Chapter 9
Scales of Political Practice and Patterns of Power Relations in Prehistory

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> *[…], the political is that dimension of social life in which things really do become true if enough people believe in it.*
> *David Graeber (2011, p. 342), Debt. The first 5000 years.*
> *Politics: A strife of interests masquerading as a contest of principles. The conduct of public affairs for private advantage.*
>
> Ambrose Bierce *(1906/2000), The Unabridged Devil's Dictionary.*

9.1 Introduction

Politics is the negotiation of shared or conflicting interests and values between people and groups in collective decision-making processes. Although such negotiations, today as in the past, are manifold and dependent on specific historical settings, they are also influenced by a number of social patterns and structures which can be archaeologically determined in order to investigate the politics of prehistoric societies.

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However, a blatant gap in our knowledge of prehistoric Europe comes from the lack of a substantial discussion about politics, decision-making, conflict resolution and reconciliation of particular and collective interests. While there is, for example, a lot of research into Bronze Age and Iron Age chiefdoms, elite networks, violence and war (e.g. Earle, 1997, 2017; Earle & Kristiansen, 2010; Earle et al., 2015), it seems that beyond the question of when and where centralised rule can be identified, there is very little interest in how social groups actually organised their decision-making processes every day and everywhere: beyond the palaces or chiefly halls. It seems that most archaeologists implicitly assume that only top-down, centralised domination in the form of militarised princely chiefs, as they are discussed in younger prehistoric periods, would be worth investigating in terms of political processes. All other prehistoric communities seem to be viewed as some kind of 'people without history' in the sense discussed by Eric Wolf in 1982 (Wolf, 1982/2010): as people who are just 'not yet' capable of conceding power to one individual self-aggrandiser. Sporadically, Big Men have been invoked for Neolithic communities (Iversen, 2015), once more reinforcing the impression that views on prehistoric politics are very much reduced to the topic of individualised male dominance. There is not much doubt that the long-outdated, yet inherently still ever-present, social evolutionary narrative (Fried, 1967; Service, 1968) plays its role here by equating the apparent lack of individual male leaders with 'simple' and egalitarian societies that are regarded as a kind of primordial apolitical equilibrium (Wengrow & Graeber, 2015).

This described view is strongly influenced by narrow and rather one-sided perceptions of political agency in (pre)historic contexts; there is a real need to broaden these views on political structures and to investigate more thoroughly how the political process in and between prehistoric people, their seasonal stations, villages, farms, lineages, clans and regional networks actually functioned. What kind of power structures and institutions existed, how was power distributed, how were conflicts resolved, how were diverging or opposing interests reconciled, how were decisions made and how were they actualised and enforced? Socio-cultural anthropological literature and case studies do offer various angles on how to approach these questions, yet they remain underrepresented in archaeological interpretations, despite the prominence of specific models (such as Big-Man societies). With our enquiry, we aim to expand our scope for political possibilities beyond the currently dominating hierarchical systems. We explore the past for alternatives to find out how they worked, what patterns of dynamics may indicate structural entanglements, and what possibilities arose from particular historical constellations (i.e. general or universal patterns vs. particularities, individual action, historical events). We do have a large body of anthropological evidence (e.g. Amborn, 2019; Clastres, 1974/1989; Evans-Pritchard, 1940; Fortes & Evans-Pritchard, 1940/2015; Graeber, 2004, 2007; Richards & Kuper, 1971; Sigrist, 1967) for such political processes in all kinds of communities, a source that so far has not been properly tapped for an understanding of European prehistory. In this chapter we want to define a spectrum

of possible forms of political decision-making (polities), drawing specifically on the archaeological record for non-state, acephalous societies. We then want to define a set of possible archaeological parameters for the identification of such polities and use a number of case studies to explore their applicability. By drawing on these case studies, we will discuss possible issues of political negotiations (policies) and processes of decision-making (politics), which might have taken place in those specific social settings. We will then, tentatively, discuss the question of to what degree we can recognise regional or diachronic changes, dynamics and transformations in decision-making processes and political practices across space and time. In addition, we would like to show how political dynamics and the transformations of these go hand in hand with further changes, so that the interconnectedness and complexity of the different politically active prehistoric societies and their environments become clear.

9.2 Approaching Power and the Political in the Past

9.2.1 Perspectives on Political Practices in Anthropology

For the past few decades, evolutionist anthropologists, together with archaeologists, have imposed different classifications on societies – such as bands, tribes, chiefdoms, and states – and also have debated the merits of such typologies (Fried, 1967; Service, 1975). Conflict is often accorded a central, if not catalytic, role in virtually all these schemas. A large body of literature has argued that such classification is a tool used by a hegemonic West to assert power over the designated groups. More recent trends in post-colonial and globalization theory have questioned such traditional typologies; the emphasis has shifted to fluidity, hybridity, and change rather than the static structures denoted by classification systems (e.g. Bhabha, 2012; Jullien, 2016). Radcliffe-Brown had conceptualised society in terms of a 'system in equilibrium', where every single institution was part of the 'whole' structure (Spencer, 2007).

Regardless of categories, the role of political systems and their formal mechanisms may vary in every society. As mentioned by Gary Ferraro (1992), all societies differ in their political organisations based on the following dimensions:

- The degree to which political institutions are separate from other components of the social structure; for example, political structures in some societies are closely entangled with economic, kinship, or religious structures.
- The extent to which power is concentrated in specific political positions/roles.
- The level of political integration (i.e. the size of the territorial group that comes under the control of political structure).

With respect to the study of political/social organisation present in prehistoric societies, the question is not whether these societies were politically organised – all societies are – but rather which institutions and/or mechanisms there were and how they functioned. Political anthropology may help to identify relevant parameters of enquiry, as well as the interplay and interconnectedness of different socio-political spheres and their institutionalised forms (e.g. kinship structures, village councils). It can also be stated that political institutions are not secluded components, but they are a part of wider social frameworks and thus interconnected with other subsystems in a society.

In anthropology, inductive and comparative approaches are used in studying political institutions and for explaining the uniformities and differences found between them, as well as to interpret their interdependencies with other features of social organisation (Fortes & Evans-Pritchard, 1940/2015, p. 5).

When describing the political authority in particular societies, we focus on their political systems. Political organisations are those institutions and/or mechanisms (formal and informal) which perform various activities concerning decision-making and conflict resolution, in order to create and maintain social order and cope with social disorder. Some of the central institutions of political organisation and the execution of power known from social and cultural anthropological research are the following:

Village councils: Village councils and caste councils are some of the political institutions well-defined by Bailey (1960) in his study about political systems (cf. also Richards & Kuper, 1971). Tribes commonly have village headmen who perform leadership roles, but these individuals have relatively limited authority. Political power stems largely from their senior position within kin groups and their ability to persuade or harangue others into doing what they want (Amborn, 2019; Franks, 2002; Sigrist, 1967).

As villages tend to have small populations occupying a local space, having common needs and interests, where livelihood and social interactions overlap, a local body with first-hand knowledge is needed to maintain decorum and smoothly run the daily activities (Krishna, 2002).

Socio-political networks: The networking between neighbouring groups of people or along lineages and clans is one of the important aspects of the study of politics in non-state societies. Paige (1974) supported the argument of anthropologists regarding understanding the relationship between systems of kinship and forms of political organisation. He further emphasised that the organisation of kinship and the organisation of the polity are closely integrated in stateless societies. Kinship roles frequently determine patterns of group interests and solidarity, as well as lines of political cleavage and conflicts. Kinship is an important constituent of social structure and plays a significant role in determining political behaviour in non-centralised/tribal societies (Hughes, 1988). Groups based on clans or kinship, living in different territories or villages, play a distinguished role in the socio-political networks across the wider area. Balandier (1967/1970) has cited

Van Velsen's case of the Tonga of Malawi, where the political relations were expressed in terms of kinship, and the manipulations of kinship are one of the means employed in political strategy. Non-state societies are typically characterised and defined as essentially kin-based societies (e.g. Earle, 1997; Francisconi, 2006; Grinin, 2011; Kottak, 2002; Milner, 1998; Sneath, 2011), with 'the role of the kinship system as a model for political organization' being characteristic (Bargatzky, 1985, p. 300).

Social subgroups based on shared attributes (age-based etc.): Apart from the central political organisation, there are other age/sex-based groups which can also hold noteworthy power in decision-making processes within a society. Groups, such as family groups, interest groups, pressure groups, peer groups – or variants suggested by colleagues, such as lodges, and clubs – exist in all societies, with different groups and communities regularly benefitting from them. Yet, it should not be omitted that those groups might also serve different interests, and therefore might stand in conflict with each other. For example, youth dormitories can be important institutions among tribal societies, which are quite common across areas of Northeast India (Lalchhanhima., 2020). Although these groups are not strictly political bodies, youth dormitories aid in training the youth in various aspects of socio-cultural, economic, religious and political activities, and also play an important role in the decision-making processes of matters related to the society or group of people. Among the Dimasa Kachari of Assam, Hangsao, the bachelors' dormitory, is an important institution and also plays the role of the village defence. They are trained to become leaders and organisers, to undertake public works and community works. In this sense, youth dormitories can be regarded as quasi-political units (von Fürer-Haimendorf, 1950).

9.2.2 Manifestation and Features of the Political: Parameters of Asymmetrical Power

Power is a crucial and much-discussed topic in archaeology (e.g. Earle, 1997; Lund et al., 2022). Most of the time, archaeologists tend to identify it as represented in the form of rich finds and buildings, betraying a flawed conflation of power and wealth. The resulting interpretations of asymmetry in the distribution of power are portrayed as definite and unambiguous. However, as discussed in the introduction, interpersonal processes such as human interaction, and entanglement in material practices and spheres of life, have been less explored with regard to their power dimension. In fact, the whole area of symmetrical power (Lund et al., 2022) is missing from the discussion. In addition, the social processes connected to asymmetrical power relations are unclear so far and pose the question: How can uneven power distributions be manifested in the prehistoric archaeological record?

In order to answer this question, it is first necessary to establish how 'power' is defined for prehistory in this chapter. As is usual in many articles on prehistoric power relations, Max Weber (1980) is at the beginning of the discussion with his concrete definition: Weber sees power as every opportunity to assert one's own will within a social relationship, even in the face of opposition, regardless of what this opportunity is based on. Although Weber briefly discusses non-coercive forms of power, he practically ties power to institutionalised coercive rule (M. Weber, 1980, p. 28). His concept of power is individualistic, confrontative and antagonistic (Lund et al., 2022). It is an inherently male, patriarchal view of power backed by the threat of violence, and it is not difficult to see the authoritarian state and patriarchal family of nineteenth century Germany in which Weber grew up as the main model for his idea of power. Weber's concept largely disregards the collective nature of power without which no society can exit, which in contrast is emphasised by Hannah Arendt (1970). We hold this Weberian concept, which largely conflates power with coercive domination backed by an all-encompassing state monopoly of violence, as reductive in general, and specifically as unsuitable for the analysis of prehistoric societies where such a monopoly did not exist. That is why we found the approaches of Hannah Arendt (1970) and Michel Foucault (1983, 1994, 2004) more suitable for our study (see also Lund et al., 2022). Arendt emphasises the collective and consensus-based nature of power, which she sees as the essence of, and a necessary prerequisite for, any kind of society. She famously differentiates between power and violence, positioning the latter as the opposite of power. While they usually appear together, these two forces are seen to be complementary; where one prevails, the other is diminished, as violence destroys the collective base of power. This parallels the concept of Foucault. According to Foucault, power is the name given to a complex strategic situation in a society. In this, power is an open, more or less coordinated bundle of relationships (Foucault, 1994, p. 302) and thereby acts as the relationship of interacting forces in all social spheres. Thus, power is not at all reduced to violent oppression, but rather regulates and channels life through certain power techniques (exclusion, controlling surveillance, security systems: Foucault, 2004, pp. 6ff.). In addition to this, Niklas Luhmann (1975, pp. 3–12) should be mentioned, who states that power is inherent in every communication process and a necessary precondition for social development. Furthermore, according to Pierre Bourdieu (1982–1984/1991, p. 164), fixed positions of power (e.g. in language or symbolic actions) can only be maintained if agents are not aware of the implication. The relationship between us and others is thus what conveys something to us about the other and ourselves. However, there is no relationship without a power relationship.

As already mentioned in the introduction, the top-down perspective cannot be the only way to reconstruct power relations for prehistory. The pioneer of the assumption that power is not a one-way movement, as in a hierarchised ladder from top to bottom, is again Foucault, who says: 'pour qu'il y ait mouvement de haut en bas, il faut qu'il y ait en même temps une capillarité de bas en haut' [for a movement from top to bottom to take place, there must necessarily be a capillary rise from

bottom to top at the same time] (Foucault, 1994, p. 304). In this context, people's freedom of action, as well as the concepts that guide people in everyday life, must be considered as possibly less integrated (Joyce & Lopiparo, 2005, p. 369).

For our study, we have compiled the following parameters as influencing factors of power as based on our research.

9.2.2.1 Community Size

The size of a community is decisive for the assessment of political processes and accordingly a central aspect of our contribution.

Community size strongly correlates with power distributions and cooperation relations (Stanish, 2017), as well as the need for regulations of coexistence – in whatever form and at whatever time.

With an increasing number of members, the complexity and dynamics of a community will most probably rise (Feinman, 2011, pp. 41ff.). An increasing population can also be a reason for the emergence of social inequalities (Brown, 1981, p. 27). Alberti (2014) summarised the emerging stressful effects of increasing group size based on the theories of Johnson (1982) and Dunbar (1993; Hill & Dunbar, 2003), as well as drawing on a variety of sociological studies. According to Johnson (1982, 1983), the larger the group, the greater the potential for stress due to competition, disagreement, dissension and communication problems. According to Hill and Dunbar (2003), a group that is too large reaches its cognitive limits when it comes to the maintenance of social relations and thus decision-making. Decision-making and task completion are thus made more difficult, although the diverse group constellation can, of course, also offer a more productive generation of ideas for problem-solving. A group that is too large can also be counterproductive, as the quality of ideas has been shown to decrease above a certain group size. As groups increase in size, they also tend to form subgroups, which can lead to a decrease in overall community cohesion and cooperative consensus, as larger groups are more likely to contain non-cooperative individuals (Alberti, 2014, pp. 2ff.). Concrete numbers that give a good group size are between 100 and 200 people (cf. Dunbar, 1993; Kosse, 1990; Olsen, 1987). Such a group size could also do without centralisation of power or institutionalised authority (Gonzalez, 2014, pp. 147 f.). More people may also not need centralisation, but rather organisational structures like 'nested networks', where subgroups or segments of a community are represented by designated individuals in community councils or similar organs of higher-scale decision-making. The forming of subgroups within a community can be best traced archaeologically if it shows up in the arrangement of settlement space (Haude & Wagner, 2019). Such segmental societies are probably best conceptualised as heterarchical systems, which can include varying degrees of intra-group and inter-group hierarchical relations (e.g. Feinman, 2011; R. Hofmann et al., 2019).

However, if decision-making were reduced to a few individuals, the large community could be relieved of this, but it would restrict the freedom of action for the large mass (Alberti, 2014, pp. 2ff.). Yet, Amborn (2019) has shown how even very large communities can maintain decentralised forms of decision-making, and largely avoid social inequality, for example through strongly internalised norms and codes of conduct. Amborn's findings align well with other social and cultural anthropological studies, which show that although subgroups and structures such as neighbourhoods and clans might gain importance within power structures of large communities, there is no simple correlation between large groups and growing social inequality (Green, 2021; Hodder, 2014; Hofmann et al., 2019; Sigrist, 1967). Yet, an important factor for the overall power of a given group is the territory linked to it. Higher authority and/or power might be achieved through a larger population and/or territory (Dillian, 2003; Malmberg, 1980).

The reconstruction of group sizes is undoubtedly dependent on the information from the features that are still available to the archaeologist. The extrapolation of numbers of people based on house sizes and house and settlement numbers are indispensable for prehistoric reconstructions, but often bring with them the problem that contemporaneity cannot be guaranteed for all houses or settlements. With mobile or semi-sedentary groups, additional difficulties in estimating community size are posed by dynamic settlement systems with various seasonal sites and ephemeral stations, and by cyclical group size fluctuations. The use of grave numbers is similarly problematic, as not all members or subgroups of a community might be represented in the (preserved) burials (cf. Metzner-Nebelsick, 2019).

However, the measurement of food stocks, which could be traced, for example, with the help of storage pits or buildings (cf. Prats et al., 2020, p. 19), calls into question surplus gain and surplus profit (Risch, 2018, pp. 48 f.), which could lead to an over-calculation of the population. Indeed, surplus food production may have arisen from much more complex motivations and been regulated (Bogaard, 2017). Due to these circumstances, the combination of clear stratigraphy with scientific dating and the use of extrapolations, and especially the comparative use of different types of finds, is essential to approach prehistoric community sizes.

9.2.2.2 Conformity/Diversity

This parameter is important for our study because measurable standardisation or deviation from a measurable norm plays an important, politically relevant role. A crucial archaeologically measurable parameter in this context would be, for example, architectural elements such as house or grave sizes, shapes, structural elements or furnishings. While standardisation of such elements points towards a centrally regulated or communally established conformity, practically it communicates and enforces equal treatment of people. Deviations may reveal social differences or individual autonomy, while a total lack of uniformity would attest to a pronounced decentralisation and autonomy of households.

Archaeologically, regulation can be shown, for example, by size uniformity, such as the Bronze Age burial mound sizes of southern Germany, which always measured approx. 7 m in diameter and thus show centrally regulated construction methods (Falkenstein, 2017, p. 81).

The situation is similar when dealing with material culture. Conforming objects, such as ceramic styles – be they based on shaping and decoration (Graves, 1998) or even diets (Twiss, 2012) – can be subject to central regulation and carry social or symbolic meanings (e.g. marking the contents of vessels). Deviance, on the other hand, can signal other cultural diversities or particular social identities in a society (e.g. weapons).

In terms of personalities, supporting shared social norms and minimising divergence among members is, following Arendt (1970), the main source of power; it can help coordinate the group's response to external threats (such as pandemics and natural disasters). When it comes to decision-making, individuals often adapt their opinions to those of other members and even change their minds in group discussions (Levitan & Verhulst, 2016).

In smaller groups, there might also be a 'conformity pressure' (Mallinson & Hatemi, 2018), as one is obliged to – or possibly even vitally dependent on – the community. Archaeologically, the social challenge of the individual in forming opinions is not visible, but can be considered along with continuous developments and – for instance – grave construction or burial rites. Broader transformations, on the other hand, will necessarily go along with changes in the prevailing opinion.

9.2.2.3 (Critical) Resources: Access and Distribution

Resources from basic to self-fulfilment needs (Maslow's hierarchy of needs: Maslow, 1943) (e.g. land, water, certain materials such as wood, flint or bronze; rare objects such as amber; prestige objects; luxury goods such as salt) can be subjected to the political process of a society by centrally controlling their distribution, access or withdrawal as opposed to decentralised access and sharing. Access to resources, such as land to grow specific kinds of plants, also fulfils a central role regarding the possibilities for members of a given community to engage in politically critical activities such as feasting (cf. Hayden, 2014).

Archaeologically, such regulation or control of resources, or the sharing thereof, is evident, for example, in their centralised or decentralised placement. This may involve the distribution of wells, storage buildings, storage pits, hoards or tombs. Furthermore, the strategic placement of settlements or buildings can represent the control of access routes to waterways or trade routes.

Depending on the form of society, decision-making institutions or power structure, systematic distribution of resources or surplus products can be equal or unequal; as in the comparison of universal sharing, Big man (accumulation and asymmetric generous distribution) or Chiefly societies (restricted/unequal distribution) (Hansen, 2018, pp. 227 f., Fig. 5). According to the prevailing institutions and power

structure, such regulations can also be ideologically determined and – similar to the importance of regularities in the construction of graves or houses (see above: conformity vs. autonomy) – presuppose standardised and possibly ideologically determined resource uses and access (Falkenstein, 2017, pp. 81 f.) and thus also reflect social differentiations in terms of investments (Brown, 1981, p. 29).

Communication, the negotiation of distribution and claims on economic costs and resources, or the adaptation to external factors can be seen, for example, in the transformation of the economic efficiency or productivity of a society; as in a change in economic practices, measurable, for example, by a change from arable to livestock farming, or the reduction of house sizes, which would mean less building material. The separation of lower- and higher-value modes of food production can also reveal different regulations of important resources, as can be seen, for example, for salt extraction at the Erdeborn site in central Germany, when different qualities of salt were produced for export. (Ettel et al., 2019, p. 386).

Hunger riots and looting, as well as protests, boycotts and physical resistance, are not directly detectable in the findings, but can be discussed on the basis of upheavals in social conditions or sudden migrations (see below). The relocation of trade routes or hoards may also indicate a supra-regional redistribution and reshaping of political relevance.

9.2.2.4 Networks Configurations

Network studies enable the exploration of dynamics between interpersonal and geographical space at the micro, meso, macro and global scales. For our study, the focus lies on the political relevance of the construction, maintenance and expansion of networks, which is also linked to economic interactions. In contrast to well-known approaches that try to infer large-scale ‘network types’, the present study employs a bottom-up perspective: What did the individual’s or household’s network look like in relation to other individuals and households (family, friends, neighbours, community members)? What was the relationship to external networks, such as other settlements, regions, etc.? How was access to one’s own and external networks regulated or controlled? Maintaining contact with the outside world, i.e. with other communities, may have been important, e.g. against the background of wanting to keep open the option of moving to another community or region (Furholt et al., 2020b, pp. 171, 176ff.).

In addition, networks may have served to procure objects, but also knowledge, technologies or specialists. Both reasons (threat of migration; possession of important relationships) may have represented a position of power in a society, as they could bring the economy of the society into an interdependency. Find distributions at different sites, or hoard finds along so-called ‘trade routes’ (e.g. Amber Road), show how far-reaching and intensive such connections were, and how carefully they were established and maintained. Travelling specialists also show how certain

technologies were exchanged (e.g. travelling flint specialists during the Early Bronze Age in the Thy region: Eriksen, 2018). Differences in burial and household arrangements within a society may also reveal a difference in individual rights of access to, and control over, certain objects.

9.2.2.5 Organisation of Decision-Making

'Decision making is a dynamic and interactive process incorporating a sequence of events from the time when decision makers recognize the need to solve a problem until the time when they authorize a course of action to solve it.' (Elbanna, 2017, p. 163).

Decision-making is a fundamentally basic political tool, and the manner of its organisation shows the influence of power and politics in social life. Processes of decision-making in non-centralised societies are usually connected to specific institutions (such as village councils: e.g. Richards & Kuper, 1971) and involve complex negotiations, discussions and deliberations, where dissent might be seen as forbidden by custom and the requirements of group loyalty.

Depending on the form of society, decisions can be authoritarian/hierarchical or anti-authoritarian/non-hierarchical (Blanton, 1998, pp. 151 f.). However, this does not mean that anti-authoritarian/non-hierarchical decisions cannot also be centralised. They are merely organised differently, in that centralisations, for example, must always be renegotiated (Angelbeck & Grier, 2012, pp. 549ff.).

For the study at hand, this parameter is very important, as it enables the identification of decision-makers and dynamics in political decision-making processes and poses questions such as the following for discussion: Were decisions centralised? Who had decision-making power? Did decision-making power lie with specific individuals or groups, or was the entire community involved in the decision-making process? Where and when were decisions made? Were there specific houses or places, as well as specific times, for decisions? How and by whom were decisions made, communicated and implemented?

Depending on the social dynamics and impact on areas of life, the effects of decisions can be reflected as changes in find situations and environmental data. This can be, for example, a change in ideological concepts in the burial system or new economic approaches in housing construction. Such a structural change can be seen, for example, in the fact that at first a few representatives slowly assert themselves before the great masses decide to adopt the new custom and only stragglers remain. Such a process can take a long time, whereby even decisions that were necessary ad hoc, for example, to avoid an ecological or economic crisis, can show up as a drastic change in the data (e.g. settlement destruction at the Bronze Age site of Bruszczewo, Poland: Kneisel, 2013, pp. 95ff.).

9.2.2.6 Property Rights

'A common definition of property is twofold: something possessed, and the exclusive right to hold, use, and/or dispose of that something' (Earle, 2000, p. 40). In addition to that, it 'can be seen as a cultural manifestation of territoriality that develops to defend and regularize rights to scarce and valued resources' (Earle, 2000, p. 43). For our study, the focus is on political relevance in the emergence and implementation of property rights. How did property rights influence the development of social institutions and were they in turn influenced or controlled by them? What was the significance of property in the development of political economies? 'We know that property rights are a critical dimension of the evolution and materialization of social institutions and political relationships' (Earle, 2000, p. 53), because they are responsible for the invention of social inequality – as Rousseau (1755/1992, pp. 28ff.) already noted – and therefore the creation of hierarchy.

Less wealth, for example, can lead to a decreasing obligation to share and thus an increasing sense of ownership (Wiersma, 2020, p. 143). The representation of wealth is based on the principle that individuals, households and social groups accumulate and possess wealth in different ways. Furthermore, levelling mechanisms must be considered that can counteract the accumulation of wealth by a few (Clastres, 1974/1989). Possession thereby represents symbolic and social capital for political control (Earle, 2000, p. 45).

In the archaeological record, property and its access or disposition are recognisable in a variety of ways. An explicit representation of the claiming of property is evident in warfare for the defence or acquisition of goods, insofar as patterns of warfare correlate with property rights (Earle, 2000, pp. 49 f.). Junker (1999, pp. 336ff.) has pointed to a connection between the development of prestige goods economies and the emergence of a warrior elite. Another indicator of the politics of property rights and their shifts are settlement distributions, and arrangements that reflect land ownership and access (Earle, 2000, pp. 50ff.). Furthermore, physical markers may serve to mark territories, land (e.g. fields) and objects through constructions such as walls, cairns and mounds, ditches, hedges and the like. Land may also have been marked by special boundary ceremonies, enclosures, and the construction of villages and/or cemeteries associated with communities (Earle, 2000, pp. 51ff.). Field boundaries may have been marked, for example, by rows of pits, as known for the Bronze Age of Central Germany (Schunke, 2017, pp. 79ff.).

9.2.2.7 (Violent) Conflict and Reconciliation

The implementation of political decisions in a society, which also affects aspects already discussed, such as population pressure or access to resources and possessions, may have been the trigger for conflict. Conflict and reconciliation, therefore, form an important parameter in the study of policy implementation.

What situations led to conflicts within a society or between societies? When and how did violence play a role? Did conflicts serve to defend a society or to enforce

political decisions within one's own society? And how were conflicts resolved or was there reconciliation? Were there strategies for conflict avoidance or resolution (confirmation of the status quo/change of the situation)?

The discourse on prehistoric conflict has prominently focused on the Bronze and Iron Ages. Warriors and so-called warrior elites (Earle, 2002, p. 363; Vandkilde, 1996, pp. 288ff.) as well as warrior ideologies play a concise role, whereby corresponding grave furnishings do not necessarily have to be warlike, but can also be social assignments of identity (Vandkilde, 2006, p. 69). Under this aspect, weapons in particular play a central role. In addition to weapon finds in graves that point to a single powerful, politically relevant identity (e.g. so-called 'princely graves'), weapon hoards are sometimes interpreted as an indication of a politically organised military (Meller, 2019a, pp. 146ff.) that served to defend a society and/or symbolised its troop strength (Meller, 2019b, pp. 109 f.). Furthermore, the appearance of fortifications can be an indicator of troubled times.

The assertion of interests can be reflected in the archaeological record in the form of violence with warlike confrontations as a political instrument of conflict for power. Evidence for the direct use of violence can be found primarily at battlefields (e.g. the Tollense Valley battle: Jantzen et al., 2011), mass graves (e.g. the Talheim massacre: Wahl & Trautmann, 2012) or on the basis of bone trauma and symbolically violent treatment of the dead (e.g. the circular grave complex at Pömmelte-Zackmünde: Spatzier, 2019, pp. 415 f.) – although the interpretation of such findings is difficult and must be discussed anew from case to case (Johannesson & Machicek, 2010, pp. 15 f.). Reconciliation, on the other hand, is much more difficult to capture and reconstruct. The question is also whether there was political reconciliation at all, or whether a conflict situation between societies was repeatedly reignited by political and military violence. Reconciliation also depends on whether the ideology of a society even considers reconciliation an option and has a plan for it. Depending on the definition, reconciliation can also represent a change or renewal (e.g. new networks) in archaeological data or, quite pessimistically, the absence of war (Johannesson & Machicek, 2010, p. 16 f.). Ethnographic comparisons would be decisive here, as there are many examples with war-reconciliation-war-reconciliation-… sequences that could provide us with clues for prehistoric political processes.

9.2.2.8 Knowledge

One of the most contentious issues in social theory is the relationship between power and knowledge (Garcia, 2001). Barnes defines power as 'the distribution of knowledge' within society, and claims that 'to possess power, an agent must be known to possess it.' (Barnes, 1988/2002, p. 126). Superior/specialised skill, knowledge, or success in locally valued domains, including domains related to social norms and rituals, often confer prestige on individuals. Hunting, oratory, shamanic knowledge and combat are all domains associated with prestige in small-scale societies. The production and application of these kinds of special

knowledge influence the main sources of social power. Therefore, knowledge should be seen as a significant factor in the transformation of human societies through time and space.

A specific aspect of the role of knowledge within societies concerns highly specialised knowledge and social roles, such as religious or ritual specialists. Within social and cultural anthropological research, cosmological and/or religious aspects form a significant part of everyday life. Persons who are related to this kind of position, or who posses knowledge in this area are often given a voice regarding matters related to the community.

9.3 Approach

For our analysis, we will first present five case studies in a descriptive way, guided by the defined parameters. The case studies cover a large spatial framework, which is shown in Fig. 9.1.

The aim is to pick out the most important political aspects for our analysis, rather than to develop an overall presentation of the respective societies. For discussions of our case studies in general, we refer in each case to the extensive

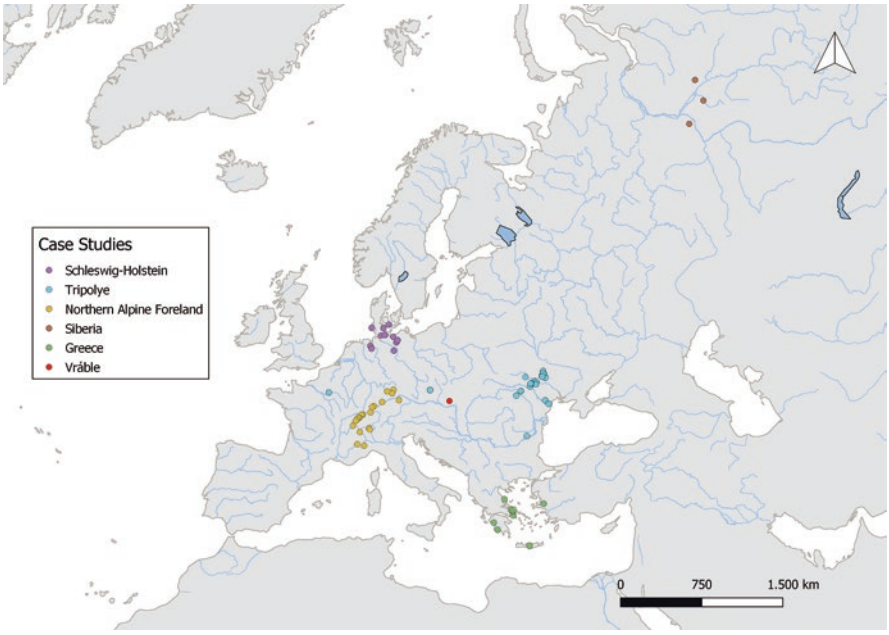

Fig. 9.1 Map of the case studies: Neolithic and Bronze Age Schleswig-Holstein, Neolithic and Bronze Age in the Northern Alpine Foreland, Neolithic and Bronze Age West Siberia, Neolithic Trypillia (Tripolye) and Iron Age Greece. In addition to that, the site of Vráble was used for comparison (see below). (Figure by the authors)

literature database. To compare our results based on the parameter description, we have numerically broken down our data to a presence or absence of political attributes defining the parameters. These attributes are listed and defined in Table 9.1.

For further analysis, we have used this table to develop a dendrogram of a hierarchical cluster analysis that best shows how the different parameters defined in our case studies co-occur, in order to discuss patterns of social organisation and their influence on the different political concepts, dynamics and transformations. This might also identify the most influencing factors in our parameters.

9.4 Case Studies

9.4.1 Case Study 1: Political Practice and Power Relations in Neolithic and Bronze Age in Schleswig-Holstein

The period of the Neolithic on the central North German Plain is characterised by diverse transformation processes ranging from Neolithisation to the full adaptation of metallurgy (Brozio et al., 2019b; Müller, 2019). For the following study of political practice and power in the Neolithic, the focus is on the transition from the fourth to the third millennium BCE on the southern Cimbrian peninsula (Brozio, 2020). The main subject is the developed Funnel Beaker (FBC) phenomenon between 3300 and 3000 BCE and the end of this phenomenon c. 3000–2800 BCE, as well as the Globular amphora (GAC: Müller et al., 2020) and Single Grave groups (SGC: Schultrich, 2018) in the region. With the Bronze Age, the new metal becomes a central factor of influence in socio-political events and promotes, in particular, a social differentiation during the Older Bronze Age (1800–1150/1100 BCE), which is transformed again with the burial change and the transition to the Younger Bronze Age (1150/1100–500 BCE) and gives rise to a new socio-political image of society that appears egalitarian (Fig. 9.2, c.f. Schaefer-Di Maida, 2023, 274f.).

9.4.1.1 Community Size

In contrast to the Mesolithic, the Neolithic from 4100/4000 BCE onwards is linked to an increase in people (Hinz et al., 2012), which peaks around 3400–3200 BCE, followed by a stable population until 3000 BCE (Müller, 2011). This can be attributed to the introduction of the plough, specialisation in certain cereals (Kirleis, 2019; Kirleis et al., 2011) and an increase in the importance of domestic animals in the subsistence economy. At the same time, villages such as Büdelsdorf LA 1 (Brozio, 2016; Hage, 2016) and Oldenburg LA 77 (Brozio, 2016), which are connected to population agglomerations, develop until 3000 BCE (Müller & Peterson, 2015). This phenomenon is also reflected in a building boom around 3200 BCE, in which about 1200 megalithic tombs were built in only 50 years (Brozio et al., 2019b). Estimates of the population density assume a total of up to one person per km^2 (Schiesberg, 2012).

Table 9.1 Definition of attributes

	Attribute	Definition	
Community size – (CS)	Small	>25	
	Medium	25–150	
	Large	150–500	
	Very large	500–2000	
	Mega	2000–10,000	
Conformity/ non-conformity – (CNC)	House configuration	Describes construction and internal division and internal organisation	
	Spatial distribution of pottery styles: uneven	Clustered within certain units	
	Spatial distribution of pottery styles: even	Crossing borders of households, quarters	
	Grave size/house size: low variability	To be defined within each case study	
	Grave size/house size: medium variability		
	Grave size /house size: high variability		
	Settlement layout: planned	Measures for community cohesion	
	Settlement layout: semi-planned/unstructured		
	Settlement layout: unstructured		
	Internal settlement density: single farms	e.g. BA SH	Measuring distance between house units
	Internal settlement density: low	e.g. Neo SH	
	Internal settlement density: medium	e.g. Vráble, Trypillia	
	Internal settlement density: high	e.g. Catal Hüyük, CH pile-dwelling, Athens	
	Dietary habits uniform	All eat the same	
	Dietary habits differentiated	Some eat ‘better’ than others	
(critical) resources: Access and distribution – (RAD)	Centralised	Pooling resources somewhere	
	Differentiated	Some places have more/different R than others	
	Decentralised	Evenly distribution of R	
	Unrestricted	Everybody can go to the mine and extract R	
	Restricted	A specific group has access to the source of R	

Network configurations – (NC)	Imports: low	
	Imports: medium	
	Imports: high	
	Mobility: low	
	Mobility: medium	
	Mobility: high	
Organisation of decision-making – (DM)	Meeting places	e.g. assembly houses, cooking stone pits, rondels
Property rights – (PR)	Pens and fences	Keeping livestock in the house or separated from others
	Continuity of house locations	
	Land divisions	
Conflict and reconciliation – (CR)	Enclosures/facilities of clearly fortified character	e.g. palisades, deep ditches or combinations etc.
	Enclosures/facilities of perhaps merely demarcating character or with other functions	e.g. causewayed enclosures
	Weapon-tools	
	Weapons for war	
	Traumata: no burials, low	
	Traumata: medium	
	Traumata: high	
	Regional population aggregation ongoing	Measures for community cohesion
	Regional population dispersal ongoing	
Knowledge – (K)	Network-embeddedness: low	Embeddedness in an over-regional worldview/ideology (e.g. shared symbolism)
	Network-embeddedness: medium	
	Network-embeddedness: high	
	Craft specialisations	e.g. workshops, kilns

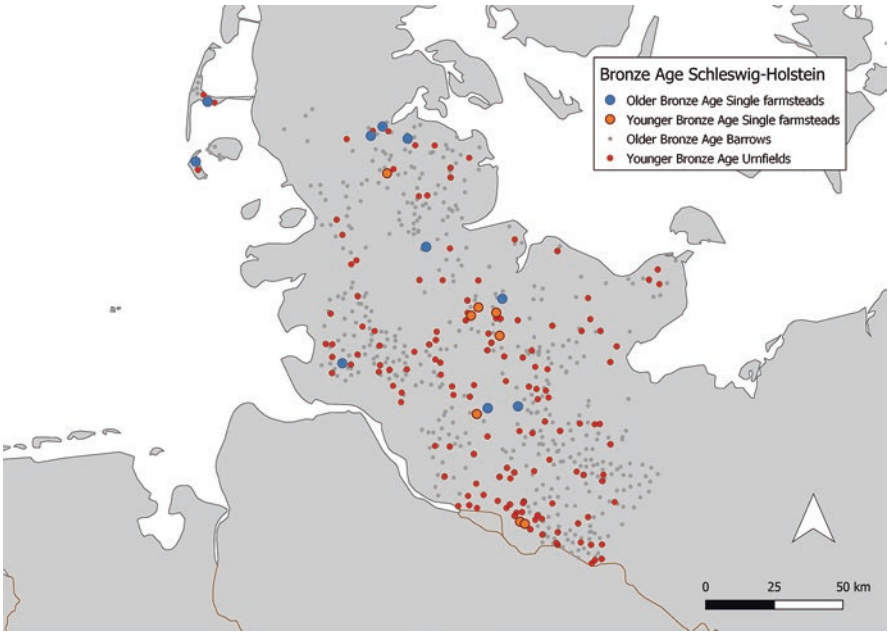

Fig. 9.2 Map of Bronze Age barrows and settlements in Schleswig-Holstein. (Figure by the authors)

Around 3000 BCE, a decline in the human impact is first recorded, which is associated with a decline in population (Hinz et al., 2012). Villages begin to disappear and smaller domestic sites start to develop (Brozio et al., 2019a). At the same time, more and more flat graves and burial mounds are being constructed which, with individual burials, contrast with the collective burials of the passage graves.

Older Bronze Age burial mounds (1800–1150 BCE), which stand out visibly in the landscape, probably represent only 10 per cent of a society, according to Kristiansen (2018, p. 110), while the remaining 90 per cent either received a flat grave (that are not easy to find in the landscape) or – which probably applied to the majority of the population – no grave at all. Therefore, calculations of household sizes and person numbers in communal activities such as barrow or house construction make more sense for the reconstruction of community sizes than the number of graves. For the construction of a medium-sized barrow, which measured about 20 m in diameter, about 37 people were needed, if a person-hour number of 10 is assumed (Falkenstein, 2017, pp. 80 f.; Schaefer-Di Maida, 2018, p. 39, Table 2; Schulze-Forster & Vorlauf, 1989, pp. 261 f.). A smaller group of people would have sufficed if two days were planned for the construction. By comparison, for houses of 150 m^2, which can be proved for the transition from period I to II (around 1300 BCE) in Schleswig-Holstein (Schaefer-Di Maida, 2023), about 15–20 inhabitants will be assumed (by considering stable areas of

about 10–15 persons), i.e. enough people to cover the numbers necessary for a grave mound construction within two to three days. Examples of burial mounds built on the remains of houses highlight the connection between households and grave mounds (e.g. Handewitt, Trappendal, Hyllerup: Svanberg, 2005, p. 79). Therefore, the number of people who could live in a household may have been limited in order to have had enough space in the house for everyone, as well as not to exceed a fixed number of people for rituals related to barrow construction. Accordingly, a community (household) size of a maximum 20 persons can be assumed between 1500 and 1200 BCE. Between 1200 and 500 BCE, burial mounds are no longer or rarely built and the houses become smaller, so that smaller, more variable community sizes must be assumed.

9.4.1.2 Conformity/Diversity

The phase between 3300 and 3000 BCE is characterised by strong conformity. The houses do not display distinct differences, and no political buildings like assembly houses etc. are evident. The burials were mainly collective burials and there was no separation of sexes or ages. Also, ceramic vessels with standardised shapes and decorations were very common. From 3000 BCE onwards, however, single burials in flat graves became the norm, as well as increasingly in burial mounds (Hübner, 2005; Mischka, 2022; Schultrich, 2018). The groups are becoming more and more separate from each other, symbolically and spatially, not least due to the dissolution of villages. Through Store-Valby, there is also a process of intentional dissociation from FBC culture, through a turning away from a centuries-old symbolic identity and social practices (Brozio et al., 2019a).

During the Older Bronze Age, graves were very probably a privilege and the effort put into their construction, as well as their furnishings, indicate strong social differences. The burial mounds stand out not only because of their monumentality but also because of their rich equipment, which strongly contrasts with the small and inconspicuous flat graves; which in turn also represent a privilege compared to the individuals who were not given a grave at all. This changes with period III (1300–1100 BCE), when cremation becomes established and not only the treatment of the dead (cremation) but also the grave construction (urn grave) and furnishings (dress elements and personal objects) become uniform. The new uniform grave construction, which leaves behind any monumentality and significance, may signify the new egalitarian social-political structures (visible at least in the grave construction), as well as an economic reduction (Fig. 9.3). At this point, there are hardly any differences in the grave goods between all the graves, so that a social standardisation without certain stratification can be assumed – at least for the afterlife. In addition, the number of burials also increases significantly, so that a grave no longer seems to be a privilege, but becomes the norm, affordable for more people – or even everyone – and shows the establishment of a new socio-political system.

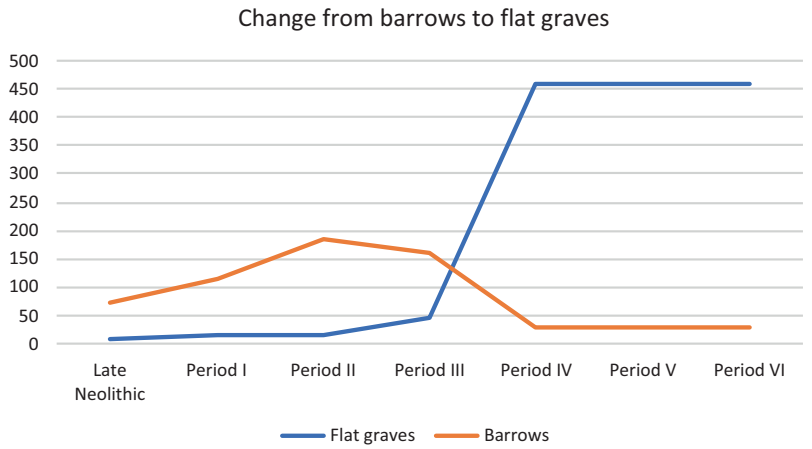

Fig. 9.3 The Bronze Age burial rite changes from barrows (Older Bronze Age) to flat graves with urns (Younger Bronze Age) in Schleswig-Holstein

9.4.1.3 (Critical) Resources: Access and Distribution

The capacities of the examined regional landscape were at no time reached by the Neolithic economic system (Knitter et al., 2019). After a phase of importing copper, including the ability to process it, imports stopped from 3300 BCE onwards (Klassen, 2000). This is attributed to declining mining in the raw material areas and changing networks (Radivojević & Grujić, 2018).

For the Bronze Age, a central factor in the resources parameter is graves. The monumental burial mounds could reach a width of up to 50 m and sometimes contained complex stone constructions, as well as a wooden coffin and even coverings with sods. These burial monuments are associated with high resource use, as well as energy expenditure for which several people would have been needed. Accordingly, access to a grave mound also meant access to resources, land and labour. Decisions regarding such access rights would have to have been centrally regulated and accepted, otherwise a joint construction would not have been possible. The organisation could also have been subject to a fixed ritual that followed certain rules, such as the size of the mound, as well as its exact construction, and certain people to carry it out (Falkenstein, 2017). The unequal sizes of the northern German barrows may have signified gradations in social structure, which may also reflect different access and property rights. This contrasts with the majority of people who received a poorer grave or no grave at all. These socio-political regulations change around 1300/1200 BCE with the introduction of cremations and urn burials, which can stand both for the new egalitarian social structures with less social differentiation, and for an economic reduction in general, as urn graves require fewer resources, space and labour in comparison to the big barrows in northern Germany (Schaefer-Di Maida, 2018).

9.4.1.4 Networks Configurations

The groups between 3300–3000 BCE were integrated into networks that served less for material exchange than for the transfer of information. This is expressed in vessels with shapes and decorations that indicate far-reaching communication structures, the dimensions of which decreased more and more until 3000 BCE (Furholt, 2012; Lorenz, 2018). Around 3000 BCE, there is an integration of other ideas and people, in the form of the FBC (Brozio, 2016; Müller et al., 2020). With the foundation of the SGC, participation in wide-ranging European networks begins to become more important (Furholt, 2021).

The introduction of bronze and the related exchange relationships probably occur at the beginning of transformative socio-political changes in the Bronze Age. Metallurgy not only brought new labour sectors, but also a monopolisation of raw materials, products and communication, which favoured social hierarchies and new political structures. The new material was considered desirable and is primarily found in deposits and graves. It might have directed geographic orientation and the extent of networks (Johnston, 2020, p. 44). Period I (1800–1500 BCE) depot finds often show signs of wear and tear, and thus show that bronze was not so widely available at first. Only with Period II (1500–1300 BCE) did the depot finds increase in abundance and distribution. The increased import of metals made society dependent on bronze mining activities in other regions, on suppliers and traders as well as on its 'own' local bronze casters and bronze workers. Access to such a network may have been regulated by individuals or small groups, who also eventually regulated access to metal objects. The increase in bronze finds in general with Period II (1500–1300 BCE) was probably driven by increased demand, as well as an enlargement or multiplication of networks. With the change in burial rite (1300/1200 BCE) these networks seem to collapse, as there are almost no depot finds anymore and grave goods mostly consist of personal everyday objects. Within the course of the younger Bronze Age new networks are established and depot finds predominate over grave goods.

9.4.1.5 Organisation of Decision-Making

There are only a limited number of indications for individual personalities between 3300 and 3000 BCE, possibly represented by axes in collective burials. An important role may have been played by gatherings such as the construction of monuments, which may have been connected with feasting and served not only to pass on rules and norms, but also to discuss decision-making processes. From 3000 BCE onwards, the individual emerges in the burials. Equipped with battle axes and beakers, symbols of a network extending over large parts of northern, central and southeastern Europe, a single man in the group is presented in a specific way as the decision-maker.

For the Older Bronze Age, questions about decision-making processes become clear, especially in the grave analyses: who received a burial mound, who received a grave of any kind, and who received none at all? These decisions must have been strictly regulated and also recognised, otherwise cooperation in the construction of a burial mound would not have been possible in the first place. It required certain economic and group identity-forming cooperative structures and associated orders such as planning, control, logistics, division of labour and technical experience. Authority may have been important with such a large group of people, although it may not necessarily have been hierarchical, and it is unclear whether this authority or group structure existed outside the cooperative relationships at the burial mounds (Stanish, 2017, pp. 97ff.). The same applies to house building, which required a similar cooperative structure. The decisions about the roles in such actions may have been part of a household, while its head may have been the one who made the decisions and was the one who received a barrow. After his or her death, the successor may have been able to direct the construction of the burial mound. The other household members, on the other hand, must all have had a similarly fixed position that assigned them a specific activity in this process and also in other contexts. Therefore, the household can be seen as a social and political institution of economic activities. With the transition to the Younger Bronze Age, these decision-making arrangements seem to change greatly, not to mention break off and form anew. At the centre of the changes is the transition to cremation, which cannot to be seen as a decision of the individual, but as a common, almost simultaneous change in the community's world view (*Weltanschauung*) of a community. The moment of adopting a new worldview brings with it the possibility of overturning other structures of a society, and power relations that were previously subject to a general consensus, by linking them to the new ideology. In contrast to the decision to build graves only for certain people, simple urn graves are now made accessible to all. The decrease in house sizes goes hand in hand with this and underlines once again that house communities were probably responsible for the graves. Due to the lack of cooperation in grave maintenance, it can be assumed that a corresponding structure also disappeared or changed in the household, and there was no longer a head of household, but decisions were discussed and made in the group.

9.4.1.6 Property Rights

Between 3300 and 3000 BCE, common households are the norm, with only minor differences in material culture. The separation of settlement and ritual landscapes with megalithic graves indicates territories belonging to individual groups that may have been passed down through generations (Brozio, 2016). With the third millennium, higher mobility is associated with the groups of the SGC, combined with stronger livestock husbandry. Linked to the stronger focus on livestock, there is a lower intensity of monumentality (Schultrich, 2018) with smaller burial mounds in the landscape.

Bronze Age possessions include graves, but also houses, animals and land. The aforementioned use of graves, which in the Early Bronze Age were apparently only accessible to certain people, thus seems to represent a kind of property right. The resources flowing into them in the form of land, building materials and the grave goods come first. The more valuable these resources were, the stronger were probably the property rights. The uneven size of the burial mounds, for example, could reflect the ownership of a household. In addition, houses may also show property rights belonging to a house, a household, the household goods or an entire settlement area. It took on an expanded economic meaning with the representation of livestock ownership against a background of economic efficiency and competition. From Thy we know of clear evidence of stable pens in this context (Bech & Haack Olsen, 2018, pp. 161–184). The collection of dung (for farming and fuel) and the protection of animals from robbery or bad weather in the house may also have been important. Besides animal husbandry, agriculture was also an important part of a household. Small field units of 20 to 50 m, the so-called 'celtic fields', were marked by boundary walls (Arnold, 2011, pp. 439ff.). Traces of secondary subdivisions and mergers of fields may indicate ownership-oriented, rather than cooperative, use (Arnold, 2011, p. 449).

9.4.1.7 (Violent) Conflict and Reconciliation

Between 3300 and 3000 BCE, the organisation of society can generally be described as egalitarian prestige societies (Brozio et al., 2019b; Müller, 2019). A central aspect could have been the obtainment of prestige by feasting (Weber et al., 2020), as well as the construction of monuments as an expression of power. This tendency towards peaceful cooperation and/or competition between individuals and groups is manifested in the construction of graves and decoration on vessels as distinctive features. In addition, jewellery and highly decorated ceramics (1 weapon vs. 50 vessels in the passage grave Wangels LA 69 in Eastern Holstein) are medial mediums of expression, rather than weapons (Brozio, 2019). From 3000 BCE onwards, an increase in weapons in the form of battle axes can be observed (Brozio, 2020; Schultrich, 2022). This is probably linked to the development that the number of authorities in power rises, based on small groups with single authorities.

The conflict potential of the North German Bronze Age is only moderately known. For the Older Bronze Age, the grave goods show an increase in weapons. In particular, the weapon burials of Period II have often been associated in research with a 'warrior elite' (Earle, 2002, p. 363). As Vandkilde (2006, p. 69) already noted, such an identity need not have been warlike, but may also have symbolised a social role in a society. Anthropological investigations are also insufficient for the study area, so there is no evidence of injury rates. A clear but singular find is the battlefield in the Tollense Valley in Mecklenburg-Western Pomerania (Jantzen et al., 2014), which occurs around 1250 BCE and thus alongside the change in burial. The location of this battle indicates a conflict over the control of trade routes. In Schleswig-Holstein, the breakdown of networks is noticeable at this time, with a collapse in depot finds; however,

no battle was triggered. In addition, everyday conflicts at the household level are to be suspected, although they are even less verifiable. Regular or irregular meetings held at gathering places such as the cooking stone pit fields (Kruse & Matthes, 2019; Schaefer-Di Maida, 2022) might have served to resolve conflicts.

9.4.1.8 Knowledge

Even though there are many indications for an egalitarian society between 3300 and 3000 BCE, some cases of special knowledge can be identified. This includes knowledge about the production of individual tool types, such as polished flint axes, as well as architectural knowledge about the construction of megalithic tombs or longhouses. Also connected with this is a way to create, present and consolidate social order and power (Müller, 2018). Around 3000 BCE, on the other hand, an increasing symbolic separation from the ancestors and rule systems of previous generations has to be noted (Brozio et al., 2019a).

Innovative knowledge and new ideas probably spread together with artefacts and resources in the Bronze Age in Schleswig-Holstein and were thus in constant circulation. Those who had connections also had access to them. Traditional knowledge, such as on burial rituals, was probably passed on internally (family, household, social group). Certain knowledge was thus reserved for certain people and gave them a certain special position. Knowledge of house and grave construction meant power on the one hand, but also dependence on cooperation, in order to be able to carry out construction activities, on the other hand. Innovative constructions, such as the three-aisled houses, might have been demonstrated by local or non-local travelling craftsmen. Such craftsmen have been identified, for example, by Eriksen (2018, pp. 281ff.) for flint technology at Bjerre sites during the Early Bronze Age. Rare findings in barrow construction, such as certain sod-laying structures (e.g. in Skelhoj: Holst & Rasmussen, 2012, pp. 260ff.) or the formation of an iron core through regular watering of barrows, which led to mummification (Breuning-Madsen & Holst, 1998, pp. 1108ff.), must be attributed to the knowledge of certain leading and executive persons. The burial change around 1300/1200 BCE was probably introduced into society through new rituals, knowledge (cosmology) and beliefs. It is possible that the knowledge of a new burial method, combined with a new cosmology, went hand in hand with new socio-political structures.

9.4.2 Case Study 2: Neolithic and Bronze Age in the Northern Alpine Foreland

Archaeological, bioarchaeological, dendrochronological and paleoenvironmental studies conducted on Neolithic (4300–2200 BCE) and Bronze Age (2200–800 BCE) lakeshore settlements in Switzerland and the northern Alpine Foreland provide us with the possibility of creating a comprehensible and well-founded, but contestable,

picture of past human-environment interactions during that period. The prehistoric communities of the Northern Alpine Foreland show a distinct settlement behaviour which prefers locations at the shores of bodies of water, and short-lived phases of occupation of about 10–20 years, resulting in a high residential mobility within a given territory spanning several kilometres – *Siedlungskammer* (Ebersbach, 2013; Köninger, 2015). The reciprocal social and environmental conditions, and choices to create and maintain such a settlement system, are debated (e.g. D. Hofmann, 2013; Röder et al., 2013; Trachsel, 2005) and belong to the sphere of investigating socioecological systems and socio-political organisation.

9.4.2.1 Community Size

The Neolithic and Bronze Age community sizes in Switzerland can only be estimated from the number of houses in the well-investigated lakeshore settlements; there are no full settlement plans from mineral soil preserved sites that provide information about community sizes further from the lakeshores. Based on the excavated and well-known sites, Neolithic settlements have about 5–25 houses, where 6–10 houses can be expected on average. The houses are rather small, with 3–6 m in width and 6–13 m in length (33–55 m^2), and in general 3–7 inhabitants are expected per house (Hasenfratz & Gross-Klee, 1995; Hofmann, 2013; Hofmann et al., 2016). The picture changes for Late Bronze Age houses, which are in many cases larger than Neolithic ones. Late Bronze Age houses can have an area of up to 100 m^2 and 5–15 people are expected to inhabit one house. During the Late Bronze Age, the settlement size increased with respect to the upper limit of houses, where 5–50 houses could make up a settlement and 15–20 houses could be regarded as usual (Benkert et al., 1998; Köninger, 2015).

From these numbers we might expect Neolithic community sizes ranging between 15 and 175 people, and Bronze Age community sizes ranging between 25 and 750 people. The community size of Neolithic lakeshore settlements seldom exceeded 200 people (outliers e.g. Sutz-Lattrigen, Hauptstation (Fig. 9.4:1), Marin-les-Piécettes (Fig. 9.4:2), and therefore ranged in most cases within the proposed size of Johnson (1982) and Dunbar (1993), where aggregated or institutionalised decision-making is not necessary. This picture changed during the Late Bronze Age; lakeshore settlements during that period could be constituted of up 50 houses (e.g. Hautrive Champréveyres (Fig. 9.4:3)) which suggests community sizes closer to or exceeding proposed limits, where either a fission process occurs within the community or aggregated decision-making levels would need to be introduced (cf. Alberti, 2014).

Although there is much conformity in the settlement layout (see below), the sizes of the settlement communities show variability during all phases of the Neolithic and Bronze Age (Hafner et al., 2016; Hofmann et al., 2016; Köninger, 2015). Together with the known brevity of many of the lakeshore settlements, this variability indicates a dynamic system where the mobility of individuals and whole household groups is to be expected; this is especially well-researched for the Neolithic periods (Ebersbach, 2010a, b, 2013).

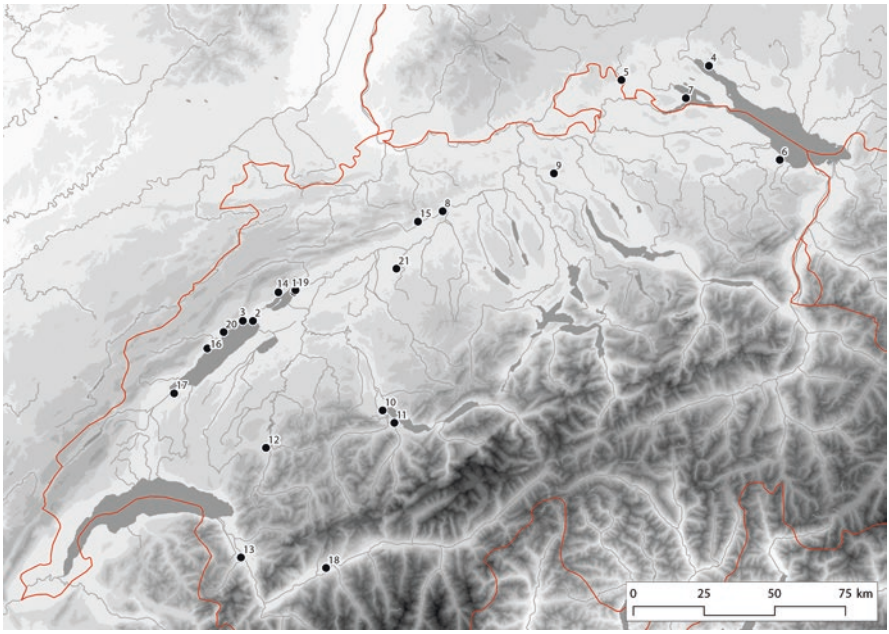

Fig. 9.4 Map of Neolithic and Bronze Age sites in the Northern Alpine Foreland mentioned in the text. (Figure by the authors)

9.4.2.2 Conformity/Diversity

The houses in lakeshore settlements can be described as uniform. During the Neolithic and the Bronze Age, the houses within a settlement exhibit similar dimensions and can be described as rather lightweight constructions (Benkert et al., 1998; Hasenfratz & Gross-Klee, 1995; Hofmann, 2013). Diverging from this statement are so-called 'pioneer houses'; the first houses to be built and shelter a group of initial settlers. These houses are slightly bigger than the 'latecomer houses', as it is thought that the initial settlers were responsible for preparing the location for following members of the settlement community. The larger size of initial houses is a pattern that can be traced over the whole Neolithic (Bleicher, 2009; Ebersbach et al., 2017; Hofmann, 2013). Singularities in the conformity of lakeshore settlement houses are 'cult houses', of which two good examples are known. One from Marin-les-Piécettes (Fig. 9.4:2) where a larger house was erected on an artificial heaped mound, the mound and the house show several phases of use (Honegger, 2001, 2007). Another example is the 'cult house' of Sipplingen Osthafen (Fig. 9.4:4); it does not exceed the dimensions of a usual house, but its interior was highly decorated, with seven representations of female bodies as wall decoration. This is not known – at least

in this abundance – from other sites (Schlichtherle, 2016). For many Younger Neolithic (4300–3500 BCE) settlements in western Switzerland, it is known that small house-like structures are constructed a few meters away from the dwelling-houses, facing them ridge-sided. Those structures are smaller than the dwelling-houses and often are interpreted as storage buildings or workshops. However, there is no clear evidence in the material culture as to what activities those buildings were used for (Crivelli et al., 2012; Hafner & Suter, 2000; Hasenfratz & Gross-Klee, 1995). For the Neolithic settlements on the eastern Alpine Foreland, smaller buildings are also known but do not appear in such reoccurring and clear embeddedness within the settlement's structure (Schlichtherle et al., 2010). Diversity in the realm of the house is witnessed in the architectural features, which show differences across the regions (Hasenfratz & Gross-Klee, 1995; Hofmann, 2013).

The settlement as a whole very much shows conformity and very probably a cultural model of settlement layout. Earliest lakeshore settlements already show the basic layout that was repeatedly built during the Younger Neolithic (4300–3500 BCE); one or more rows of tightly packed houses with their ridge side facing the lake, or parallel to the shore. There are exceptions – so-called *Haufendörfer* – where houses are arranged seemingly chaotically. From the Late Neolithic (3500–2400 BCE) onwards, most excavated settlements resemble the so-called *Strassendorf* type of settlement, in which two rows of houses parallel to the shore oppose each other. These settlement layouts are already known from earlier phases (e.g. Sutz-Lattrigen Hauptstation (Fig. 9.4:1), Marin-les-Piécettes (Fig. 9.4:2)) but the pattern first becomes obvious and repeated in the Final Neolithic (2750–2200 BCE) (Ebersbach et al., 2015; Hafner & Suter, 2003; Hafner et al., 2016; Hasenfratz & Gross-Klee, 1995; D. Hofmann et al., 2016). Bronze Age settlements still share the Neolithic idea of a denselybuilt settlement structure; however, no clear layout repetition can be observed (Benkert et al., 1998; Köninger, 2015). In the context of the settlement, Neolithic communities show a high level of conformity in their way of living. Similar-sized houses and dense settlement structure of houses in parallel rows dominated settlement layouts across the Neolithic and were also present during the Bronze Age.

Most of the lakeshore settlements exhibit structures that are probably communally built and maintained, such as trackways, platforms, fences and palisades (Eberschweiler & Heumüller, 2016; Hofmann, 2013).

Due to the settlement dynamics at the lakeshore – at least during the Neolithic – the uniformity of settlements may result from the repeated – at least once in a lifetime – relocation of a settlement. A clear layout model of how the settlement should be 'rebuilt' at a new location makes things easier to organise, as one already knows where houses, etc. will be constructed. Furthermore, a densely-built structure reduces the labour investment requires for preparation of a new settlement location by reducing the actual ground area.

9.4.2.3 Resource Access and Distribution

Within Neolithic settlements there are hints of differentiated resource access and consumption; however, until thus far no patterns emerge that would speak to institutionalised inequality in access to resources. The Late Neolithic Settlement of Arbon Bleiche 3 (Fig. 9.4:6) shows a distinct distribution of animal bones, suggesting a differentiated consumption of meat within the settlement community. While the southern quarter of the settlement had more open-water fish and pig, the northern quarters show more bankside fish, cattle and goat. This distribution could be a sign of restricted access rights to fishing and grazing grounds for respective parts of a settlement community (Doppler et al., 2012; Röder et al., 2013). The example of Arbon Bleiche 3 (Fig. 9.4:6) shows the possible differentiated animal husbandry strategies of different parts of the settlement community. Such a differentiation also leads to differences in manure availability for cereal fields. At the Younger Neolithic site of Horstaat Hörnle IA (Fig. 9.4:7), cereal storage finds showed that some households had the ability to manure their field plots more intensely than others. Owning more animals, especially cattle, not only had the advantage of owning and using them for dietary products, traction and food, but also of increasing the yield of cultivated plants (Ebersbach, 2002; Styring et al., 2016). Material culture such as pottery, flint or ground stone tools seem to be normally distributed in the settlements (Hochuli et al., 1998; Stöckli et al., 1995).

During the Neolithic, flint sources might have been a critical raw material that provided communities who had access with advantages in trade and socio-political relations. In Switzerland there are two flint mines, or regions with better flint exploitation, around Olten Chalkofen (Fig. 9.4:8) and Otelfingen-Weiherboden (Fig. 9.4:9), that show signs of intensive settlement activity in the area around the sources during all Neolithic periods. However, no well-preserved sites have been excavated to date which could hint at different or richer inventories within the communities around that economically important area compared to other communities (Affolter, 2002; Lötscher, 2015). From the Early to the Late Bronze Age (2200–800 BCE), the overall settlement structure on the Swiss plateau changed and a shift of settlement activities towards the Alps, on higher elevated areas, took place. Core settlement regions, however, are established in the entrances to inner-alpine valleys. These choices of location hint at a will or need to control resources and flows of commodities such as copper ore, but also pasture land or timber, coming from the inner-alpine valleys (Köninger, 2015; Rychner, 1998). It can be assumed from rich grave finds that settlement communities holding economically important locations at the valley entrances (e.g. Thun (Fig. 9.4:10), Spiez (Fig. 9.4:11), Bulle (Fig. 9.4:12), Monthey (Fig. 9.4:13)) accumulated ‘wealth’ and deposited it with (some of) their dead (David-Elbiali, 2000; Hafner, 1995). Yet other communities, located away from valley entrances, also had the opportunity to gain ‘wealth’; as shown, for example, by the extraordinary find of the bronze hand of Prêles (Fig. 9.4:14), at the Jura lakes (Schaer et al., 2019). Over

the course of the Bronze Age, an increase in the density of sites – maybe *Siedlungskammern* – can be traced, leading from the fringes of the alpine area to the low-lying lake landscapes. However, Bronze Age settlements far from the lakeshores show locations of controlling geographies, indicating claims to manage the flow of goods and people (Laabs, 2019).

9.4.2.4 Network Configurations

For the whole of prehistory, the lakeshore settlements in particular show a very dense network between settlement communities. High mobility of entire communities and households reflects the short-lived nature of settlements and the patterns of settlement growth and decline (Ebersbach, 2010b, 2013). Ebersbach (2010a) suggests a socio-spatial dynamic where individuals and household groups can move more easily between settlement groups, as the relationship between communities of practice are not bound to a single residential group. Individual mobility is hard to trace, but the aDNA and isotopic investigation into the burials from the dolmen of Oberbipp (Fig. 9.4:15) (c. 3350–2950 BCE) hint to a virilocal community (Lösch et al., 2020). The interconnectedness of communities around the lake is shown by pottery decoration and forms, and during the Bronze Age in the ornamentation of bronzes, as well as the finds of sickles in different locations fitted to a single (and known) casting mould (Jennings, 2012). Ebersbach's (2002) findings concerning Neolithic cattle husbandry show that many of the reconstructed herd sizes are not sustainable if the settlement communities do not bring them together from time to time. Isotopic evidence from Neolithic cattle also suggests that differentiated grazing modes were present, but the pooling of herds over winter seems reasonable (Gerling et al., 2017). All in all, we can expect intense local networks of exchange and collective strategies in regard to animal husbandry, and maybe even beyond.

Due to finds in most of the material culture types (pottery, flint, metal, etc.) it can be shown that the Neolithic and Bronze Age Northern Alpine Foreland was connected with many parts of Europe. The Europewide networks of exchange and communication are shown by the presence of materials from a great distance (e.g. amber, jade, Grand Pressigny flint) and stylistic forms of objects (e.g. *Ösenkopfnadeln*), as well as influences of Pan-European cultural changes (e.g. Corded ware, Bell Beaker, Urnfield: Brunner et al., 2020; Hafner & Suter, 2003; Hochuli et al., 1998; Köninger, 2015; Stöckli et al., 1995). However, there are major differences between the West and the East of the Alpine Foreland that show their embeddedness in different parts of those Pan-European networks (Ebersbach et al., 2017; Heitz & Stapfer, 2016). In general, due to the gradient of temporal development and the increased importance of metal, the Bronze Age networks seem to be more intense and the Alpine Foreland better integrated into far-reaching trade and exchange (Jennings, 2014).

9.4.2.5 Organisation of Decision-Making

There are few indications as to how decision-making processes during the Neolithic may have looked. The general uniformity in house sizes and little differentiation between household consumption does not speak to any stratified institutions. Places of gathering, where one or more settlement communities may come together to organise, debate, conciliate and make decisions are maybe larger or special houses (see above) or menhir alignments (e.g. Bevaix/Treytel-À Sugiez (Fig. 9.4:16), Yverdon-les-Bains (Fig. 9.4:17), Sion-Petit-Chasseur (Fig. 9.4:18)). menhir alignments, or single menhirs, are often erected in Neolithic times, but used over the whole of prehistory (Burri-Wyser, 2016; Grau Bittleri & Fierz-Dayer, 2011). Their locations remain stable over time and might be seen as a reference point for communities, given their mobile lifestyle. As mentioned above, the population of Neolithic settlements normally did not exceed the expected size for nested decision-making to emerge. Therefore, we would expect decentralised networking communities with non-institutionalised hierarchies in the Neolithic Northern Alpine Foreland.

The picture seems to change with the Bronze Age. First, we see differentiated wealth, status and prestige consumption in graves (David-Elbiali, 2000; Fischer, 1998). Individual power – or the power of an associated group – is represented not only in grave goods but also in grave monuments, such as stone cists or burial mounds. From the Early and Middle Bronze Age we know of very rich burials with exceptional equipment for the alpine regions. Examples are graves from Thun, Renzenbühl (Fig. 9.4:10) (David-Elbiali, 2000; Hafner, 1995) and the sensational grave find from Prêles (Fig. 9.4:14), where the first European bronze hand sculpture was found (Schaer et al., 2019). Settlement sizes, however, do suggest larger communities, but there is no sign of centralisation processes, and the distribution of settled areas on the Swiss plateau even becomes denser (Laabs, 2019). This picture suggests that decision-making in a settlement community became more authoritarian; centred around economically powerful people and groups. However, although their location on trade routes and their access to resources played an importation role in allowing communities to thrive, it is unclear if such communities extended their influence over other adjacent settlement communities.

9.4.2.6 Property Rights

For Neolithic and Bronze Age settlements it seems to have been common to keep some parcels for houses free in the course of settlement growth, while others were built upon (Ebersbach, 2010a; Köninger, 2015). It is known from multiple settled sites that houses are placed over the remains of older house structures (Ebersbach, 2013). These findings suggest that the neighbourhood was planned and might indicate that space in the settlement was reserved for a specific group.

Access to patches of soil that provide good substrata for cereals in particular, and plant cultivation, pasture and woodland in general, was crucial to sustaining the community with basic sustenance. If we accept the idea of the *Siedlungskammer* as a long-term stable reference territory in which a settlement community changes repeatedly locations over decades or centuries, such as the bay of Sutz-Lattrigen (Fig. 9.4:19) or Auvenier (Fig. 9.4:20), those territories and their integrity towards other communities might have been a communal property (Trachsel, 2005). One argument for such a concept is the resettling of locations when the best building wood is available, which indicates woodland management of sites that were not occupied and long-term labour investment into the landscape (Billamboz & Köninger, 2008; Suter & Francuz, 2010).

9.4.2.7 (Violent) Conflict and Reconciliation

Defensive structures for settlements are known from the whole of prehistory. During the Bronze Age palisades become more common and seem to have real fortification purposes (Hafner, 2010). The locations of some non-lakeshore settlements in the Bronze Age exhibit a more defensive location on hilltops (Benkert et al., 1998; Köninger, 2015). Additionally, weapons of war became more common during the Bronze Age, but tool-weapons are customary throughout the Neolithic and Bronze Age (Rychner, 1998; Stöckli, 1995). There are only a few traumata investigations on prehistoric skeletons; however, those that do exist indicate more violent deaths during the Bronze Age (Simon & Kaufmann, 1998; Simon et al., 1995).

Features that can be connected to acts of reconciliation may be the menhir alignments, as places of gathering. These are often already erected and used in the Neolithic, but then reused during the Bronze Age (Besse, 2014; Burri-Wyser, 2016). In the inner-alpine areas votive deposits are frequent during Bronze Age; they can be found between two settlements (Ballmer, 2010), and maybe represent places of reconciliation.

9.4.2.8 Knowledge

From the archaeological evidence, we can expect a distribution and level of knowledge similar to that in many other Neolithic and Bronze Age societies in Central Europe.

Craft specialisation is to be assumed for metallurgical tasks, especially during the Bronze Age, but also in resource extraction for the whole of prehistory (Affolter, 2002; Fasnacht, 1998). The distribution of tool finds in settlements suggest that most were used equally by households and there was little specialisation in everyday tasks (Hafner & Suter, 2000; Trachsel, 2005). Specialisation in animal and plant husbandry is indicated by the differentiated distribution of species in the

settlements, but does not follow clear patterns that would hint at the restriction of knowledge (Doppler et al., 2016; Kerdy et al., 2019). During the Bronze Age the increased consumption of weapons of war in graves and the fortification of settlements can be seen as the presence of a specialised warrior-status (Primas, 1998; Vandkilde, 2018).

A specific kind of knowledge that can be shown by the unique preservation circumstances of the lakeshore settlements, but surely existed in prehistoric societies in general, is the long-term forest management and understanding of forest growth-cycles (Billamboz & Köninger, 2008; Suter & Francuz, 2010).

For the Neolithic lakeshore settlements, the existence of cult houses connected to maternal features (Schlichtherle, 2016) suggests the presence of ritual specialists. Additionally, the possibility of meaningful alignment of menhirs in accordance with the yearly positions of the sun (Besse, 2014; Burri-Wyser, 2016) suggests ritual specialists during the use of such places.

Potential socio-politically influential knowledge is represented by the so-called pioneer houses during the establishment of a new settlement location. These houses are slightly bigger and exhibit a different composition of animals, dominated by game. It has been suggested that a group of experts moved first to clear the new settlement location, and to start building the first structures, and that during this time this group was more reliant on hunting (Ebersbach, 2013).

9.4.2.9 Cluster Analysis

The results of the cluster analysis for Swiss prehistory show that all three differentiated time slices – Younger Neolithic (Neo_I; c. 4300–3500 BCE), Late to Final Neolithic (Neo_II; c. 3500–2200 BCE) and Bronze Age (BA; 2200–800 BCE) – share many given features. However, the distinction between the Neolithic and Bronze Age is clear. The Neolithic time slices can be differentiated by the increased supra-regional network embeddedness, also represented by increased imports. During the Late to Final Neolithic this is represented by the rather regional Horgen (c. 3300–2800 BCE) and later the pan-European Corded Ware (2800–2400 BCE) and Bell Beaker (2400–2200 BCE) phenomena. The hints for differentiated dietary habits during the Younger Neolithic derive from the Hornstat-Hörnle IA (Fig. 9.4:7) evidence of differentiated access to manure (Styring et al., 2016), but also more game-dominated settlements such as Burgäschisee, Süd (Fig. 9.4:21) (Kerdy et al., 2019). In addition, we observe occasional larger settlements in the Younger Neolithic and Bronze Age, which are not seen during the Late and Final Neolithic. The Bronze Age is mainly differentiated from the Neolithic by an increased embeddedness into European networks of trade and exchange, and specialisation in crafts due to metallurgy and ore extraction. Clear defensive fortification of settlements hints at increased conflict. Furthermore, the duration of Bronze Age lakeshore settlements is longer and hints at a decreased mobility of the overall settlement community.

9.4.3 *Case Study 3: From Complex Forts to Defensive Homesteads in Neolithic and Bronze Age West Siberia*

In the West Siberian taiga, some of the earliest instances of territoriality and stratified social structures emerged among Stone Age hunter-fisher-gatherers in the Early Holocene. At the end of the seventh mill. cal. BCE, local groups started to fortify some of their settlements, many centuries before the appearance of comparable enclosures in Europe (Dubovtseva et al., 2019; Piezonka et al., n.d.). These incipient defensive structures are part of a pre-farming horizon of innovation taking hold of the West Siberian basin at that time: a population expansion, settlement intensification, and technical innovation including the adoption of pottery, bear witness to major socio-economic, political and cultural transformations (Chairkina & Piezonka, 2021; Piezonka et al., 2020a). From these earliest instances onwards, fortified sites continue to occur through the ages in the Siberian taiga up until the historical times of the Russian imperial colonisation in the 16th/17th cent. CE (Schreiber et al., 2022). They represent an exceptional regional phenomenon that is unprecedented worldwide in its early onset, scale, and almost unbroken continuity over eight millennia.

The Stone Age fortified sites appear from c. 6200 cal. BCE onwards and continue to be erected into the fourth and early third mill. Cal. BCE. They were situated on promontories and high river banks above adjacent floodplains, and consist of pit-house clusters with ditches and embankments (Fig. 9.5). In local terminology, this period is defined as Neolithic/Eneolithic, based on the presence of pottery, but with an economy that continues to be entirely based on hunting, fishing and gathering. In the following Bronze Age (c. 2500–750 cal. BCE), when foraging economies still prevailed across most of the region, a stark change in settlement organisation took place: the promontory forts with pit-house settlements disappeared, and instead, large single houses that are often enclosed by multiple rings of banks and ditches became common (Fig. 9.5). In both phases, unfortified settlements that are archaeologically visible due to their pit houses also exist.

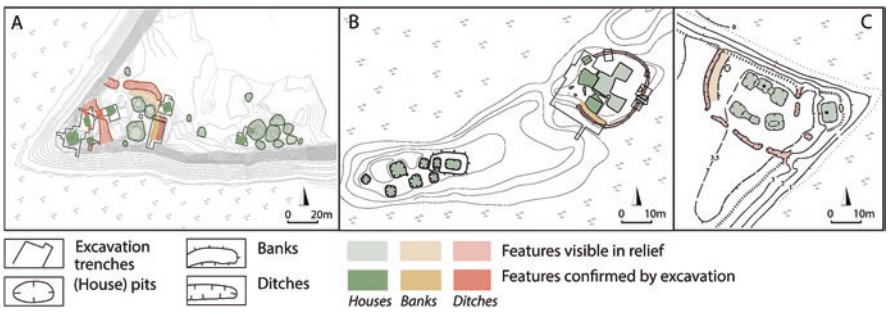

Fig. 9.5 Three Stone Age settlement sites in West Siberia of the sixth and fifth mill. cal BCE showing a motte-and-bailey-like structure: (**a**) Amnya, (**b**) Kayukovo, (**c**) Imnegan (Illustration: Sophie Juncker and Henny Piezonka)

By comparing these two modes of settlement organisation, we will trace possible socio-economic and political dynamics behind these changes. More ephemeral sites, such as short-term hunting or fishing stations, existed in both phases but are underrepresented in the archaeological record. Burial sites of the period in question are extremely rare in the study region and provide only limited information due to the unfavourable preservation condition of bone and other organic materials in the acidic forest soils.

9.4.3.1 Community Size

Compared to the preceding Mesolithic, which has few and ephemeral stations especially in the eastern and northern parts of the study region, the period around 6000 cal. BCE is characterised by a population increase, manifested in the general increase in number of settlements with pit houses, especially in the central and eastern parts of the region, and their more substantial character (Chairkina & Piezonka, 2021; Piezonka et al., n.d.).

An estimation of community size for the Neolithic/Eneolithic and Bronze Age groups in this region is hampered by the unclear degree of seasonality or permanence of the known settlements and by likely fluctuations in community compositions throughout the year. Such fluctuations are suggested by ethnohistoric evidence from both North Eurasia and North America, and by sub-recent and current mobility patterns of the Indigenous inhabitants of the study region itself. While ethnographic studies illustrate binary mobility systems in this region, with seasonal winter and summer settlements (Golovnev, 1995; Piezonka et al., 2020b), some characteristics of the well-investigated Stone Age fortified complex of Amnya – such as pit houses with large central hearths (winter occupation) and thick cultural layers between houses (use in the snow-free period) – possibly point to year-round occupation (Stefanov, 2001). Another obstacle is posed by the fact that without excavation and absolute dating, the contemporaneity of pit houses at a given settlement site can be suspected, e.g. based on regularities in layout, but it cannot be proven (Schreiber et al., 2022). Often, archaeological evidence shows that such sites have been occupied repeatedly in different periods, and pit-house depressions have been re-used by later settlers (Kosinskaya, 2006).

With these restrictions in mind, rough estimates of the number of people occupying the archaeologically visible pit-house settlements can be put forward. In the Neolithic/Eneolithic period, fortified settlements, of which to date approximately ten examples are known across the region, encompass roughly three to ten pit dwellings in the enclosed areas (Borzunov, 2020; Schreiber et al., 2022). New dating results suggest that some of the fortified settlements have broadly contemporary outer settlements, such as the Amnya complex in the northern taiga, where the fortification encloses seven buildings on a cape on the river terrace and a close-by outer settlement encompasses a further ten pit-house structures (Dubovtseva et al., 2020; Piezonka et al., n.d.). Open pit-house settlements from this period consist of two to

over twenty houses. House sizes (measured on the sunken floor area) typically range between c. 20 and 40 square meters, with some double houses reaching c. 65 square meters per chamber, and some fortified sites having one larger house of up to 70 square meters (Borzunov, 2020; Kosinskaya, 2006; Schreiber et al., 2022). Based on ethnographic space per capita observations (Hayden, 1996), group sizes at these settlements would have ranged between small collectives of less than ten persons to larger communities of more than 100 individuals.

The single fortified homesteads that emerged at the end of the Eneolithic and in the Bronze Age have average house floor areas of around 100 square meters, with single houses measuring up to 200 square meters (Borzunov, 2015; Schreiber et al., 2022). This would equal groups of c. 20–50 individuals. Open settlements during this period rarely encompass more than two buildings.

9.4.3.2 Conformity/Diversity

Interpretations of social structure and subgroupings within these communities draw on settlement structure, house size distributions and patterns in the material culture. The Neolithic/Eneolithic fortified sites regularly consist of two distinct parts: a separately enclosed 'citadel' area and a close-by, 'bailey'-like agglomeration of further pit houses that can be enclosed or open (Fig. 9.5). The fortified sector is usually located at the tip of a promontory or cape above a river floodplain, and is cut off towards the land by one or several fortification lines consisting of ditch, bank and palisade. As mentioned above, this most prominent part of the settlement often encompasses one larger dwelling alongside the smaller-sized ones (Borzunov, 2013). Such hierarchical layouts have been observed at several enclosed sites in the region, e.g. at Amnya 1 & 2, Kayukovo 1 & 2 and Imnegan 2.1 (Kardash et al., 2020). It is likely that these structured layouts reflect the existence of different groups that cover various social roles within these communities. The large houses may indicate the existence of socially distinct persons or families, although other interpretations e.g. as communal buildings are also possible.

The existence of social stratification in this period is underpinned by the results of a new diachronic study on hunter-gatherer fortifications in the Siberian taiga (Schreiber et al., 2022). Based on house size distributions, the fortified sites of the Neolithic/Eneolithic period show clearly elevated Gini indices compared to the open settlements, which might be explained by wealth inequalities among the community members. In the subsequent Bronze Age, Gini indices are lower, hinting at new social arrangements towards increased homogeneity.

A relevant observation concerning diversity within the early communities of the beginning Neolithic is the fact that on some of the settlements, such as the above-mentioned Amnya complex, clearly distinct types of pottery (comb ware and stroke-ornamented ceramics) occur in one site and even one house pit. Local scholars interpret this as the possible presence of members from different communities at these sites.

9.4.3.3 (Critical) Resources: Access and Distribution

In this case study, resource access and distribution concern (1) resources related to subsistence economy, (2) raw materials for technical items and prestige goods, and (3) man power/labour.

(1) Subsistence: Western Siberia is an outstandingly rich ecosystem from a hunter-gatherer-fisher perspective. Fish, aquatic birds, forest fowl and large game such as elk and reindeer have predictable seasonal occurrences. Ethnographic information from sub-recent and contemporary hunter-fisher-herder communities in this region highlights the role of seasonal resources such as water and forest fowl that is often underestimated in archaeological studies, and of active resource management and niche construction strategies (e.g. Groß et al., 2019; Piezonka et al., 2020b). Seasonal mass harvesting, e.g. of fish at favourable sites, is seen as a precondition for the accumulation of storable surpluses. In the past, natural environments containing such reliable, seasonal resources 'invulnerable to excessive exploitation' (Hayden, 1996, p. 238), could have stimulated competition among hunter-gatherer groups over good sites. This wealth might have contributed to a rise in population and socio-political complexity once mass harvesting strategies of such 'naturally stored' and storable resources took hold (Adaev, 2007; Golovnev, 1995). Storage in turn can lead to increased territorial behaviour (e.g. Morgan, 2012; Testart, 1982). This is a possible explanation for the intensification and innovation phase around 6000 cal. BCE, which might have involved restructuring of intra-group social relations through accumulation of wealth, communal stores etc., and also the rise of inter-group conflicts and warfare over good sites, as physically manifested through the construction of fortifications.

(2) Raw materials for technologies, prestige materials: In the study region, essential raw materials (clay, bone, wood, bark etc.) are widely available locally and therefore do not show any specific, significant patterns. An exception is good lithic raw materials, as these are rare across much of the region. While the lithic inventory of many sites is dominated by a few ground stone tools, the unique early Neolithic settlement of Et-to in the northern taiga seems to represent a location for open-cast mining of better, rare lithic materials (Kosinskaya, 2006). The very specific comb ware pottery points to a particular group that undertook the raw material extraction here, but information on distribution patterns is currently still lacking. Further research is needed before this aspect can be addressed in more detail. In the early Bronze Age, an archaeologically well-visible type of trans-regional prestige good makes its appearance in the region: hundreds of bronze artefacts of the wide-spread Sejma-Turbino type, including e.g. ornamented axes and daggers, came to light mainly as hoards and single finds, even in remote parts of the taiga (Korochkova et al., 2020).

(3) Man power/labour: Given the substantial pit houses which can be up to 2 meters deep, and the banks, ditches and palisades constructed at the fortified sites, man power and labour must have been important resources for the respective com-

munities in prehistoric West Siberia. Resource abundance and the need to protect surpluses are regarded as often interconnected with labour exploitation for the construction of fortifications (Hayden, 1996). Furthermore, labour for the construction of monumental architecture, like large dwellings and fortification systems, can play a key role in wealth agglomeration, thus potentially linking such structures with social and economic inequality (e.g. Coupland & Banning, 1996; Hayden, 1996). However, increasing political complexity must not necessarily be accompanied by higher levels of wealth inequality (Moreau, 2020), and labour-intensive defensive architecture can also be coordinated without centralised authorities, based on communal decision and collective action (Feinman, 2017; Grier et al., 2017).

9.4.3.4 Network Configurations

Configurations of networks in the West Siberian case study involve different scales, from the local community level, to regional connectivities, to trans-regional networks.

At the community level in Neolithic/Eneolithic and Bronze West Siberia, the seasonal rounds of the hunter-gatherer-fishers formed the basis of the geographical range of the core groups. Seasonal mobility most likely went hand in hand with group size fluctuations that involved larger gatherings at certain times of the year, and more dispersed groupings at others. Based on ethnographic evidence from the region, but also from communities in the boreal zone of North America, it can be presumed that river catchments formed an important basis for kinship clans and totemic units, and also would have played a role in the division of hunting and fishing grounds.

On a regional scale, rivers were the basic communication routes, and between the catchments passways would connect the upper courses of tributaries. Along such routes, relations with other neighbouring groups would have been maintained and developed. Archaeologically, such regional connections and communication networks are reflected by, for example, the stylistic and technological similarities of pottery types across wider areas, which can often be traced along the major river systems.

For the constitution of transregional communication systems and related wider socio-economic dynamics, the role of boats and other long-distance transport is a key aspect in such forested environments (cf. Rowley-Conwy & Piper, 2017). Especially in a landscape like the West Siberian taiga – where long-distance movement is almost exclusively concentrated on (open or frozen) bodies of water across all seasons – boats, sledges, and skis would be essential both for building and keeping up relations within and between dispersed communities; but also for fission dynamics leading to ‘voting with your feet’, for the colonisation of other territories, and for raiding and war, an aspect likely reflected in the early forts and later fortified homesteads.

9.4.3.5 Organisation of Decision-Making

Aspects of decision-making in the discussed Siberian societies of the Neolithic to Bronze Age period can only be indirectly inferred from settlement characteristics and patterns, as well as material culture, in combination with more general anthropological reasoning.

Based on this evidence, it is possible that the constitution and organisation of decision-making power differed between the Neolithic/Eneolithic period and the Bronze Age. In statistical approaches using the Gini index, house size differences have been taken as a proxy to measure wealth inequalities and power imbalance in stratified hunter-gatherer societies (Ames & Grier, 2020; Schreiber et al., 2022). Judging from the hierarchical layouts of the Neolithic/Eneolithic fortified settlements, and from the high Gini scores that were pronounced in these early enclosed sites – as opposed to both contemporary open settlements and the subsequent Bronze Age homesteads – the presence of powerful individuals or subgroups centred at the forts can be suspected for this period. It is possible that such individuals/groups would have held hierarchically elevated positions that would have come with the ability to make authoritarian, centralised decisions on certain aspects of the social and economic spheres, e.g. concerning building activities, action in conflict and defence, or concerted (seasonal) food procurement activities. However, as mentioned before, alternative scenarios of collective action, and heterarchical or anarchical decision organisation, would also be suitable to explain the archaeological evidence in question.

In the Bronze Age, decision-making on community aspects probably became less centralised and would have taken place within the small group units that were more or less self-sufficient in erecting the fortified single homesteads and the small open settlements.

9.4.3.6 Property Rights

As territorial markers on river banks and lake shores, the early fortified sites in West Siberia would have ensured access to economically important places with reliable seasonal abundance of aquatic resources. The autochthonous emergence of monumental constructions, such as ritual mounds and fortifications around 6000 cal. BCE may thus mark a rearrangement of the social order towards ownership and territoriality, centring on ecological hotspots. By securing access to these sites with their (seasonally) abundant resources, enhancing social memories and histories, as well as creating social relationships, monumental constructions would have embodied both individual and collective agendas (Grier & Schwadron, 2017). While not exactly property, family hunting grounds are a type of restricted access that is widely known ethnographically from the northern forests both in America and across North Eurasia. It is likely that such socio-economic arrangements also played a role in prehistoric West Siberia.

Aspects connected to emerging power imbalances and hierarchies, such as aspiration to power by leaders and the installation of property rights in order to control productive resources, can also be understood with respect to possible bottom-up counteraction, e.g. through the cooperation of groups with shared interests, through resistance against authority, and also through the fission mechanism of 'voting with your feet' as an alternative to (violent) conflict. Levelling mechanisms such as feasting can also help re-balance emerging wealth inequalities and the accumulation of property by a few (e.g. Boyd et al., 2019; Hayden, 2019; Taché & Craig, 2015). Within such a political economy framework, the interrelation between emerging social inequalities, resource ownership, territoriality and (inter-group) conflict is seen as embedded in 'historically specific webs of political and economic interactions [that] structure social relationships and create cultural meaning' (Furholt et al., 2020b, p. 163).

9.4.3.7 (Violent) Conflict and Conciliation

In order to understand the role of conflicts and conciliation in the prehistoric societies of the West Siberian taiga, various sources can be taken into account: fortified and open settlements, weapon finds, and ethnohistorical evidence on violent conflict, its reasons and dynamics. Due to the general sparsity of prehistoric burial sites in the study region and the unfavourable conditions for bone preservation, burial evidence cannot be added to the picture in this case.

Concerning the Neolithic/Eneolithic period in the West Siberian taiga, currently no more than approximately ten early fortified settlements are known in the region (Borzunov, 2020). As described above, common traits include their location on high river terraces and promontories, their hierarchical layout with a 'citadel' and a 'bailey'-like outer settlement, the presence of one larger house often at the most prominent site, e.g. the tip of the promontory, and defensive lines consisting of banks, ditches and palisades. In the case of the early fortified settlement complex of Amnya, the defensive nature is underpinned by the exceptionally high proportion of slate arrowheads found in and between the house pits, compared to other open contemporary settlements. In the Bronze Age, complex fortified settlements ceased to exist, and instead single large pit houses became common, surrounded by elaborate, often multiple, defence lines of banks and ditches.

In West Siberia, we have the favourable situation that the study of historically documented socio-economic strategies in connection with Indigenous fortifying behaviour can yield a framework for archaeologists to widen the scope of strategies and practices across the social, economic and ritual spheres pursued by hunter-gatherers in these specific environments that would otherwise not be taken into account for archaeological interpretations. Ethnohistorical information provides rich accounts of sub-recent warfare in the taiga from the sixteenth/seventeenth century onwards, including data on migrations and evictions of local populations, on combat norms and tactics, and on the fortifications themselves, their construction

and maintenance, and their defence during conflict (Golovnev, 2000; Perevalova, 2002). According to these sources, the building of fortification systems was closely connected to the display of status and wealth, so that some researchers see the phenomenon of fortification construction in the taiga as closely interwoven with the rise of social inequalities (Chindina, 2000). Fortification building was also used as a strategy to react to either uneven power relations or unpredictable attacker behaviour such as raiding, the latter commonly aiming at the theft of women and/or domestic reindeer (Golovnev & Osherenko, 1999). Based on more general insights from anthropology, especially within highly mobile societies, costly defence constructions may also have served to prevent violent behaviour and to both attract but also repel people (Feinman, 2017). Fortifications can thus be seen as a representation of both conflict and conciliation.

Turning back to the prehistoric situation, based on the current state-of-the-art, an economic intensification model – possibly in combination with the influx of newcomers from other regions – appears to be best suited to explain the concurrent appearance of a population rise, the emergence of fortified sites, an increase in pithouse settlements, the rise of ritual monumentality, and the adoption of pottery in Western Siberia c. 8000 years ago. Three scenarios concerning the potential role of environmental change in these developments, perhaps connected to the 8.2 ka global climatic cooling event, seem possible: Scenario (1) assumes that the innovation package reflects the human response to economic stress induced by climatic fluctuation, triggering the adjustment of economic and social systems, e.g. by technical innovation. Scenario (2), holds that environmental changes in the wake of the 8.2 ka event led to increased abundance and/or accessibility of certain seasonal resources, triggering new mass harvesting strategies and improved storage practices that would in turn have enabled the accumulation of surplus and resulting socio-political developments. Scenario (3) rejects a deeper connection of the socio-economic innovation package to environmental change. In this scenario, the forts might have been built either by immigrants to the area in order to secure appropriation of the region, or by local populations defending themselves against such incoming new groups, which are generally thought to have originated further south (Borzunov, 2020; see also Chairkina & Kosinskaya, 2009; Kosinskaya, 2002). The disappearance of fortified complex settlements in the Eneolithic, and their replacement by enclosed fortified single houses in the Bronze Age, indicates substantial shifts in the socio-economic system, with a trend towards more social homogeneity, as indicated by the wealth inequality measurements mentioned above, and possible more self-sufficient, small social units that had to care for their own defence and safety.

9.4.3.8 Knowledge

Various facets of knowledge can be related to power disparities. If the knowledge of seasonal and spatial resource distribution and hotspots is restricted, power disparities might result. Technical innovation and its role in socio-economic intensification is also regarded as a crucial factor in emerging wealth inequality (e.g. Angelbeck &

Cameron, 2014; Jordan, 2015). In non-agricultural societies this concerns, for example, capture techniques, processing, preservation and storage methods, and prestige technologies. Seasonal mass harvesting, in particular, is seen as a precondition for the accumulation of storable surpluses through preservation techniques (Craig, 2021). Stationary fishing devices represent a potentially very important technological feat in this regard. It is unclear when they took hold in this region, and how they might have been connected to the development of territoriality at favourable sites in the river and lake systems (cf. Koivisto & Nurminen, 2015; see also Ritchie & Angelbeck, 2020). Pottery also constitutes an important technical achievement in this respect, enabling new strategies in resource exploitation and long-term storage through the production of high-calorie, preservable products such as fish oil (Craig, 2021; Piezonka, n.d.). However, while all these technologies might have substantially contributed to the described socio-economic and political developments in the taiga, they most likely did not represent specialist or restricted knowledge.

This might have been different when it comes to ritual knowledge which, judging from more recent, ethnographic evidence from this region, could have been restricted to ritual specialists (such as shamans) who would likely have played important roles in many aspects of life, from hunting and fishing, to health issues and death, to settlement choices and spatial taboos.

9.4.4 Case Study 4: Politics in Neolithic Trypillia Mega Sites

At the end of the fifth millennium BCE, a network of human agrarian communities developed in the forest-steppe between the Carpathian foothills and the Dnieper River, of which the predominant group belong to the largest and most populous prehistoric settlements in Europe and are labelled under the term Trypillia. In cultural terms, these communities had close ties to Neolithic-Copper Age societies of Southeast Europe, and within them several innovations were made, among other things with regard to settlement layout, animal husbandry, animal-drawn sledges and ceramic technology.

Building on a long research history of Russian, Soviet, Ukrainian and Moldovan scientists, several major research projects on Trypillia have been carried out in the last two decades with international participation (e.g. Chapman et al., 2014; Gaydarska, 2019; Menotti & Korvin-Piotrovskiy, 2012; Müller et al., 2016). The research teams obtained high-resolution settlement plans via geomagnetic surveys, which provide a quasi-complete insight into the structures of these communities with thousands of houses, pits, integrative assembly buildings, streets and squares, as well as ceramic production facilities, due to excellent contrast (Hale, 2020; Rassmann et al., 2014).

In terms of chronology, Trypillia aggregated settlements begin between 4300 and 4100 BCE, and developed into larger and larger settlements until about 3700 BCE. The main group of these communities in terms of size was concentrated

in the catchments of the Southern Bug and Sinyukha Rivers, where they – thanks to the extremely fertile loess soils – reached sizes between 100 and 320 ha. These settlements are composed of thousands of burnt houses arranged in concentric rings along a circumferential ring corridor, which formed the main road for these settlements, and a central unbuilt open space. The houses contain the remains of rich inventories of numerous painted vessels, tools, and miniature objects such as sledge models, house models and anthropomorphic and zoomorphic figurines.

Due to the sheer size of the populations of these communities, we can necessarily assume the existence of political institutions. In addition, thanks to the excellent quality of the evidence, these settlements represent an extraordinary source for the archaeological reconstruction of political processes.

9.4.4.1 Community Size

Reconstructions of the size of local communities with Trypillia pottery styles are based on the number of houses and their floor areas. This is possible thanks to the prehistoric burning of practically all houses and their resulting excellent visibility in archaeo-magnetic plans. The space requirement for one person is assumed to be 7 m^2, derived from cross-cultural ethnological research (e.g. Porčić, 2011).

The most problematic variables in population estimates are the site duration and the number of simultaneously used houses within settlements. For a long time, very short occupation spans were assumed for large Trypillia settlements, in the range of 50 years, with a correspondingly high number of contemporaneous houses (e.g. Diachenko, 2016). In contrast, new ^{14}C dating indicates Trypillia megasites had considerably longer durations of 150+ years and a correspondingly reduced proportion of houses in use simultaneously (Millard, 2020; Ohlrau, 2020; Rud et al., 2019; Shatilo, 2021). At the mega-site Maidanetske, which had a duration of approximately 300 years, 1550 out of 3000 houses are considered to belong to the main occupation phase of the settlement between 3800 and 3700 BCE. Assuming an average lifespan of 50 years for a house and the average floor size of 72 m^2 (Ohlrau, 2015, p. 51, Table 3), this would imply a population at the settlement Maidanetske of about 8000 people (1550 houses * 72 m^2 = 111,600 m^2/7 m^2 = 15,943 People/2 (fifty-year-steps) = 7971 people). Assuming a lifespan of 50 years for a house, however, we would have to take into account that this significantly exceeds the average life expectancy of prehistoric people, which was more likely between 20 and 30 years (Acsádi & Nemeskéri, 1970). This would imply the use of the houses by more than one generation. As modelling of ^{14}C-dates from south-eastern European tells shows, the actual periods of use of houses are probably much more variable and, in some cases, amount to only a few years (Draşovean et al., 2017; Tasić et al., 2015). Therefore, much shorter average occupancy periods of 25 years should also be considered, which would reduce the number of simultaneous inhabitants. Even though the general data situation in Trypillia settlements is excellent, the estimates of the population numbers have a relatively high degree of uncertainty.

The number and size of houses per settlement vary considerably in space and time, ranging from 7–130 houses in small settlements (<10 ha) to several thousand houses in mega-sites such as Nebelivka (c. 1400), Maidanetske (c. 3000) and Talianki (c. 2500). Depending on the average house occupation duration, the estimated number of inhabitants in small settlements (0.3–10 ha) varies between 50 and 500 inhabitants, if the total house area is used to calculate the total number of inhabitants over the entire occupation time of the settlement. The populations of large settlements with areas between 95–320 ha would vary between 2500 (Volodymyrovka) and 11,000 (Dobrovody), based on a 50-year average period of use for the houses. The assumption of a median house lifespan of 25 years would reduce the estimated population to 25–200 for small settlements and 1300–5550 for large communities.

9.4.4.2 Conformity/Diversity

In many cases, a pronounced uniformity of the structural elements of Trypillia settlements has been highlighted and used as an argument against increased social complexity within Trypillia communities (e.g. Graeber & Wengrow, 2022). Such standardisations concern, among other things, the architecture and construction of dwellings: the majority of dwellings were constructed raised off the ground (often interpreted in terms of two storeys). There was usually an anteroom and a main room on a massive platform, with specifically arranged interior elements: a stove at the side of the entrance in the main room, a podium on the opposite long side, a fireplace (often misleadingly called an 'altar') and a grinding facility near the entrance. The houses had round roofs. Only occasionally could certain deviations from this pattern be observed, e.g. houses with a third room and isolated ground-level buildings, which could also represent chronological patterns.

Decreasing variability of house sizes indicates decreasing social inequality in the phase after the foundation of the earliest Trypillia mega-settlements (Hofmann et al., n.d.). This trend towards greater conformity runs counter to the theoretic assumption that vertical differentiation and social inequality must increase with the size of local communities. We interpret this pattern as an expression of an egalitarian ideology and the establishment of effective mechanisms for social levelling. A reversal of the trend towards slightly higher floor size variability emerged after 3800 BCE, probably when these mechanisms began to fail. In the disintegration phase of large settlements, the variability of house sizes then increases again significantly.

A high degree of standardisation also concerns pottery technology and styles. Within large Trypillia settlements, we see uniform fabrics, as well as sets of ceramic shapes and decoration schemes, that are extremely difficult to differentiate at the household level (Ohlrau, 2020, pp. 192–202; Shatilo, 2021, pp. 110–126). However, this high degree of intra-settlement conformity is probably not exclusively the result of central specifications, but rather of specific production and distribution

conditions with specialised pottery workshops. This corresponds to the fact that ceramic stylistic differences have so far been found primarily across settlements. These were primarily interpreted exclusively chronologically (e.g. Harper et al., 2021).

According to the aforementioned theoretical framework of this study, the observed standardisations would have to be interpreted in the sense of a centrally regulated, communally established conformity and equal treatment of citizens.

9.4.4.3 (Critical) Resources: Access and Distribution

Several arguments point to an egalitarian ideology in Trypillia communities and unrestricted access to the perhaps communally managed resources of the settlement environment. This is indicated, among other things, by the spatial layout of the settlements, whose configuration along a circumferential ring-corridor ensured equal access to the communal infrastructure (e.g. the unbuilt central square). This settlement layout has analogies with plans of egalitarian organised communities from cross-cultural ethnographic contexts (Wagner, 2019). In addition, the aforementioned development of house sizes is an indirect indication of effective mechanisms for redistribution of achieved surpluses.

That the egalitarian ideology was, in reality, in tension with diverging interests, and that certain wealth disparities actually existed with Trypillia communities is indicated, among other things, by differences in house sizes in different parts of the settlement. The largest houses were located along the ring corridor and the main plaza (beside the central mega-structure) while in the zones inside and outside the ring corridor, smaller houses predominated. The ring corridors represent the basic component of the settlements, planned and realised at the time of settlement foundation. In contrast, the zones inside and outside the ring corridor tend to represent secondarily developed areas. According to the primary and secondary character of the different zones, the social differentiation which is manifested in different house sizes, might refer to a vertical differentiation of founder families on the one hand, and families that joined later on the other.

However, it is unclear what the basis was for this possible social advantage of the founder families, and what consequences it had. It is possible that these families had exclusive rights to use high-quality land, e.g. located within or near the settlements. They could have used the surplus obtained through this economic advantage to gain higher prestige and more rights in decision-making processes. In addition to arable and grazing land, control over other critical resources such as the supply of flint, salt and metal, or over transport capacities with cattle-drawn sledges, are possible sources of differences in household wealth and political power.

We take the fact that the Gini index of house sizes increased from about 3800 BCE onwards as a possible indication that the mechanisms of social balance began to fail at this time.

9.4.4.4 Network Configurations

Insights into the configuration of networks are based, on the one hand, on regional and interregional comparisons of settlement data. On the other hand, the origins and spatial connections of 'imported' goods and certain ideas show the range of external relations. In the catchment area of the Sinyukha River, the distribution of settlements indicates a high degree of mobility between Trypillia communities, which led to an increasing concentration of people in larger and larger settlements until at least 3800 BCE (R. Hofmann & Shatilo, 2022). After 3800 BCE, the disintegration of large settlements began and numerous smaller communities were founded. The high residential mobility potentially led to dispersed distributions of families and lineages in different settlements.

The integration of Trypillia communities into long-distance networks can be seen, for example, in causewayed enclosures, which form a quasi-pan-European network (Hofmann, 2022). Indirectly, we can assume an enormous demand for, for example, salt, pigments (magan) for painting pottery, copper and also flint (Chapman et al., 2019). In the case of flint, the raw materials have proven origins; from regional sources and the resource-rich Prut-Dniester area, where households specialised in extracting flint material and processing it into semi-finished products.

The directly proven quantities of imported goods in Trypillia megasites are relatively small. By comparing 48 house inventories from the Maidanetske megasite, it was possible to distinguish 'rich' households with signs of trade (tokens, hoards) from households associated with imported ceramic vessels in addition to a specialisation in textile production (Ohlrau, 2020, pp. 35–58). Presumably, households' access to external resources could be crucial in gaining additional influence in political processes.

9.4.4.5 Organisation of Decision-Making

The reconstruction of decision-making processes in Trypillia communities is based on a category of integrative building structures, so-called megastructures, which we can identify in archaeomagnetic plans and excavations (Hofmann et al., 2019). The criteria for distinguishing these integrative structures from residential buildings are, in order of importance: (1) their highly visible position in undeveloped public space, especially within the ring corridor and a special so-called 'main plaza', (2) a specific ground-level architecture (in contrast to the elevated construction of residential buildings), and (3) their often extraordinary dimension. Exemplary excavations show that megastructures were multifunctional facilities in which other integrative activities were carried out and surplus was consumed jointly in addition to decision-making.

Megastructures existed since at least the first half of the fifth millennium BCE and thus long before agglomerated Trypillia settlements. They are suitable for the reconstruction of decision-making processes because they occur multiple times in large Trypillia settlements. Due to their wide distribution within settlements, we can

assign them to different ‘use groups’, either for parts of the community or its entirety. Their multiple occurrence within the same settlement is probably due to the unification of several smaller communities into large megasites that each retained their integrative decision-making structures. Accordingly, we assume sequential, bottom-up decision-making processes that were decentralised and organised from the level of neighbourhoods or quarters.

The size and architectural development of megastructures indicate increasing centralisation of decision-making processes in Trypillia communities after 3800 BCE, in line with the findings of an increase in social inequality, reconstructed based on house sizes. On the one hand, we observe a process of increasing enlargement of the ‘use groups’ of decentral megastructures. On the other hand, decentral megastructures, e.g. distributed in the ring corridor of many settlements, become increasingly smaller and finally disappear, while the size and architectural prominence of central megasites increased. Architecturally, central megastructures developed from relatively light buildings with open areas to buildings that are more massive. Some of them show monumental characteristics.

9.4.4.6 Property Rights

Indirect indications of ownership in Trypillia communities are the ring-shaped layout and the low variability of house sizes, both of which tend to not to support the idea of pronounced differences in property, instead favouring the interpretation of a tendency towards equal distribution of resources. On the other hand, the differences in house sizes in the ring corridor and other parts of the settlement show that certain parts of the population seem to have possessed advantages over others, which might have been indicative of exclusive rights of use (ownership?) of critical resources. The existence of property rights over building plots within the settlement is indicated by the fact that larger empty spaces were initially left within the rows of houses, which were only filled successively by new buildings over several generations. This resulted in spatially separated clusters of houses that perhaps reflected several generations of the same family.

9.4.4.7 (Violent) Conflicts and Reconciliation

There is very little clear evidence of violent conflict within and between Trypillia communities, although the fusion of large numbers of people into megasites and also the burning down of practically all houses have been interpreted in this direction by some authors (e.g. Anthony, 2007; Kruts, 1989). The same applies to human skeletons associated with burnt houses in Kosenovka (Kruts et al., 2005) Direct evidence of intergroup conflict is provided, for example, by traumata on a large number of skeletons from the Verteba cave, one of the few burial records (Madden et al., 2018).

The situation with fortification ditches is more differentiated: fortification ditches of settlements of the period before (prior to 4300/4100 BCE) and after (subsequent to 3650 BCE) the phase of aggregated Cucuteni-Trypillia settlements and megasites, were frequently constructed on naturally protected promontories and thus clearly show a fortified character (Hofmann et al., n.d.). In contrast, the discovery of causewayed enclosures in the Middle Trypillia megasites Nebelivka (Videiko & Chapman, 2020) and Maidanetske (Ohlrau, 2020, pp. 114–116) clearly does not support a fortified character for ditches just of the largest communities.

The evidence for weapons is similarly ambiguous (Klochko, 2001): before and during the phase of population aggregation in megasites the number of possible weapons is limited and, in the case of arrowheads or flat axes, not clearly distinguishable from tools for hunting or for wood processing. In the post-megasite period, we observe a quantitative explosion of possible weapons, the majority of which, however, now originate from graves, which therefore cannot be compared with the earlier evidence from settlements.

9.4.4.8 Knowledge

We assume highly specialised knowledge existed, e.g. for pottery production and the processing of metals (copper, gold). This is evident in, among other things, the development of advanced pottery kilns, whose operation and maintenance certainly required special knowledge. The animal bone spectrum of a pottery workshop in Maidanteske, which deviates from domestic contexts, might indicate a special economic and social role of potters in the community (Benecke et al., in press). Since we see the emergence of professional specialisations as a strategy to compensate for deficits in household income, it seems unlikely to us that this specialised knowledge was a source of social power. This is especially true for potters, who tend to have a low social status in many societies (Rice, 1987).

9.4.4.9 Conclusion

Trypillia communities were established as part of the colonisation of the forest-steppe zone on the northern border of the Northwest Pontic steppe zone. Their outstanding demographic success is probably due to a progressive and reform-oriented political organisation that enabled broad political participation in sequential bottom-up decision-making chains and effective (redistributive) mechanisms to avoid or reduce social inequality. This progressive constitution increasingly came into conflict with the vertical social differentiation processes that developed, perhaps along the sociological and economic break in the line of founder families and families that joined the settlement later. These processes led to increasing centralisation of decision-making and political power and were the starting point for increasing dissatisfaction and the resulting gradual disintegration of aggregated Trypillia communities from 3800 BCE at the latest.

9.4.5 Case Study 5: Iron Age Greece – Facets of Political Practice and Patterns of Power Relations

The centuries of the Greek Iron Age that followed the Palatial civilisations of the Aegean Bronze Age and the so-called post-palatial period up to the seventh century BCE are characterised by socio-political dynamics such as, among others, the transition from a region of village communities to a world of city-states/citizen-states (*poleis*) with complex institutionalisation. Research on this period involves methods from archaeology and history, since from the eighth century BCE on, contemporary written texts are also available. Therefore, a subdivision of the period into the tenth/ninth century BCE and then the eighth/seventh century BCE is often applied, with the latter no longer being prehistory, but rather 'protohistory' (on this term Knodell, 2021, p. 193, and p. 252: a 'period in which written texts of historical interest are present but there is no formal conception of writing history as a genre').

Yet epics, poems and, in the seventh century BCE, also inscriptions, each constitute different text genres with their own specific challenges, and they offer different insights into contemporary experiences and world views. For example. The Homeric epics of the Iliad and Odyssey, both based on oral tradition, do not describe the reality of their time (the late eighth and early seventh century BCE), yet presuppose knowledge of it in order to be understood, since the socio-political constellations described (the so-called 'Homeric society') had to make sense to the audience (Crielaard, 1995; Raaflaub, 1989, pp. 10–11; Raaflaub, 1998; Seelentag, 2015, pp. 76–77; Ulf, 1990, 2011, p. 276). Hesiod, on the other hand, addresses more immediate aspects of everyday economic as well as socio-political life, while early poets such as Tyrtaios or Archilochos offer insights into the local value systems of their time. Remarkably enough, these early (and earliest) texts already prominently address aspects of social organisation of communities and their political dimension, e.g. elite leadership or ideals of community (Raaflaub, 1989, p. 2; on discourses on leadership and power in Homer and Hesiod: Ulf, 2017). Finally, from the second half of the seventh century BCE onward, a few early inscriptions specifying forms of local self-organisation and the regulation of power are an invaluable source for our knowledge of the development of the Political. However, for the same period in different places, we encounter quite different and locally bound processes and trajectories. They argue against a 'Greek' kind of social organisation of communities, or a linear, evolutionary development towards a specific form of (city-)statehood. But above all, all these texts indicate facets of socio-political complexity of communities of their time, which cannot be ascertained from the archaeological record alone, and which stands in remarkable contrast to the rather modest material culture of contemporary settlements.

9.4.5.1 Community Size

Compared to the Greek Bronze Age, the Early Iron Age was characterised by a marked decline in settlement and modest settlement sizes, indicating low population density and considerable decentralisation. Nevertheless, differences do emerge from region to region, and even within some regions (Knodell, 2021, p. 43; for a demographic-economic approach: Murray, 2017, pp. 210–246).

Typical for the tenth/ninth century BCE are small village communities in dispersed, sometimes only short-lived settlements of modest houses. The scattered houses of perhaps 40 family units of Peloponnesian Nichoria (McDonald et al., 1983) are regarded as typical for such settlements, whose face-to-face communities consisted of several households or kin groups (Knodell, 2021, p. 165) and usually show no signs of greater social inequality. Only some settlements that became larger over time, such as Athens, reveal local social hierarchies (Knodell, 2021, p. 28), and the famous Homeric Catalogue of Ships (Iliad 2, 484–760), with its long list of in some cases only small regions with their (main?) settlements, suggests supra-regional geographic awareness. In the epics, these communities are self-contained, autonomous entities (Ulf, 2011, p. 275), yet without state-like organisation.

For the eighth and seventh centuries BCE, changes in settlement patterns become apparent, yet again with regional variability. Although villages remained the dominant form of settlement, now a clear increase in the number of settlements, as well as a growth of existing ones, is apparent (Morris, 2005, pp. 8–12). By 700 BCE, several dozen of them must have had over 1000 inhabitants (Knodell, 2021, p. 28). It is also the period of the establishment of settlements overseas referred to often as Great Colonisation, which led to new, independent polities (Knodell, 2021, p. 233, referring to Osborne, 2009, pp. 110–121: about 30 in the eighth century BCE, about 60 in the seventh century BCE). Discernible is also the emergence of regional centres, whose relationship to surrounding village communities must have resulted in new challenges which were met with political integration, among other things (Knodell, 2021, p. 195, referring to Bintliff, 1999, pp. 24–25). It is the early phase of city-states/citizen-states (polis) as the focal place of socio-political dynamics. Their settlement centres became the site of public spaces and venues, as well as the first efforts towards (public) architecture and forms of monumentality, all the result of communal decisions (Kõiv, 2013). And whereas for the tenth/ninth century BCE only little overlap of community territories can be assumed (Knodell, 2021, p. 197), now the emergence of a specific territoriality of these poleis becomes apparent, manifest in efforts to extend territorial control (as in the case of Sparta's Messenian wars), and in manifestations of a 'political geography' of states (as in the case of the poleis of the so-called Lelantine War between Chalcis and Eretria).

9.4.5.2 Conformity/Diversity

(In-)equality and social difference as markers for power relations are indicated by burial inventories and other contexts and forms of display. The archaeological record for the tenth/ninth centuries BCE suggests only minor signs of social differentiation within the village societies. Local social inequality and personalised leadership are indicated by some elite burials such as, for example, the singular burial of Toumba at Lefkandi that demonstrates an impressive mobilisation of local resources for one individual (Popham et al., 1993). However, elite burials and burial customs in Iron Age Greece were remarkably varied. Comparison of the Toumba necropolis at Lefkandi with elite burials in Athens, for example, suggests that the political character of both communities must have differed significantly (Ulf, 2007, p. 320). Additionally, in Athens the sharp increase in 'formal burial' for only a short period during the eighth century BCE suggests that burial forms exclusive to the local elite during the tenth/ninth century BCE were now used by larger groups of the community, indicating their new self-awareness as part of the polity (Morris, 1987). The vast majority of settlements, however, show no signs of complex social hierarchies. Only the occasional larger, but short-lived houses indicate personalised, non-institutionalised leadership (Knodell, 2021, p. 165), yet they follow common house types and are by no means palatial in character.

Facets of social inequality and power hierarchies are much more concrete in the epics. The most prominent form of leadership are the *basileis*, as individual leaders or members of local elites. Their position is based primarily on prestige, which in turn is acquired in central spheres of elite action (*Prominenzrollen*: Seelentag, 2015, p. 77). These include, among others, military bravery, agricultural competence, or prowess in the resolution of disputes (Ulf, 2011, pp. 259–261). Thus, reputation is founded primarily on achievements and qualities to be proven again and again. The Homeric ideal 'always to be first and to excel among all' (Iliad 6, 208; Iliad 11, 784) outlines the ethos of an elite whose members were constantly competing with each other. Thus, the Homeric elite was not, despite all references to lineage, a dynastically legitimised aristocracy, as those emerging during the Archaic period (seventh and sixth century BCE) (Raaflaub, 1989, p. 29). However, other early texts reflect contemporary discourses on appropriate behaviour and qualities of leadership. As a shared system of values, this elite ethos and its logic must have also contributed to conformity and thus cohesion of local elites. Another, more inclusive, dimension of conformity is finally indicated in the seventh century BCE by early steps towards what later became the formalised citizenship of a polis (Seelentag, 2015, p. 155; see also Zurbach, 2013); a specific form of belonging and partaking, emerging in the communities through the involvement of the individual in local socio-political *'Integrationskreise'* denied to others (Seelentag, 2015, p. 276).

9.4.5.3 (Critical) Resources: Access and Distribution

Land (and cattle) was the most important resource of local elites. In the epics, the number of cattle owned indicates wealth and status (Ulf, 2011, p. 269). However, also important for status and prestige was participation in supra-regional networks and the distinctive prestige goods culture embedded in them. Such participation remained centralised (or reserved?) for certain members of the communities – and was used locally to negotiate power relationships and to establish and maintain inequality (Knodell, 2021, p. 190). The prominent role of prestige goods in the epics, in various contexts of negotiating status and prestige among peers, is also evident in the archaeological record, e.g. in objects of Levantine origin found in elite burials. However, the emergence of supra-regional trade activity can already be traced in the Iron Age. Although the epics are ambivalent about mercantile activity for one's own advantage (Ulf, 2011, p. 268), the omnipresence of fine wares, for example of Corinthian manufacture, all over the Greek world from the eighth century BCE onward indicates forms of 'globalised', albeit still pre-monetary, mercantile exchange.

9.4.5.4 Property Rights

Individual property rights can be taken as a given for the Iron Age. Land and cattle ownership, the accumulation of prestige goods, but also discussions about the appropriateness of gifts or portions of booty in the early texts, indicate the importance of property for members of the elites. But Homer's and especially Hesiod's agricultural village societies are also characterised by individual ownership of land, livestock, and tools. Arable land is owned by households (Ulf, 2011, p. 266). Large and sometimes prominently placed storage vessels in houses, e.g. in Lefkandi, Oropos or Zagora, but also round installations in settlement contexts interpreted as granaries (in Lefkandi or Old-Smyrna), indicate individual or at least decentralised storage in these communities. Compound-like arrangements or courtyard walls in settlements, and also cities such as in seventh century BCE Old Smyrna (trench H: Akurgal, 1983, pp. 27–34, Fig. 98), likewise suggest demarcation and ownership. Hesiod even emphasises, despite all forms of 'village reciprocity' mentioned in his Works and Days, an ideal of individual self-sufficiency to be striven for: oxen, plough, wagon, and tools were individual property (Barry, 2016). Individual land ownership (and the collective initiative for its distribution) is also suggested by the land division of the colonial settlements overseas. Status and political power were also based on land ownership in later times, and there are indications for regulating the ownership of property from the seventh century BCE onwards (Zurbach, 2013, pp. 648–649). The Solonian reforms for Athens (c. 600 BCE) set land ownership as a criterion for participation in the institutions of the Polis. Land ownership could

even occasion rights over other individuals, since early texts already recognise various forms of dependency (cf. Zurbach, 2013). The leasing of land was common by the seventh century BCE at the latest and could, as in Athens, lead to forms of debt bondage that threatened the polity's internal peace (and were therefore abolished by Solon). Individual property, after all, could also be people: slaves. Already Hesiod gives advice on the treatment of slaves, and the father of Odysseus reclaims land with his slave (Ulf, 2011, p. 266; on slavery in Homer and Hesiod: Harris, 2012; on early slavery also Zurbach, 2013).

9.4.5.5 Network Configurations

For Iron Age elites, the establishment, cultivation, and expansion of networks was of great importance. Imported objects from burials, and later sanctuaries, attest to contacts with the outside world and the relevance of displaying them. In general, however, the settlement communities of the Early Iron Age were isolated. The vast majority of tenth/ninth century BCE settlements show no evidence of supra-regional exchange or overseas contacts (Knodell, 2021, p. 190). Imports from the Near East, e.g. made of bronze, are rare (Braun-Holzinger & Rehm, 2005; Dirlmeier-Kilian, 2000). A few places (or their elites), however, show early contact with the eastern Mediterranean. Crete, Lefkandi and Athens, for example, were well connected, as imported objects from local elite burials show (e.g. Bourogiannis, 2018). The demonstrated participation in networks was also used to consolidate status. This demonstration, however, took place above all in locally specific constellations, as different strategies of display from place to place show (Knodell, 2021, p. 159). Supra-regional networking is also characteristic of the Homeric elites. The campaign to Troy appears as an almost panhellenic undertaking of peers, as do their cross-generational and cross-regional (guest-)friendships, demonstrated by accumulated gifts of often exotic origin, old age or from prominent previous owners (cf. e.g. Wagner-Hasel, 2000 or Kienlin & Kreuz, 2015 with an object-biographical approach). During the eighth/seventh century BCE, however, shifts are discernible. Although elite networks still played an important role, the now significantly larger number of imports, for example, indicates an intensification (and also de-personalisation) of long-distance contact beyond peer interaction. Now we also find Greek objects in foreign contexts and, for example, some local products all over the Greek world, like the already mentioned Corinthian fine wares, whose omnipresence can only be explained by trade.

An important role for regional and supra-regional networks was increasingly played by sanctuaries during this period. The numerous, often costly, votive offerings found in them show that now sanctuaries, and no longer only burials (as before in the tenth/ninth century), also became sought-after places for elite self-representation (Knodell, 2021, p. 214). Especially the previously regional, now increasingly panhellenic, sanctuaries of Olympia and Delphi became prominent sites of elite interaction. They developed into major hubs of Greek 'network architecture' and an 'interregional political consciousness' (Knodell, 2021, pp. 29, 212).

Such a network architecture and political consciousness is also apparent in the already mentioned Lelantine War (late eighth, early seventh century BCE) between the neighbouring Euboean poleis Chalcis and Eretria. Here, for the first time in our record, we encounter trans-regional alliances with other poleis and, even if these may still have been based on personal elite networks, a degree of relationship between communities through which a local conflict acquired trans-regional impact.

9.4.5.6 Organisation of Decision-Making

The development of village-based communities into larger, and towards the end of the Iron Age even city-like, settlements also had consequences for their socio-political organisation. For the small communities of the tenth/ninth century BCE, localised leadership can be assumed, whether by a leader or the leaders of local kin groups, with power being exercised in a vertical hierarchy (Knodell, 2021, p. 27; on archaeological evidence for political organisation during this period: Kõiv, 2016). In the epics, too, power is exercised directly, not through specialised institutions (Seelentag, 2015, p. 82). Yet we also encounter a wide range of forms of decision-making (Ulf, 2011, p. 270). Personal leadership and commensality are central political practices of the *basileis* (Seelentag, 2015, p. 378; on the specific role of commensality in differing local Iron Age societies: Kistler & Ulf, 2005), but also councils (of peers and/or elders) and assemblies of the people (*demos*) – i.e. a public – convening on occasion are frequently mentioned. The actual decision-makers, however, were always the *basileis*, even if a decision consensus was expected (Ulf, 2011, p. 270). Opposition was possible, but considered harmful to the community, especially opposition among the *basileis* (Ulf, 2011, p. 271; cf. e.g. Iliad 2, 225–259). The *demos* attending assemblies, in turn, had no political initiative, although it was a point of reference for the arguments brought forward in councils and assemblies (Ulf, 2011, p. 270). It is in this sense that we encounter the beginnings of the institutionalisation of the *basileis'* leadership, in that common welfare was linked to the elite's entitlement and claim to leadership (Ulf, 2011, p. 274).

However, these communities were still pre-state entities. It was not until the seventh century BCE that the forms of political organisation emerged that were to become a characteristic of the Greek city states (Knodell, 2021, p. 29). A major feature of these forms of organisation was a set of institutions, as codified laws known since the middle of the seventh century BCE from several communities reveal, with the oldest one known from Cretan Dreros. Despite their variation, these local laws already share a degree of institutionalisation with officials, smaller bodies, councils and assemblies (Hölkeskamp, 1999; Seelentag, 2015, p. 60). Yet offices and bodies always remained reserved for members of the local elites: in pre-Solonian Athens, for example, the council of the Areopagus consisted of former holders of the archonship, which in turn was reserved for leading families, and still in Solonian Athens access to offices was regulated according to – property-based – status. Nonetheless, the important role of public assemblies and the public negotiation of communal matters can also be seen in the institutionalisation of their location. Not

only is the meeting place of Homer's (utopian) city of Scheria paved and equipped with smoothed stones for sitting (Odyssey 8, 3–7), such local institutionalisations of public assembly and decision-making are also archaeologically attested, most conspicuously by a square of approximately 40 x 20 m lined with stone seating steps – the local Agora – in Cretan Dreros (Drerup, 1969, pp. 59–60; Seelentag, 2015, p. 206 with further references). Datable to as early as the eighth century BCE, this public infrastructure in the centre of the polis is several generations older than the local inscriptions mentioning Dreran institutions (themselves the oldest known legal inscriptions). The institutionalisation of the assembly found its materialisation long before the written law (Seelentag, 2015, p. 206).

9.4.5.7 (Violent) Conflict and Reconciliation

The world of the Greek Iron Age was full of conflict, both within the communities and in their relations with one another. Conflict, but also conflict resolution, play prominent roles in the early texts. Military skills and aptitude as leaders were important qualities of Iron Age elites. The Homeric epics, for example, repeatedly mention these aspects of the elite ethos, and in some regions the frequency of weapons in elite burials confirms the importance of this competence for status and identity (cf. the burials with weapons in Athens: D'Onofrio, 2011). But the Iliad also shows efforts to settle the conflict through negotiations by representatives of both parties (Ulf, 2011, p. 276).

The usual form of conflict *between communities*, especially in view of the increasing number of settlements and settlement growth, must have been neighbourhood conflicts, e.g. over land (but see, in contrast, the cause of the Trojan war). Compared to the only little overlap of community territories assumable for the tenth/ninth century BCE, the increasing proximity of settlements since then must also have had an impact on the understanding of one's own territoriality (Knodell, 2021, p. 197). And with the long-lasting (territorial) conflict of the Lelantine War over the homonymous plain, we encounter not only trans-regional alliances, but also agreements on conditions under which the battle was to be fought (e.g. the discussed prohibition of weapons hitting from a distance: Parker, 1997, pp. 95–105 with antique sources), as well as ways to settle this conflict (truces, single duel, treaties). Surprisingly, for most of the Iron Age, unfortified open settlements were the norm. Only from the eighth century BCE onwards, and mostly on the islands, is there evidence for simple fortifications, sectional walls or fortified refuges (Drerup, 1969, pp. 100–103). The city walls of Old Smyrna, built already in the ninth century BCE, stand out as an impressive collective effort, while even larger poleis such as Corinth or Eretria did not build city walls before the seventh century BCE. The simple, tower-less walls, however, fulfilled only basic defensive needs; time-intensive and resource-intensive sieges or the destruction of poleis were – despite the Troy narration – not the focus of inner Greek conflicts. On the contrary, sources reveal open battle as the dominant and ideologically affirmed way of warfare: the heroic duel under the eyes of the involved parties, the open battle of elites of

opposing polities with their followings, and, in the seventh century BCE, the emergence of hoplite warfare, which involved more members of the poleis and, in turn, reinforced their self-confidence and claim to participation in the political process of their polity (on hoplite warfare: cf. the contributions in Kagan & Viggiano, 2013). The ideological shift from the individual (elite) warrior to the community in arms (Knodell, 2021, p. 214) can also be linked to changes in the pattern of displaying weapons. In Athens, for example, elite male burials of the first quarter of the first millennium BCE still are characterised by weapons, but they are hardly present any more from the middle of the eighth century BCE onwards (D'Onofrio, 2011; Ruppenstein, 2015, p. 495 with references). In comparison, from the late eighth century BCE onwards, weapons become prominent as votives in the supra-regional, panhellenic sanctuary of Olympia, offered by individuals and now also communities, and often as parts of booty from conflicts between poleis (Eder, 2015, 523).

There is no unambiguous evidence for conflicts *within communities* from the tenth/ninth century BCE. In the early texts, however, they are already a prominent topic. The elites of the epics share an understanding of what behaviour was detrimental to the community and that inner conflicts endangered the group's claim to leadership (Seelentag, 2015, p. 91), and there are already the first signs that rules of proper conduct can be considered as 'law' (*dike:* Ulf, 2011, p. 271). These shared values and norms also affected the resolution of inner conflicts and thus presuppose political, albeit pre-state, communities (Seelentag, 2015, p. 87). Arbitration was a central form of conflict resolution; for Hesiod, aptitude for arbitration is an important quality of a good *basileus* (Theogony, 81–92; cf. Raaflaub, 1989, pp. 19–21; Seelentag, 2015, pp. 145–147), and Homer's famous description of the depictions on the shield of Achilles comprises a publicly negotiated, institutionalised arbitration (Iliad 18, 503–6; Ulf, 2011, p. 270). The necessity of good/lawful order (*eunomia*) for a functioning community, but also the responsibility of local elites for it, is still emphasised in the seventh century BCE, in Athens for instance by the lawgivers Draco and Solon, both members of the local elite themselves. They emphasise the balancing of (elite) interests, as well as community-oriented conduct, and warn against internal tensions up to civil war-like conditions (*stasis:* Raaflaub, 1989, pp. 24–25; Seelentag, 2015, p. 525). Such tensions could sometimes only be resolved radically, for example by eliminating a faction (cf. the recently excavated mass grave in Athens and its discussed connection with the failed coup of Cylon and his followers around 630 BCE: Ingvarsson & Bäckström, 2019) or by 'community fissioning', i.e. the secession of elite factions or kin groups to establish settlements overseas (i.e. 'colonies': Knodell, 2021, pp. 204–205). Against this background, the known early laws and local institutionalisations have to be also understood as attempts by local elites to defuse internal power struggles and conflicts among competitive peers, since instead of defining the powers of institutions they rather regulate and curtail them, e.g. by limited terms of office and restricted iteration (Seelentag, 2015, pp. 135–138; cf. also the contributions in Meister & Seelentag, 2020). The concern was thus, clearly, to prevent a concentration of power and, in consequence, a permanently leading position of one person over his peers (Seelentag, 2015, p. 74). And already the oldest laws do not establish but presuppose the

institutions mentioned, i.e. they are to be understood as reactions to conflicts and power struggles within their communities (Seelentag, 2015, p. 140). This is also indicated by their character as 'constitution'. The laws of Dreros, for example, were no systematic body of laws written down at one time, but individual regulations from different years that must have been decided and published on occasion (Seelentag, 2015, pp. 139–140).

9.4.5.8 Knowledge

For the tenth/ninth century BCE, we can assume highly personalised knowledge in the communities and mostly traditional knowledge. The heroes of the epics, too, boast their competencies in many fields to underline their authority, even if we also meet specialists such as physicians, bards, seers, or carpenters in the epics (Ulf, 2011, p. 267). Wandering bards with a shared repertoire of themes and narrations, but also elite mobility and their participation in peer-polity interaction, e.g. in panhellenic sanctuaries, must have contributed early on to a well-established trans-regional exchange of knowledge. During the eighth century BCE, however, the emergence of specialised sacred architecture indicates a decoupling of (religious) specialised knowledge important for the communities from an outstanding local individual, and its functional institutionalisation (priests: Mazarakis-Ainian, 1997). Above all, however, the adaptation of the Phoenician alphabet to the Greek language and its rapid dissemination during the eighth century BCE marked an important turning point for the hitherto oral Iron Age culture, offering also new possibilities for the preservation, distribution and use of knowledge (Whitley, 2017 with an archaeological approach to early writing and its materiality, esp. pp. 90–94 on early Cretan inscriptions). The earliest written texts already reflect and document extensive shared bodies of knowledge. Hesiod's Theogony, for example, outlines religious knowledge and, embedded in it, an idea of the past, while his Works and Days incorporates comprehensive agricultural knowledge. And from the seventh century BCE onwards, we come across writing with explicitly political function in the form of laws (Knodell, 2021, p. 234). Their monumental form and presentation as permanent inscriptions show that they were meant to address the local public (Seelentag, 2015, p. 231) and to be referred to in case of dissent or conflict. Political knowledge in the communities became institutionalised – and transparent.'

9.4.5.9 Conclusion

The Greek Iron Age offers remarkable insights into socio-political developments and potentially diverse trajectories of processes that led from communities in small scattered settlements, with only modest material culture and low

organisational complexity, to the formation of the polis, the city-state/citizen state with its increasingly complex political institutionalisation and public conduct. The perspectives offered already by the earliest written testimonies from the eighth and seventh centuries BCE, in particular, are unique. They attest to a complexity and diversity of forms of concrete social organisation, as well as to discourses on power, leadership, community, and reactions to crisis beyond simple top-down models and their often-assumed implications. It is this complexity and diversity in its specific depth that cannot be extrapolated from the archaeological record alone. And these texts also show us the limits of categorising societies according to only a few criteria in the sense of anthropological archetypes and models. We have to assume regional variety, different forms of society, and socio-political complexity all at the same time (and thus also different forms of elites: Kistler & Ulf, 2005; Kõiv, 2016; Ulf, 2007, p. 321). But above all, these developments and processes did not take place everywhere, in the same way, or have comparable outcomes, even if they were always influenced by strategies of local elites to gain and maintain power and by their attempts to defuse resulting crises among peers and within their communities. A participatory bottom-up governing polity of institutional complexity, however, as was the (extreme) outcome of democratic Athens from the late sixth century BCE onwards, was never envisaged.

9.5 Discussion

Having brought our data to a baseline by describing all case studies along the defined parameters, it is now possible to compare them and tease out political systems and practices, as well as their dynamics, pattern, developments, changes and transformations that the case studies (CS) share, by using statistical exploration.

We consider here the patterns highlighted by the cluster analysis.

The analysis includes all CS in terms of the defined parameters with all available attributes. The results (Fig. 9.6) indicate that certain parameters are crucial for the formation of clusters. Particularly clear is the relevance of community size, network configuration (especially concerning mobility aspects), resource distribution or accessibility, conformity/non-conformity, and aspects of settlement organisation, as they seem to structure certain cluster developments. These parameters almost always form close links with different attributes, which in turn give rise to overlapping, less interconnected links. In the following, we would like to discuss these influencing factors against the background of their connections with other attributes. In particular, we want to look at the different scales of community sizes, breaks with political traditions, decision-making processes, social differentiation and settlement policies.

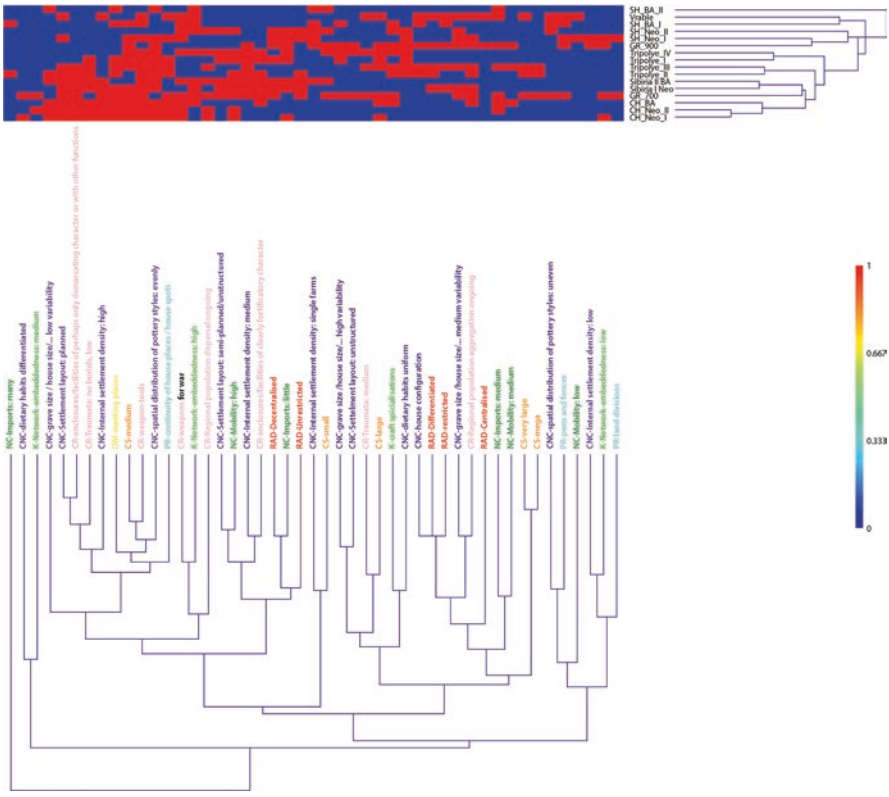

Fig. 9.6 Dendrogram of a hierarchical cluster analysis (using PAST, version 4.03) concerning the five case studies: Neolithic and Bronze Age Schleswig-Holstein (SH Neo I-II, SH BA I-II), Neolithic and Bronze Age in the Northern Alpine Foreland (CH Neo I-II, CH BA), Neolithic and Bronze Age West Siberia (Siberia I Neo, Siberia II BA), Neolithic Trypillia (Trypillia I-IV), Iron Age Greece (GR 700, GR 900). In addition, the site of Vráble is used for comparison

9.5.1 Scales of Communities

In our data, we can distinguish single farmsteads (CS: older and younger Bronze Age Schleswig-Holstein), small (CS: Neolithic Schleswig-Holstein), medium-sized (CS: lakeshore settlements of Switzerland), and large or mega (CS: Trypillia; Greece) communities, that reveal different concepts in socio-political order. There are, of course, more parameters which we deem influential in the configuration of political systems, and these will be described later.

Starting with the particularly small and scattered settlement structures that we can record, for example, in Nordic Middle Neolithic to Late Neolithic Schleswig-Holstein, we can see that they are often related to the decentralisation of resources, while in the Older Bronze Age they seem more restricted or required, e.g. by using high amounts of resources mainly for barrows (Falkenstein, 2017; Schaefer-Di

Maida, 2023), and exhibit lower degrees of mobility than, for example, the lake shore settlements in the Alpine regions. While the settlement system itself was characterised by a low density of inhabitants and rather scattered location of the settlements themselves, wider networks and communication are visible, for example in the presence of similar forms, decoration patterns and usage of pottery during the MN phase in Northern Europe (Furholt, 2012; Müller & Peterson, 2015). We can assume that many of the daily affairs were handled with social roles which were represented in these, presumably, tightly organised and small communities. Although, therefore, some important part of daily socio-political affairs was handled within small groups, which might have been mostly defined by kin-based relations, there is also a wider political structure detectable. The small size of the settlements, and therefore the number of people inhabiting them, might lead towards a great dependency on the wider network connected to the single farmsteads. Security and help, for example, in the case of sickness or bad harvests, could be provided by communities which exceeded the small social groups living together permanently. Social security and cooperation are crucial in any form of residence system and can only be provided, at least in some cases, by a larger but usually scattered collective. The wider political structures are reflected in monumental architecture, although the outline and purpose of these seem to be very different when speaking about the phases of the Bronze Age. In the Nordic Middle Neolithic, monumental architecture is represented by megaliths which are, in their majority, clearly designed to represent collectives with little or no emphasis on individuality. The clusters of these graves have been repeatedly altered and revisited (e.g. Gebauer, 2014; Mischka, 2022). The effort of their construction and maintenance by far exceeds the capabilities of the small contemporaneous settlements based on single farmsteads (e.g. Brozio, 2016; Wunderlich, 2019), and should represent collective decision-making and an important space for gatherings and the organisation of the wider political system. As clear markers of social inequality and differentiation of wealth, not only is consumption missing during this phase, but we might also assume a rather flexible socio-political system, which might have been based on a mechanism such as feasting and merit-based status – derived and earned by, for example, the participation in collective action such as the construction of megalithic graves. During the Bronze Age, monumentality maintained its importance, but was directed in a very different way. The focus on the individual, reflected especially in monumental buildings for highlighted personalities, seems connected to not only the settlement or household system, but also to the transformations connected to the rise of metallurgy and the ever-growing importance of the exchange networks connected to it. In this, pronounced social differentiation is a representation to the outside world of the head of the household, as a 'chosen individual' representing the household and its connections, economic strength, and wealth, as is evident from grave mounds built on top of former houses (e.g. Handewitt, Trappendal, Hyllerup, Tranarp: cf. Bokelmann, 1977, pp. 82ff.; Svanberg, 2005, p. 79). Such direct connections between houses and megalithic tombs, on the other hand, did not exist during the Neolithic period. The role system addressed was thereby probably strongly fixed and left little room for negotiation. These tight political structures,

possibly enforced and controlled by a representative person of the household, who was the only one to receive a grave mound, may have served the productivity of the household, and were thus strongly associated with resource control but also spendthrift expenses on certain aspects such as barrow construction. As a consequence of this narrow system, there was little room for innovation, as can be seen in the Bronze Age, for example, in the simple production of settlement pottery, which is monotonous throughout southern Jutland. This changes only with the younger Bronze Age, when settlements emerge that go beyond single farmsteads. The houses do not increase in size, but the single households seem more connected to each other, so that we could call them small- to medium-sized settlements. They show new socio-political developments, which appear more equal, and without focus on one representative person but on the collective (especially in the graves and networks, see CSs), so that a completely different socio-political system can be assumed, which was shaped by new worldviews and ideas (see below). This younger phase of the Bronze Age in Schleswig-Holstein is separated from the other CS in the cluster analysis and it no longer follows any former system known in that region. While it still includes small communities, it breaks with the previously strong social differentiation; networks break down and with that seems to come to a focus on risk management (rise in hoards). The highlighting of single individuals loses importance and political entities focusing on the collective seem to transform the previous structures (see CS: Neolithic and Bronze Age Schleswig- Holstein). In summary, the first socio-political system that we can derive from the data analysed here is characterised by small and loosely organised settlements, the presence of wider networks, presumably lower degrees of mobility and social structures that might span from more egalitarian to hierarchical systems. In both cases, monumentality as central locations for spatially separated clusters of people is a key feature for communities to express and renew their political structures.

According to our cluster analysis, the factor of mobility seems to be of great influence within this system, as another part of the case studies included here shows. Small to medium-sized settlements, however, can also offer a more flexible and mobile way of life, promoted by equally flexible socio-political concepts. Such communities are evident in the lakeshore settlements in Switzerland, as well as seasonally in the hunter-gatherer communities in Siberia. In the cluster analysis they show a common tendency to high residential mobility. The roles of individuals were probably less fixed and more negotiable, but had to be fulfilled when it mattered in order to remain part of the community. The high importance of residential mobility raises a central question concerning political structures: to what degree did high mobility prevent the formation of stricter systems of socio-political structures within groups that maintained close connections (such as settlement communities)? Rule systems seem less strict in this regard and aspects of mobility would also not allow strict rules at all. A non-correspondence approach, as Ebersbach (2010a) suggests for the Swiss lakeshore settlement, does explain a lot of the variation that we see in our dataset: a community is made up of different groups linked by different aspects such as kinship, religion, economic factors and so on. Despite belonging to such a social group, their members live scattered, and together with members of

other groups, and thus form diverse residential communities. Since both the subunits of residential communities (such as households), as well as the communities themselves (e.g. short-lived settlements) are highly mobile, the social networks connecting them existing and are meaningful, yet they are flexible and presumably resilient, and might also have been dependent on specific moments such as gatherings. Depending on the season, event, etc., group members come together to serve certain activities and thus fulfil a specific role that may be required at that time. Thus, they reflect political units that are scattered and can come together when necessary (seasonally, in certain situations). In doing so, they focus on collective representations (CS: Siberia re. fortifications, social signals – kinship, religion, etc.) and pursue an outward representation. The necessity of collective and highly representative structures, which by no means have to be permanent or archaeologically visible, is a crucial characteristic in our case studies. Even more than the previously described socio-political system, being based on small but comparatively stable settlements, communities with high residential mobility might have had the need for regular or special gatherings and clear symbolism representing the broader and maybe temporary political units connecting them.

Turning to the large settlements (CS: Trypillia; Greece), we see more spatially fixed and permanent political units. At the same time, such a large community offers more possibilities in composition and order, as well as change and innovation. They provide evidence of communal houses that may have been used collectively, but the question arises as to who actually had access to such a house, as we also learned from the CS from Greece that such communal houses, communal events, committees and certain positions in the process of decision-making were again reserved for certain groups (CS: Greece – elite groups, who have gained access to knowledge and are involved in politics) and thus not necessarily for everyone – whoever belonged (and did not belong) to the general community in the respective society. A system of political representation, as indicated by communal houses, might have mirrored influential subgroups within the larger context of a settlement (such as tribes, neighbourhoods etc.). Which mechanisms were used to choose the persons representing these subunits cannot easily be reconstructed based on archaeological evidence alone, yet some exclusive mechanism may be assumed here (e.g. merit, age, or gender-based systems). Nevertheless, the representation of such institutions, which possibly served political decision-making, is to be seen in the collective. Due to the size and longevity of the settlements, it can be assumed that the materialisation of important political institutions was symbolised primarily inwardly. A clear representation within the larger community, in the form of communal houses, might have been an important stabilising factor within the wider political system of the settlements. Such large settlements also allowed for more intense resource and risk management, which must have been geared toward stability, that maintained a focus on the collective. Apart from the community sizes prescribing different political structures, we recognise the different applications of cooperation in different societies. As mentioned above, cooperative activities occur in different CS, while their societies are subject to completely different political structures. The building of the house, in

particular, required the involvement of the community. This can be seen in the houses of the Schleswig-Holstein Neolithic and Early Bronze Age, in the Swiss lakeside settlements, and also in the houses and especially the communal houses of Trypillia. Another cooperation was required in the construction of monuments such as the megalithic tombs and burial mounds in Schleswig-Holstein, but also the menhir alignments for the Swiss lakeshore settlements. They are usually located outside settlements, thus occupying their very own ritual landscape or shaping it in a sustainable way in terms of visibility. In this way, they may not only mark territories, but also nodes in networks, security areas and larger entities – but always with an externally directed political impact. This external representation contrasts with the internal representation we see for the community houses in Trypillia. It can be assumed that a large or mega community size (as in Trypillia) forms a high political entity, which is only bound to the settlement structure and thereby also focuses more on the settlement itself as an area, while a lower density (as in Schleswig-Holstein and Switzerland) binds a political entity to certain areas that go beyond the actual settlement area, so that the settlement is only part of a political entity, which, however, extends over a socio-political – but also ritual – landscape around it.

9.5.2 Political Traditions

A central clue to changing policies that seem pervasive is the break with political traditions or practices that played a central role and are no longer carried out after a certain point within a transformation process, often accompanied by other fundamental changes. Such traditions of politics can be, for example, the construction of megalithic tombs or burial mounds, which extended over long periods of time, involved a lot of effort, and influenced the image of landscapes and in that way the culture of memory (Horn & Wollentz, 2018; Müller, 2018). The break with this monumentality around 1300 BCE (CS: Schleswig-Holstein), combined with the burial change and the introduction of cremation urn burials with equal treatment, which opened access to a grave to the whole population (all gender and ages, including newborns and children, cf. Schaefer-Di Maida, 2023), shows a clear break not only in the tradition of monumentality, but also of certain political entities, as it was also connected to a breakdown of networks, and the introduction of new symbols, materials and new activities. Cooperative necessities enacted at the monumental building thus fell away completely. The representative highlighting of individuals became unimportant; instead, all were treated in the same way during cremation until the individual was unrecognisable. The elimination of cooperation also eliminated the roles that everyone had in such a process. Instead, new symbols were used to communicate, and new activities, such as at the cooking stone pits, indicate gatherings of whole communities and community groups (Kruse & Matthes, 2019; Schaefer-Di Maida, 2022). Decision-making processes thus might be transferred from single individuals to the group structure at such meeting places.

9.5.3 Decision-Making Processes

At the beginning of this chapter, we asked who decided what, and who was involved in decision-making. With this question, we come to another central driver of political processes: the involvement of individuals in decision-making processes. Based on our CS, we found that decision-making positions were strongly associated with knowledge. The CS on Greece, in particular, shows us how decision-making processes were carried out. For periods that have left us no written sources, this information serves all the more as a basis for interpretation – albeit one that must be applied critical.

A grammar of ornaments and vessel forms was widespread in the Nordic Middle Neolithic as an indication of widespread and widely perceived social interactions. Based on find distributions (mainly rich barrows), it can be assumed for the older Bronze Age in Schleswig-Holstein that knowledge was tied to specific individuals when symbolism appeared mainly on prestige objects that were only given to monumental graves, which means single and selected individuals, which in turn could have represented the collective. With the socio-political changes in the younger Bronze Age (see above), on the other hand, the dissemination of knowledge becomes visible through new symbols on objects known to the general population, as we can see on everyday objects (e.g. razors) in various graves, while symbolic prestige objects no longer appear (and are sometimes taken from burial mounds and intentionally rendered unusable: cf. Randsborg, 1998, pp. 115ff., 121ff.). In the CS of Trypillia, the communal houses show us that not only one individual but several could interact, but perhaps not all. As we know from the Greek CS, certain requirements – such as reading – could be a skill that only certain people were interested in acquiring, while those who did not possess these skills could not participate in meetings or decision-making. For the Trypillia CS, a similar group dynamic tied to knowledge and symbolic language cannot be ruled out.

9.5.4 Social Differentiation

Another aspect shaping politics is varying degrees of social differentiation, which could be crucially expressed in terms of unequal or equal political rights for individual members of a community. In our cluster analysis, these are particularly evident in the parameter of conformity or nonconformity. In particular, settlement layout, house division and variability in house and grave sizes are crucial indicators for such unequal rights, as they show us differences in the treatment of individuals.

A connection between house configuration and restricted access to resources can be seen, for example, during the Early Bronze Age in Schleswig-Holstein, in the Trypillia Phases II and III, in Vráble, and around 900 BCE in Greece. For

Vráble, Schleswig Holstein (BA I) and Greece (900 BCE) we have much evidence pointing to social differentiation on different levels in features and finds (cf. CSs). The Trypillia phases II and III, on the other hand, show a clear decrease in social differentiation in the interpretations of features and finds (cf. CS: Trypillia), so that divergent assumptions concerning the attribute distributions can be seen here. A major difference between Trypillia Phases II and III and the other case studies mentioned, is that the size of the settlement is increasing considerably with Phases II and III and varying between medium and mega community sizes, and aspects such as the division of houses and resources probably required special organisation as the population increased, which does not necessarily represent social differentiation. Unrestricted access to resources, on the other hand, is often accompanied by decentralisation, which in turn is often accompanied by few imports. This combination occurs especially in the Neolithic phase in Schleswig-Holstein and in Siberia (Neolithic and Bronze Age). Furthermore, only decentralisation and few imports are shown in the case studies Greece (900 BCE) and Trypillia (I).

A planned settlement layout also often entails enclosures or facilities with perhaps only demarcating character or with other functions, as well as a limited (medium) number of inhabitants and weapons in tool form. This combination of attributes is almost always accompanied by an even spatial distribution of pottery styles. This is especially the case for the Swiss lakeshore settlements, Greece (700 BCE), Trypillia (III), Neolithic Siberia and partly also for Bronze Age Siberia, Trypillia Phase II and the Neolithic Phase I of Schleswig-Holstein. In contrast, a semi-planned or even unstructured settlement layout is also often accompanied by high mobility. The internal settlement density is in the moderate (medium) range. Enclosures, or facilities which have a clear defensive character, are also often linked to these attributes. This combination of attributes occurs particularly in the following case studies: Greece (700 BCE), Trypillia (I and IV), and Siberia (Neolithic and Bronze Age). This attribute combination does not seem to be tied to a specific settlement size. However, it is noticeable that smaller to medium-sized communities predominate in the case studies mentioned. A completely unstructured settlement pattern also goes with high variability in house and grave sizes. Traumata in this combination are mostly in the medium range and community sizes are large. Often this attribute combination is associated with craft specialisations and uniform dietary habits, and occurs especially in the case studies Trypillia (IV) and Greece (700 BCE and 900 BCE). A low internal settlement density, on the other hand, occurs especially in the first Neolithic phase of Schleswig-Holstein, together with low network-embeddedness and land divisions. Comparable results can only be found for Greece, but here the combination of a low internal settlement density and a low network embedding around 900 BCE differs from the combination of a low network embedding and land divisions around 700 BCE. Since weapons in tool form were mentioned above, it should be mentioned here that, on the other hand,

weapons that were also intended for warlike purposes are associated with a high embedding in networks. This is especially the case for Siberia (Neolithic and Bronze Age), the Bronze Age in the Swiss lakeshore settlements, Greece (700 BCE), Trypillia (IV) and Vráble. For the site of Vráble (Furholt et al., 2020a), which can be used for comparison, we note an attribute combination of an uneven spatial distribution of pottery styles, the occurrence of pens and fences, and low mobility. For the First Neolithic phase of Schleswig-Holstein, pens and fences can also be associated with low mobility, while in the Older Bronze Age of Schleswig-Holstein and in Greece (700 BCE), pens and fences occur mainly together with uneven spatial distributions of pottery styles.

It is noticeable that the case study on the Younger Bronze Age of Schleswig-Holstein is often isolated and has few comparisons to the other case studies. This can be explained by the fact that only a few attributes are applicable to the Younger Bronze Age, since we mainly have information from graves and hardly any settlement data.

9.6 Conclusion

We are aware of the limitations of our study: our selection of case studies reflects current research activities and our own research interests, and it is not representative of prehistoric non-state societies worldwide, not even across Europe. We are also aware of the historical specificity of each individual CS. Yet since the political dimension of prehistoric societies is such an underdeveloped research topic, we do think our first tentative approach to the social patterns and structures underlying and shaping the negotiation of collective decision-making processes has been able to point to the importance of specific factors, such as settlement size, regional networks, conformity of architecture and settlement layout. Beyond these factors, and the configurations described, the politics of each single case study was probably, to a large degree, shaped by unique historical situations, which should also be appreciated. Nevertheless, we hope to have demonstrated that a comparative perspective on the social factors underlying certain forms of politics is a topic that archaeology is able to further explore for prehistoric communities far beyond the number of CS discussed here. For archaeology, we can state that we can model past polity and politics on the basis of material legacies together with anthropological insights, and make them available for comparative approaches. Finally, our discussed examples demonstrate patterns of political activities and transformations. They also go together with transformations in non-political spheres of life and show, on the one hand, the complexity of political processes and, on the other, the interconnectedness of the individual spheres of life with political dynamics, the navigation of which possibly correlates with the relationship between people and the environment.

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