărvăreuca co-operative' – rather than a single 'individual' working in the pottery workshop. The dividual relations linking material, skills and teamwork raise a question over what it meant to be an 'individual' in prehistory. This was especially so in the context of the household, where there were fuzzy boundaries between 'individual' effort, maintenance activities and household production. The length of time which human children required to become members of a community through dependency and socialization may have been shorter than previously expected, especially if children were reaching maturity and 'middle age' at fifteen years old (see above, p. 44). Insofar as maintenance activities meant a long time spent with all other household members, making a huge contribution to the child's relational personhood, it is difficult to identify what is an 'individual' contribution to personal growth from all of the contributions of the household during the extended period of maintenance activities.

One way to picture this problem is to envisage a bedrock of dividual relationships which form the basis for sociality in all Phases, with peaks or low hills of individuality rising above the flatlands of dividuality. The emergence of farming in Phase 2 may seem to be an obvious example of such peaks, not least because of the wide range of personal skills which occurred for the first time.

Chapman & Gaydarska (2011) have proposed a major cluster of new personal skills dated to the start of the Neolithic, emphasizing that each skill helped to build an 'individual' with their own suite of skills unlike that of any other person. However, the development of new skills was only partly a matter for the individual body building an embodied skill. The acquisition of these skills also relied on a vertical (family) or horizontal (peer-based) transmission of skills which enhanced dividual relations at every stage of skill acquisition. A high proportion of the skills that appeared for the first time in the Neolithic were composite skills, single parts of complex *chaînes opératoires*, such as farming or potting, in which it was impossible to complete the making of an object without careful co-ordination of one's own labour with that of others – another sense in which increases in individual skills went hand in hand with dividual relations. A similar picture can be drawn for the new metallurgical skills which emerged in Phase 3 – the smelting, melting and casting of increasingly large copper objects. Ottaway (2001) has demonstrated that the increasing length of the operational chain in more complex copper metallurgy made the engagement of teams of workers of all ages and genders more likely – a case of individual skills being harnessed to the metallurgical co-operative.

We are on safer ground in the search for the 'individual' in Old Europe when we consider the individualization of objects – best exemplified with a series of cases from Phase 3 but also encountered in the 4th millennium BC. Such individual ownership or use is based upon the assumption that objects which exhibited unique variants on usual forms or decorative traits could have 'belonged' to different 'individuals'. In a good example of this approach, Dushka Urem-Kotsou et al. (2004) considered that the unique design of each Late Neolithic drinking cup from Makriyalos meant that these were 'individual' vessels for personal consumption. Two examples of such individualized production concerned special vessels from Phase 3 sites in Old Europe – the prosopomorphic lids (Fig. 3.12) from Potporanj, each of which differentiated a personal storage amphora from those belonging to other persons – and the anthropomorphic vessels from Baia, suggested to represent the performance of individuals depositing a vessel before the burning of a big house. It is significant that the majority of the known examples of individualizing tendencies in the ceramics which referenced particular people dated to Phase 3 – perhaps a sign of the low hills of individuality rising above the plain of dividuality. But we should not forget the special form and decoration of the fired clay goblets offered in Baden graves at Budakalász – each of which was different from all other goblets and which strongly support the idea of individual drinking-cups for the dead (and presumably for the living too).

In Phase 4, even more dramatic evidence occurred for innovative metallurgical skills, primarily shown at the Varna cemetery through the casting of heavy shaft-hole copper tools and the multiple techniques of making gold ornaments, which included the casting and alloying of gold. The case advanced by Barbara Armbruster (n.d.) for itinerant goldsmiths with relatively portable kit currently depends on the absence of a settlement local to the Varna cemetery (cf. Leusch et al. 2014). If true, the existence of the itinerant metallurgist, much favoured by Childe (1939) but heavily criticised later (e.g., Rowlands 1971), could be an argument for a more individual craftsperson with a developed range of uncommon skills, family or craft-group training notwithstanding. The unique form of each copper hammer-axe in Romania also emphasised the ‘individuality’ of these finds and their owners.

Another facet of the Varna mortuary domain which could contribute to the production of ‘individuals’ concerns the costumes in which the dead of all genders and ages were buried. A high proportion of the different costumes identified were used to dress the corpse in only one grave, suggesting a strong degree of individuality in this medium. Many other examples have been found at Varna of the use of either exceptional objects or exceptional production techniques to produce inalienable mortuary objects, which simultaneously highlighted individuals in their own mortuary performance. While there were also many aspects of dividuality in the same graves (see above, p. 266), it is important to recognize the emphasis on the production of ‘individuals’ in the mortuary rites at Varna.

There are also good grounds for the identification of individuals in Old Europe in the realm of figurines and decorated pottery. I have identified a small number of visually distinctive images of persons in the figurine repertoire, concentrated in Phases 4 and 5: persons with individual features sufficiently different from other figurines to suggest they were portraits; persons with distinctive medical conditions which were well observed from life; and persons showing extremes of emotion, sometimes pain, perhaps joy through singing or ecstasy through chanting. The tiny number of such individual images in comparison with the many thousands of less distinctive figurines indicates that such ‘portraits’ were special extensions of the figurine-makers’ skills, focused on specific persons of distinction, with unusual kinds of suffering or with heightened emotions. The portrayal of severe medical conditions in figurines is reminiscent of the burial of persons who had suffered from such conditions, often resisting pain for such long periods that they had become persons distinguished by their particular healing or shamanic skills.

A separate class of data from Phase 5 concerns the painted human images on Cucuteni – Trypillia vessels, most of which transcended stylised image types to indicate individual, or at the very least, individualizing tendencies. As in Phase 4, we have figurine-makers and pot-painters who recognized and reproduced specific features of their fellow humans as individual persons rather than as archetypes. These individuals were in a minority but we cannot ignore the decisions of artists to portray specific persons in the corpus of images.

Summary of relationships

There were many kinds of human action which provided people with the opportunity to emphasise either dividuality or individual relations. What is significant is that there was a bedrock of dividual relations between persons, objects and places in Old Europe which has been insufficiently emphasised before. This bedrock was found in dwelling and exchange practices in which the sum total of relations produced the dividual person. The way in which the creation of distinctive personal skills at particular horizons in Old Europe – especially the emergence of Neolithic lifeways – has been characterized as a process of individualization – of producing individuals – has perhaps been exaggerated, in view of the co-operative nature of many key Neolithic practices (building, potting, agro-pastoralism, etc.). Perhaps this is partly a function of our desire to see individuals in prehistory – the result of the Western legacy of traditional historical narratives and tales (p.c., Josh Pollard). Nonetheless, there were particular hotspots in which ‘individual’ or ‘individualising’ tendencies could be recognized – whether in the individualized pottery of Phase 3, the portraits on pottery or as figurines of Phases 4 and 5 or, most convincingly, the costume elements and other unique grave goods at the Varna cemetery. It remains ironic that the strongest archaeological evidence for ‘individuality’ derives from the preserved contexts of dead persons, themselves performances in which the ‘individual’ traits of the deceased may have been emphasized out of respect for (or by?) the mourners who, as dividuals, constituted an important presence.

What emerges from the widespread and very different cultural groupings appearing in the 260-270 generations found from 7000 BC to 3000 BC in Old Europe is the range of different social practices in which the values and significance of the global and local, the communal, the dividual and the individual could be drawn upon as the basis for social action. In these millennia, women, men, children, animals, objects, plants and places co-created a diverse landscape of often non-monumental settlements, with their gardens, fields and pastures, and their pathways and routes forming networks linking communities. The role of objects was vital in the creation of such cultural landscapes – and it is the quantity and diversity of such objects that was a primary characteristic of the Balkan Mesolithic, Neolithic and Chalcolithic. In the penultimate section of this chapter, I turn to the question of how to account for the predominance of settlements and objects in later Balkan prehistory.

Research Questions (2 and 3): material culture and the settlement domain

There have been extensive discussions of settlement, the mortuary domain and material culture throughout this book, without a focused attempt to answer the questions of the dominance of the domestic domain and the proliferation of objects in that domain. It is now time to draw together the strands of these discussions, focusing on Old Europe but including neighbouring areas with antecedent Neolithic lifeways.

The earliest farmers of Old Europe were not the first communities either to develop strong domestic domains or to discard large quantities of material on their sites. Holocene settlement in Western Asia, Anatolia and Greece has been characterized by a dramatic increase in the number of objects, coeval with a faster rate of cultural change (Renfrew 2001: 2004). The question arises whether these traits in Old Europe were parts of a suite of social practices diffused from other areas, distinctive local components of such performances or a combination of both.

We can group the many explanations for the vastly increased number of objects in Early and Middle Holocene societies into three aspects: the agency of objects, the changing scales of interaction between people, places and things and the ensuing feedback between them. The starting point is the predominantly settlement contexts for these objects and their related humans and animals. These 'dwelling sites' demonstrated a variable attachment to specific places in the landscape[167]; around them emerged 'community areas' (*sensu* Kuna 1991) which formed domesticated niches in the landscape for farming and foraging. Landscape attachments were variable in the sense that different kinds of dwelling site can be distinguished: short-term, early, pioneer sites near the edge of farming distributions, with their weaker ties to local places (e.g., sites discussed by Kotsakis 2005) and established early farming sites in the South Balkans, with strong ties to local people and places (e.g., the large flat site of Kovachevo, South-West Bulgaria). While the earliest Greek sites (Franchthi Cave, the earliest levels at Sesklo) made very little pottery, estimated at fewer than ten carefully-made vessels per year at each site, for serving and consumption but not cooking (Vitelli 1995; Bjork 1995), a big change is exemplified by the end of the 7th millennium BC at Argissa (Reingruber 2008) and Achilleion (Gimbutas et al. 1989), with hundreds of vessels produced per year for the full spectrum of pottery functions. This critical change to large-scale pottery production had occurred before the spread of the Neolithic into the South Balkans.

Communities at all types of early farming site drew upon the Concentration Principle, whereby people made, used and discarded most of their objects in their dwelling site (Chapman 2000c). The Concentration Principle is one way in which dwelling performances created settlements (Jones, A. 2012). However, while this principle can account for how objects were found on sites, it cannot explain why so many of them were made. For an answer to the latter question, we need to turn to the agency of objects (see above, p. 37).

The essential point about the agency of objects is that objects not only constituted nodes in a relationship, they embodied that relationship. Just as people dwelling on a tell site such as Karanovo required day-to-day continuity in relationships with all other entities on the tell, so objects were continually needed to maintain these quotidian relations.

Another way of considering object – person relationships is to see objects as 'mediating' the relationships between humans and other humans, or between humans and the environment. This is the basis of Renfrew's (2001: 2004) engagement theory, with the improving Early Holocene environment enabling sedentism, which in turn allowed for the growth of the number of objects (cf. Rollefson 2000). In a more agency-neutral way, Keane (2010) and Halstead (2011) discuss how more artifacts realized a more elaborate world as well as providing more opportunities to mediate tensions in this increasingly complex world. Similarly, Julian Thomas (2013, 678) considers how objects and animals were 'knitted into the Neolithic social fabric' so that relations between humans were mediated by non-humans. However, each of these interesting theorisations underplays object agency.

Instead, dwelling set in chain a variety of what Andy Jones (2012) terms 'performances', with objects emerging from performative arrangements of enchained relations. These would have included the performative elements in the initial dwelling of a place – whether the ritual marking out of the settlement space, perhaps with some form of boundary (e.g., the initial erection of the Ovcharovo I palisade: see above, p. 217), the marking of the first aurochs hunt of the site (e.g., the deposit of aurochs horns in one of the earliest pits at the site of Miercurea Sibiului: see above, pp. 92-3), the collection of materials for building a house, with the forming of timber or clay into posts and mud-bricks and the decoration of some highly visible constructional elements (for the story of a modern experimental house, see p. 161), or the firing of the first batch of vessels in a bonfire in the centre of the settlement. Such performances constituted the very existence and history of the settlement, with the inhabitants created by such performances as much as were the ceramic vessels fired in the bonfire. For Jones (2012), enchained social relations were assembled and re-assembled through such productive actions, in which inhabitants performed the continuity of tradition for the community with each successive iteration. The agency of material objects made an essential contribution to these performances.

Three further important contributions of object agency concerned temporal marking, the presencing of absent objects, persons and places and the creation of memory. Malafouris (2013, 246) has shown how objects can help

167 I deliberately exclude sites such as Göbekli tepe and Cayonü from this debate, since they were far earlier in the Anatolian sequence.

integrate practices happening on radically different timescales, while presencing has long been considered an integral part of enchainment (Chapman 2000a). An example from Old Europe would be the placing of the exotic pumice-stone from a maritime volcanic source in a Phase 4 vessel containing a hoard of interesting objects at the site of Omurtag (see above, pp. 313-4). The temporality of the voyage of this pumice-stone from its remote origins to the Lower Danube plain could be measured in years rather than months, a distance of perhaps 1,500km, while the collection of the other parts of the hoard required far less time and the formation of the hoard looked to the future as well as to the ancestral relations of the unburnt house where it was placed. The network approach to the spread of farming into the Balkans is predicated on the formation of forager – farmer links through the exchange of objects playing the same role as the Omurtag pumice-stone. The agency of objects is demonstrated by the way that they transcended time and space, embodying human relations of power and substance.

Yet a third aspect of object agency concerns the narration of everyday life. We have discussed at length the co-emergence of a suite of new skills with a range of entirely new persons with varying skill sets. Borić et al. (2012, 50) extend this line of thought by proposing that one of the reasons for the explosion of things was the way they provided an arena for the externalization of bodily skills tied to personal identities – skills that were exercised for their own sake. At Rakitovo, the fine vessel with thin white lines painted on a shiny red background not only demonstrated the exquisite skills of the pot-painter but also presenced the wild boar whose bristles made the best paintbrush for such delicate work, in the process citing the multi-facetted relations between wild animals and the *domus* (see above, p. 35)[168]. Here, the painting of the vessel became a narrative for wider cultural relations, the symbolism of serving vessels and hospitality and the skill of the pot-painter and their training, background and distinction. The link between objects and the externalization of personal skills introduced a novel and provocative link between performance and personhood, framed by the widely shared aesthetic of colour, brilliance and exoticity.

Seremetakis (1994, 132) has discussed object narration in terms of how objects helped a community to narrate itself. Robb (2013, 665) makes this more specific to Neolithic communities in asserting that some Italian pottery decoration is less about regional identities than about providing an idiom for being local – for negotiating relations of home and solidarity. A similar differentiation can be seen in Vinča pottery, where widely shared decorative techniques narrated overall regional identity, while preferences for decorative styles and the selection of specific motifs underscored each separate community's sense of belonging (Chapman 1981, 53 & Fig. 11; cf. Greek Neolithic pottery: Washburn 1983).

A specific example of community narration concerns the complete storage-jar known as the 'Myres Pithos'[169], 1.2m high, made in Szakálhát style, with anthropomorphic features above intricate incised rectilinear decoration, found outside a house at the tell of Vinča – Belo Brdo at a depth of 7.445m (the Vinča B phase, with a date in the 53rd – 51st centuries BC for the depth of 7.5m: Tasić, Nenad et al. 2016) (Fig. 9.12). The great size of the vessel, combining its distance of c. 80km from the closest Szakálhát site, as well as the difficulty of transporting such a vessel on a boat down the Tisza or Tamiš rivers to Vinča, with the alternative of a Szakálhát potter visiting Vinča specially to make the vessel – all these factors conferred most unusual narrative powers on the storage-jar. Another object with special narrative powers was the large block of Ludogorje flint transported across the Danube to be placed on the top of the Gumelniţa tell but not used for flint-knapping – presumably because it was too magnificent to be anything but an inalienable object (see above, pp. 45-6). But this is a principle not only for special, or inalienable, objects – everyday objects also had the power and agency to create narratives of everyday life.

The final aspect of object agency is linked to the power of the object-place-person triadic relationship to create cultural memory. If Wiking (2019) is correct to posit that "Each of us has an ancient and universal human need to be seen and to be remembered", the links that persons have with objects and places provides the material basis for trans-generational memory in an era when generations, at 15 years, are vanishly short. This need was fulfilled in the South-East part of Europe, and adjoining parts of Anatolia and the Near East, primarily through the settlement domain, especially through monumental tell settlements as well as through the large number of objects made, used and deposited on those settlements. Central European groups made fewer objects and created a form of monumental house that formed the basis for cultural memory, while, in North-West Europe, the far narrower range of objects suggests that memorialisation rested upon ritual monuments.

Embodiment, time-space anchoring, narration and memory – these were the primary features of object agency in Early Holocene Anatolia and Middle Holocene Old Europe. Yet the obvious attraction of objects for a multitude of purposes does not, on its own, answer the question of why such an explosion of objects occurred.

168 An example from the Scandinavian Late Neolithic concerned the highly-skilled flint-knappers finishing off the conversion of bifacial pressure-flaked dagger blanks into a completed dagger in front of the whole village (Apel 2001).

169 This storage-jar was named after Sir John Myres, the Professor of Classical Archaeology at the University of Oxford, who was a strong supporter of the work of Professor M. M. Vasić at Vinča.

There are two other features of object – human relations which require consideration: scale and feedback.

Since the emergent properties of place mutually constituted the production of things, increases in the scale of dwelling would have led to matching increases in the production of things. At each level in the scale of social integration – whether households, neighbourhoods or communities – each kind of social relationship made material demands on the participants – people had to work at their relationships, to keep trying to 'live well together' (*pace* Bailey & Whittle 2008). It was the key necessity of the material embodiment of quotidian relationships, whether dividual, individual or communal, which led to the production of so many objects. In other regional Neolithics, such as in North-West Europe or Scandinavia, other stories are clearly required, with lower numbers of smaller settlements intrinsically related to the much lower incidence of material culture. Was the Concentration Principle operating in these regions?, and, if so, in the same manner and intensity as in Old Europe?

But scalar changes did not necessarily produce linear effects, as implied in the equation "larger houses = more residents = increased domestic production". Three advances have recently been made in feedback processes: the mutual entanglement of persons in things; the channelling of human action through objects; and the mutual reinforcement between objects, agro-pastoralism and sedentism.

Ian Hodder (2012) sees the increased number of objects in the emergence of farming in Western Asia as a result of a long, slow process of the increased entanglement between people and things. Thus, innovations that fitted into the taut web of entanglement sometimes went wrong and sometimes created new contexts of opportunity, in both cases requiring more objects to 'fix the problem' and tying people into the increased materialities because it was harder to start again than to fix the problem. People did not necessarily want more objects – they were stuck with them through mutual dependencies. This rather gloomy model of more problems engendering more things which in turn create more problems is surely derived from Western 21st century lifestyles.

A second feedback process came from Julian Thomas' idea that a 'thing-heavy' Neolithic world with a more highly structured domestic and ritual space was one in which more of human action is channelled into particular pathways and routines. Thus, the tightly packed Phase 2 tell settlements of the South Balkans defined places where tool-making, ritual, animal keeping and gardening was impossible, with many practices taking place off the tell. Equally, the open, flat sites North of the Danube provided space for more diverse practices, including the creation of the 'house-and-garden' complex and much closer relations with domesticated animals and plants (see above, pp. 205-6). Later in the Neolithic, the expansion of settlement size co-emerged with more careful planning of inner settlement space and the displacement of plants and animals from people into the surrounding fields (e.g., the Phase 3 settlement of Stubline – Crkvine).

A ceramic example of the co-development of routine practices with increased production concerns the differentiation of Phase 4 pottery forms in the East Balkans. One sign of an increasingly rule-bound world was the differentiation of appropriate from inappropriate social practices associated with specific shapes. The fine categorical distinctions in pottery materialized a relational calculus of knowledge and familiarity with objects, privileging some insiders over other insiders, with a general advantage for insiders over outsiders / visitors. However, the statistic of the number of pottery types by Phase is one of the few measures to indicate a linear progression towards greater formal complexity over the long-term in Old Europe.

The third, and most important, form of feedback concerned the mutual reinforcement between objects, agro-pastoral practices and sedentism (Robb 2013, 665). The spread of Neolithic lifeways across much of the Balkans by the early 6th millennium BC constituted a diverse settlement domain which in most cases was object-rich. At a general level, the establishment of Neolithic lifeways where many objects were normally discarded on dwelling sites led to the reproduction and elaboration of these lifeways through to the climax of material discard – the East Balkan Chalcolithic. This evolutionist narrative is not, however, sustainable, because of the variability of dwelling and depositional practices across the span of our study area over four millennia, strongly related to variable taphonomic processes affecting different site types.

There was a tendency for long-lived nucleated settlements to create far more contexts of preservation for structures and objects than smaller, less long-lived flat or open sites (e.g., Neolithic settlements in North-West Europe or Scandinavia). But, in Old Europe, there was variation in discard rates even between different tells and between various open sites. For example, there is still no satisfactory explanation for the discrepancy between the vast quantities of pottery left in burnt house assemblages on the Ovcharovo tell and the tiny ceramic assemblages at the nearby Poljanitsa tell. Equally, comparison of the Phase 2 Körös and the Phase 3 Alföld Linear Pottery (AVK) settlements on the Alföld reveals smaller, more dispersed settlement units with far less material discard on the latter. The link between settlement dispersion and low discard rates applied particularly to Phase 3 Lower Danube valley groups (Dudeşti and Samovodene groups, the pre-Boian settlements in the Teleorman valley). A major exception to the equation of flat sites with low discard rates concerned the Phase 3 Karanovo IV pit sites of Bulgaria, where deposition of domestic materials on a massive scale was related to different principles – deposition at times of arrival and departure and deposition of mixed materials indicating ancestral relationships. The widespread re-emergence of dispersed homesteads and hamlets in Phases 4 and 5 meant the re-establishment of low-discard, short-term settlement in the Central and West Balkans and much of the Carpathian Basin. In this sea of short-term settlement and low discard rates, the East Balkan and East Hungarian tells of Phases 3 and 4 represented peaks of material agglomeration combined with modest nucleation of inhabitants. The key formation process was often house-burning, which regularly created the opportunity for grand mortuary performances culminating in the deposition of large assemblages of pottery and figurines. In summary, there is very good evidence from Old Europe for the strong, if not ubiquitous, recursive linkage between the wealth of objects, long-term sedentary lifeways and agro-pastoral practices. Such linkages cannot currently be traced in the LBK of Central Europe, for examples, because of the taphonomic effect of loess erosion which has removed the floor deposits of most long-houses (Bickle 2013).

Why could these new social practices not have developed in the mortuary zone? After all, not only was the mortuary zone place-based and deeply focused on ancestral values but it was also characterized by performances integrating members of the wider community. Moreover, mortuary rituals typically featured exotic objects embodying political relations over long distances. The obvious answer is that those very quotidian relations that were embodied in so many objects took place in dwelling places, in the day-to-day interactions between members of households and between households. Two other points support this narrative – one concerning production and the other the re-definition of the mortuary zone. The greatest difference between the domestic and the mortuary zones lay in production, which was concentrated in the former and, while doubtless stimulated by the latter, hardly ever took place there. Thus the key relations linking place of making, people doing the making and objects transformed by the making and using were, for the most part, the defining features of the domestic zone.

The second point arises from the incorporation of mortuary practices into the domestic domain (Hodder 1990). There were two forms of mortuary ritual in 7th millennium BC settlements – intra-mural burial and house-burning, with the latter closing the circle of Concentration. The intra-mural burial of a fraction of the total population stimulated the contribution of the mortuary domain to new lifeways, for example by the funeral feasts and breakage and deposition of objects which spilled over onto dwelling sites. Thus, the lack of a watertight separation between the domestic and the mortuary domains allowed the movement of people and objects between the two. The expansion of dwelling sites' roles in mortuary practice stimulated the domestic production of yet more objects.

We can therefore suggest that the explosion of objects in the Early and Middle Holocene was intimately connected, in the first place, to the many ways in which object agency stimulated the production of ever more objects. The agency of objects constituted a very general practice, with four particular foci – the embodiment of relationships, time-place anchoring, the narration of various stories concerned with identity-building and the creation of personal memory. The scale of dwelling co-emerged with the increases in the production of objects, people and memory, leading to feedback processes which confirmed the significance of objects in the more settled, object-heavy Neolithic world.

The origins of the proliferation of objects and the strong preference for the domestic domain was not an innovation of Old Europe but had already developed in the 'Second Neolithic Revolution' in Central and Western Anatolia (Düring 2011; Brami 2014a; Marciniak 2015). The characteristic emphasis on object-heavy households within dispersed settlements makes this developed late 7th millennium BC stage of the Second Neolithic broadly comparable with South Balkan early farming settlements, even though there were detailed regional differences in object types (Özdoğan 2019). The typical small dispersed tells of Central and Northern Greece in the late 7th millennium BC stand as origin sites to the South Balkan tells. The reasons for the massive concentrations of objects in the sites of both these areas can be directly compared with those adduced for the settlements of Old Europe. There were, to be sure, inter-regional differences in the forms of objects produced in the three areas but the broad scale of production and the emphasis on the domestic rather than the mortuary domain indicate shared cultural practices between Anatolia, Greece and the South Balkans.

In conclusion

I wish to conclude this concluding chapter with brief commentaries on three relational themes that have formed the warps of this book, interwoven as they have been with the three principal questions of this study: relations with the ancestors, gender relations and autonomy in relations.

Despite scepticism over the role and ubiquity of the ancestors in prehistoric narratives (Whitley 2002), there is an overwhelming case from ethnography that the living interacted with the dead on a regular, if not a daily, basis (Morris, B., 2000). Three points summarise this case: the ancestors gave us life and we should repay this gift after their death; the ancestors taught us all that we know and we need their deeper, traditional knowledge to maintain our lifeways; and the newly-dead's interest in our lives did not stop with their physical death but continued as they were transformed into ancestors. But how can we tell that these concepts were a vital part of, for example, Phase 3 communal living in Southern Romania?

The two contrasting places for the ancestors were in the settlement and in their own community of dead – the cemetery. Placing the newly-dead in a pit near a living house maintained for the humans the Concentration Principle as applied to objects. The complete body of a dead relative constituted a strong and concentrated focus for the survivors in a place that had gained special value from the burial. The distribution of body parts to different members of the family, often in different houses, reinforced the dividual relations of the newly-dead person with a multitude of other persons.

In both spatial cases, the newly-dead's social relations were recapitulated by practices of grave good deposition. At the Varna I cemetery – one of the peaks of 'individuality' in Old Europe – a very high proportion of grave goods was complete, especially the gold and copper objects. However, in many other cemeteries, three-quarters or more graves contained fragments of objects – usually pottery but personal ornaments were often fragmented into parts of necklaces – demonstrating the standard practice of enchaining the dead to the living through broken objects. These data comprise the strongest possible evidence for the reciprocal importance of the living and the newly-dead. We can, therefore, claim with reasonable confidence that the ancestors played a strong and continuing role in the daily life of the living in Old Europe, in most times and places. The short, 15-year human generation focussed the minds of Neolithic communities on matters of life, death and the ancestors, with significant genealogical implications.

The narratives I have told about Old Europe have often featured women, children and the aged but it often feels that these groups played the parts not of themselves but of 'ghosts' glimpsed briefly, if at all. There is a spatial dimension to their ghostliness. Thanks to the failure of the task differentiation model, we can no longer make gendered interpretations of maintenance activities beyond logic, guesswork and personal hunches. It is one thing to emphasise the immense amount of time that everyone in a household spent on maintenance activities – especially making clothes – but we cannot be sure that men and boys were the main bakers and weavers. I have already confessed, in this chapter, our inability to reach any conclusions as to the relative importance of men and women in extended exchange networks, for want of relevant evidence, although marriage alliances may well have strengthened links between remote communities.

In discussions of the mortuary domain, the sexed mortuary data suggest that both women and men had important voices in this long-term conversation, despite the urging of many male prehistorians that adult males were key agents in the process of accumulation. The debate over whether mortuary patterning is a direct reflection of power relations in life is by no means settled. Long-term developments in the mortuary zone do not contradict the Robb & Harris (2018) sequence of a fuzzy, regionally diverse performance of gender principles in the Neolithic, with a Chalcolithic transition to a more structured, dichtomous overall pattern in the European Bronze Age. In particular, the emergence of the Tiszapolgár form of personhood emphasised the importance of gender dichotomies from childhood onwards (see above, pp. 108-110) but this form of personhood was not ubiquitous in the Copper Age. Indeed, one of the most promising areas in which we can openly discuss men and women is the field of personhood, in which gendered relations can be seen to be central in the three forms of personhood identified in Old Europe. Having tried to write a gendered account of Old Europe, as Ian Hodder tried before, in the *Domestication of Europe* (1990), my thoughts are that European prehistory is still not ready or able to fulfill this goal, even though the goal is most certainly still worth pursuing.

It may appear strange to conclude a book which has demonstrated that four forms of relationship each have their own importance in the creation and maintenance of social relationships by raising the question of autonomy in relationships. Yet there is a sense that, in Western societies, autonomous agency has become increasingly important to a sense of personal identity – that the expression of 'entitlement' to a desire is already half-way to achieving that desire. The massive academic expansion in studies of 'the body' and 'agency' has much to do with the widespread feeling that people can have autonomous relations based upon their feelings of entitlement.

Yet if this account of social relations ten thousand to five thousand years ago in an often neglected part of Europe has any relevance to the lifeways of the 21st century, it may well reside in the complex, multi-faceted and, above all, inter-linked ways in which persons acted out their largely dividual lives and became their own persons. Karl Marx's (1852) words are still relevant: "Men make their own history, but they do not make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past." Then, in Old Europe, as now, people's enchained relations brought them closer together, for better or for worse.

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FORGING IDENTITIES

Balkan prehistory conjures up images of the Exotic and the Other in comparison with the better-known prehistory of Western Europe – often written in unfamiliar languages about lesser known places. Combined with the information revolution in archaeology, these factors have meant that no new synthesis of Old Europe has been written in the last 20 years. This has left a backlog of rich settlement data and object-rich landscapes which have rarely been presented in theoretically challenging ways. This material is an important, and greatly neglected, part of European prehistory.

This research monograph is a synthesis of the archaeology of South East, Central and Eastern Europe over four millennia (7000–3000 BC). The varied cultural development of the region is treated as a mosaic of local prehistories, in which people responded to major change and, in at least two cases – the development of farming and metallurgy – profound structural change through modifications of all the dimensions of their identities. Informed by a gendered perspective, this book seeks to structure the Mesolithic, Neolithic and the Chalcolithic periods in terms of a nested set of identities - the person, the household, the settlement and the regional network.

This book is intended for all those prehistorians who seek to expand their general knowledge of Old Europe, as well as undergraduates, postgraduates and specialists in Balkan prehistory. The book will also attract social anthropologists and sociologists with an interest in the creation and maintenance of nested social identities in the past.

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ISBN: 978-90-8890-948-1

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