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Contrasting 3rd and 2nd millennium BC mobility in temperate Europe: migration versus trade

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Abstract

This paper contrasts 3rd and 2nd millennium BC mobility in temperate Europe by analysing how changing economic and environmental conditions reshaped the incentives and possibilities to move in a long-term perspective. A spirit of seeking a better life through migration prevailed during the third millennium BC. It represented perhaps also an attractive social alternative to more hierarchical Neolithic social formations, allowing room for individual and group agency. Once Europe had been permanently settled the onset of a new trading economy of metal and woollen textiles allowed control of surplus generated through trade, leading to more hierarchical societies, yet still with some room for social mobility. Seeking a better life would now be controlled and channeled through chiefly networks of long-distance exchange, leading to the formation of confederacies, that would soon encompass all of Eurasia.

Keywords: migration, mobility, trade, inequality

15.1 Introduction

In this contribution I shall consider how changing economic and environmental conditions reshaped the incentives and possibilities to move in a long-term perspective. I use a method of comparison by contrast to illuminate differences, and similarities, between the 3rd and 2nd millennium BC in temperate Europe. This naturally entails a risk of oversimplification, but since my aim is to re-theorize and model types and forces of mobility, and since models by their very nature condense reality to make comparison possible, I consider it a worthwhile strategy. Another virtue of models is that they facilitate critique. This is how science proceeds, and we have seen an unprecedented acceleration of new interpretations, critique, and counter interpretations during the last 8–10 years, that I recently summarized (Kristiansen 2022a). At the forefront of debates, we find Volker Heyd to whom this chapter is dedicated. We share a long-term friendship, as well as stimulating academic collaboration (Sjögren et al. 2021; Heyd & Kristiansen 2022). My contribution is inspired by some of his recent works, as well as those by Martin Fuhrholt (3rd millennium BC), and Helle Vandkilde (2nd millennium BC).

15.2 Third millennium BC: migrations and expanding populations

15.2.1 Re-theorising migration and population expansion

When approaching 3rd millennium BC migrations, we are confronted by an apparent paradox. On the one hand genetic evidence speaks of a massive genetic turnover, where steppe DNA replaced Anatolian farmer DNA within a few centuries, suggesting a strong demographic impact. This could be modelled by male warrior dominated migrations, that were able to overturn

farming populations, and in the process admix with their women through a combination of peaceful exogamy and hostile abduction (Kristiansen et al. 2017). It was supported by a demographic decline of farming populations prior to the steppe migrations due to the spread of the world's first plague epidemic (Rascovan et al. 2019)¹. However, this model has been subject to critique by Martin Furholt as being too one dimensional (Furholt 2021). While not rejecting it out of hand, he concluded:

The presence of similar types of pottery and tools and burial practices over thousands of kilometers is an extremely interesting pattern, but it is not well represented by a monothetic classification at the core of the 'archaeological culture', as the patterns of association between pottery styles, tool types, and specific variants of burial rituals are very diverse across the different regions usually subsumed under Corded Ware. (Furholt 2021).

How to explain this diversity within homogeneity?

I propose a partial solution that distinguish between primary and secondary migrations, as they proceeded in different ways, and resulted in different forms of cultural and social admixture processes. It may not explain all Corded Ware variation, but mainly northern temperate Europe. The approach is inspired by a recent joint paper, where we introduced environmental variation as a parameter to explain social and genetic variation among Corded Ware populations in Europe (Haak et al. 2023). It turned out that they were inter-linked: in regions with early Corded Ware burials that followed the Corded Ware tradition, such as western Jutland, we find rather massive environmental impact, whereas regions with later burials deviating from Corded Ware traditions by using megaliths, there is less environmental impact. This can be exemplified very convincingly in Denmark (Müller & Vandkilde 2020: Fig. 20.5, reproduced in Kristiansen 2022a: Fig. 21), leading to the proposal that we can distinguish between primary and secondary migrations. Thus, the primary migration into the flat, sandy soils of western Jutland would

¹ Its deadly demographic impact can now be supported by widespread forest regrowth (Feeser et al. 2019), plus new evidence in a forthcoming paper.

be followed by massive forest clearances, probably by burning, that rapidly transformed vast areas into grass and heathlands for grazing herds (Haak et al. 2023: Fig. 5.7). These migrations, or rather continuous series of migrations, were probably initiated by Globular Amphorae settlers in which footsteps Corded Ware migrants followed and started to admix in the northern part of Jutland early on (Nielsen & Johansen 2023: Fig. 25). After a population built-up they expanded towards eastern Jutland and the fertile Danish islands from around 2600 BC, where they admixed with diminished but still residing Funnel Beaker populations, and they started to reuse megaliths for burials.

The primary migrations into Jutland, and subsequent massive landscape transformations, took place within the shortest possible time we can measure archaeologically², a few generations. It demanded large numbers of people as well as animals to maintain the open landscape. These Corded Ware pioneers recreated a steppe like environment, which they must have been familiar with as it formed a central part of their subsistence. Where did this large-scale migration train, possibly a continuous sequence of smaller migrating groups, originate?

Similar environments of open landscapes with lines of barrows along river valleys and smaller streams are found in southeastern Poland and northwestern Ukraine, bordering the steppe between rivers Dniester and Dnieper (Makarowicz et al. 2019: Figs. 2–3; Heyd 2023). This is an interaction zone between Yamnaya and Corded Ware (Włodarczak 2021). It thus represented a cultural transformation zone, and Volker Heyd recently pointed to close similarities between early Corded Ware pots from there, Schleswig/Holstein and Jutland (Heyd 2023: Fig. 3.3), which lends support to a close migratory connection between both regions, probably via Bohemia following the Elbe River. It is supported by genetics as the general male-haplogroup R1b characterized groups from Poland to Jutland (Linderholm et al. 2020; Eggefford et al. 2021).

I have summarized my observations in Figures 1a (classification), and 1b (dynamics): primary migrations are characterized by fast moving colonization by larger groups of people, or a continuous train of smaller groups filling the landscape within a few generations. Consequently, the environmental impact

² Volker Heyd recently summarized the speed of these migrations based on numerous 14C dates: 'From the arrival of Yamnaya northwest of the Black Sea to Corded Ware in Bohemia and the transmission of steppe ancestry from the Dniester/Dnieper to the Rhine, it took around 150 years (3050–2900 BC), or perhaps five to six generations (with 25–30 years per generation)' (Heyd 2023: 48). However, migrating from Bohemia to Jutland took only 50 years (2900 to 2850 BC).

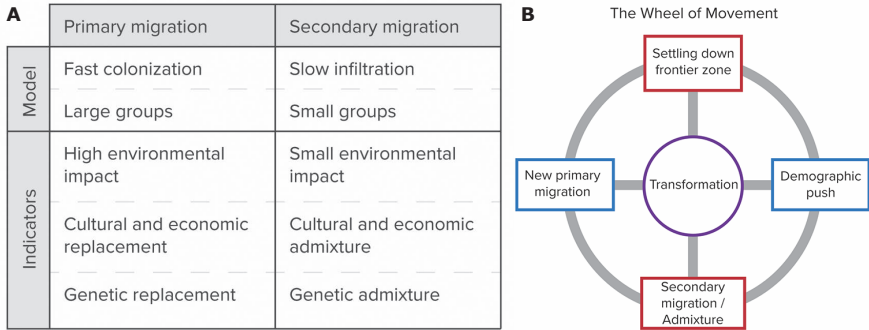


Figure 1. A – two types of migration: primary and secondary, and their impact; B – model of migratory processes.

is strong. This is Jutland 2850–2650 BC. Secondary migrations represent a continuation of such primary colonization after population built-up, and they are normally carried out by smaller groups in conjunction with social and cultural admixture with still residing groups. Environmental impact is therefore smaller. This is eastern Denmark 2650–2400 BC. One could probably model this as a changing process of interaction between newcomers and settled populations going from violent abduction of women to peaceful marriage alliances. It is also reflected in a changing gender balance in burials over time: the colonization phase being dominated by male burials, while the consolidation phase and subsequent secondary migrations sees a marked increase in the number of female burials, along with increased genetic admixture (Haak et al. 2023: Fig. 5.4).

15.2.2 Concluding 3rd millennium BC expansion

By the end of the 3rd millennium, temperate Europe from the Urals to Ireland exhibited basically similar social formations, probably with rather similar

spoken Indo-European dialects, as well as shared ideologies, which began to diverge (Heyd 2016). The rapid expansion of a common Corded Ware culture across much of Europe erased many of the ethnic divisions and allowed for freer movements across vast stretches of land, the establishment of broad networks of relationships, and distant exchanges in some special objects, especially the stone used for battle axes and later many special goods (Bourgeois & Kroon 2017). Exogamy and fosterage became vital elements in creating political alliances, sometimes across long distances (Mittnik et al. 2020; Sjögren et al. 2021). The introduction of fosterage seems to be a Bell Beaker/Bronze Age invention, a peace regulating institution to create stronger social bonds between alliance partners.

Thus, a permanent open landscape that facilitated mobility had been established which in combination with social and linguistic compatibility held a transformative potential when linked to an expanding trading economy. Bell Beaker groups especially were able to exploit these possibilities based on a new water-based trading and related export production, still in its infancy. However, after 2000 BC the interstitial connections of the Beaker Complex would lead to the onset of a new and lasting Bronze Age trading economy that transformed 3rd millennium BC societies into a new metal economy that expanded rapidly across Europe, the implications of which I shall now describe.

15.3 Second millennium BC: stability and expanding trade networks

15.3.1 Re-theorising Bronze Age trade

In her book on the Pile hoard and its European context, Helle Vandkilde demonstrates the basic components in the new institutionalized world of an international trade economy that emerged around 2000 BC in temperate

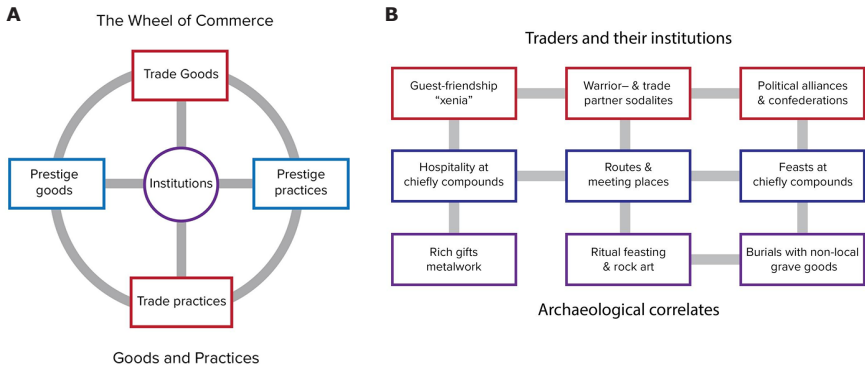


Figure 2. A – model of the dynamics of trade; B – traders, their institutions, and material correlates.

Europe (Vandkilde 2017; 2020). The new economy integrated scales from the local level to the interregional level and was supported by a series of hubs where one can find an accumulation of metal depositions, from trade hoards to rich burials and settlements with metal casting (Vandkilde 2016: Figs. 27, 103). But how do we translate this new archaeological evidence into relevant theoretical categories for interpretation? Firstly, a theoretical concept summarizes and generalizes past norms and behaviours, which translate into an institution. Institutions are thus ideal types and were always subject to negotiations and deviations. Secondly, and importantly, institutions materialize in the archaeological record through a series of practices that are recognizable. Thus, to prestige goods are linked prestige practices (feasting, gifts as evidence of political alliances, rituals to commemorate; Spriggs 2022), and likewise trade goods demand a series of trade practices (guest friendship, large settlements for accommodation, food, and feasting) (Fig. 2a).

Based on this we can define the material correlates of such practices and their institutional framework – from prestige exchange to commodity trade. Thus, in the Bronze Age prestige exchange and commodity trade represent two sides of the same institutional process. Prestige exchange being the diplo-

macy of trade, supported by political alliances, with commodity trade as the commercial side of the transactions. On Figure 2b, I list how these practices, which also include warriors for protection, materialize archaeologically.

Thus, the old dichotomy between ‘substantivism’ and ‘formalism’ in economic theory is dissolved, they are both needed and serve different functions (Ling et al. 2022). To summarize: prestige goods and gift exchange provides the social surplus/power needed to forge long-distance alliances for trade. Commodity trade in turn provides the economic surplus needed to finance the operations.

15.3.2 The growth of trans-regional metal trade in the 2nd millennium BC

The circulation of metals, especially copper and tin to produce bronze, was the primary driver of the expanding political economies of Bronze Age Europe. Although metallurgy and related trade expanded from 2500 BC onward with Bell Beaker networks, a full-blown bronze economy emerged in south and central Europe only after 2000 BC, extending into the steppe as well. The demand for tin-bronze objects required a supply of copper and tin, two metals smelted from ores that typically derived from different regions, often quite distant from each other. Captured by Vandkilde (2016) with the term ‘bronzization’, the 2000 BC turning point (Vandkilde 2017) reflects the integration of Europe into a larger world system, which unfolded and expanded to encompass all European regions after 1700/1600 BC. Copper became widely distributed throughout Europe from a few major mining areas (Melheim et al. 2018; Nørgård et al. 2019; 2021; Kmosek et al. 2020; Mehofer et al. 2021). The magnitude of the Bronze Age metal trade was quite extraordinary, according to the rates of consumption, especially knowing that most regions imported metals from long distances. This in turn led to the rapid development of new institutions, such as warrior retinues linked to powerful chiefs and, in the steppe, to the invention of the two-wheeled war chariots. New

institutions like these demand innovative forms of economic support, often some measure of control over labourers, whose surplus could be extracted as tribute.

How and why did the new trading economy come to dominate European societies? Metal provided new weapons, personal adornments, and working tools that were broadly advantageous. Once appropriated to provide for many social, ritual, and economic demands, regular supplies of metal became indispensable to social and economic reproduction. The flows of metal were not unlike the modern dependency on oil that transformed international relations so fundamentally. In Denmark alone, a small region of Europe, the annual demand for copper to replace loss and reduction through use-wear and sharpening of axes, sickles, and weapons amounted to 1–2 tons (Kristiansen 2022b). Scaling this up to all of Europe, the production and circulation of copper must have been hundreds of tons per year. By now, every farmstead, village, warrior, and chief were depending on regular deliveries (Marciniak & Greenfield 2013: Table 1, Fig. 11). Long-distance political confederacies were formed to secure trade routes by providing protection and provisions during travels, and they were likely based on old Indo-European institutions of guest-friendship (Kristiansen & Larsson 2005: 236; Kaul 2022). A continuation and institutionalization of exogamy probably structured the support for these political confederacies of long-distance alliances and trade. The institutional character of trade routes was also highly dependent on population densities and social stratification. The establishment of such integrated, high-volume trade across Europe was further facilitated by lowered transport costs using more advanced maritime technologies, which included large (11 m) seagoing plank-build boats that could carry cargoes up to 600–700 kilos, as did the famous Hjortspring boat from Denmark (Kaul 2003; Vinner 2003).

Highly desirable foreign metals were the product of regionally specialized economies. Each region's population had to be involved in some critical step in metal commodity chains or produce alternative highly valued exports for trade that provided an inter-regional comparative advantage (i.e. lower costs in procurement and production) (Rowlands & Ling 2013). These could in-

clude the mining and refining of copper, tin, silver, or gold ores, different stages of textile production, the collection and manufacture of amber, of glass and other items of personal adornment, and the production/extraction of salt and other commodities (Ling et al. 2017: Fig. 9.1; Kristiansen & Suchowska-Ducke 2015). Each regional specialization pattern, geared internally by the acquisition of metal, transformed local labor processes. Thus, the new metal economy transformed the regions of Europe in quite different ways depending on local opportunities.

Denmark's amber provides a well-known example of export production. In the Thy region of northwest Jutland, for example, households near the coast became engaged routinely in raw amber collection, sorting, and storage, for export purposes (Earle 2018). Salt was another export commodity. A new industry of salt extraction was established in Hallstatt and the Carpathians with large-scale mining and related activities, probably including children for such jobs as lighting the large galleries (Kern et al. 2009; Harding 2013). The increased trans-regional availability of salt then expanded its uses and enhanced demand, for example, to produce salt meat, so useful to support trading and military campaigns.

Beyond specialization in metal mining and crafting, perhaps the most dramatic economic change was the emergence of a trans-regional textile industry, which began during the 3rd millennium in western Asia and expanded into southern and central Europe in the 2nd millennium (Bergerbrant & Sabatini 2020). During the Middle Bronze Age, in the Po Valley of northern Italy, for example, a village specialized in spinning as has recently been documented by an extraordinary concentration of spindle whorls (Sabatini et al. 2018); spinning specialization here must then have been linked closely to specialized sheep herding to produce the required volume of wool. Thanks to its specialization, the village gained access to metal and could further specialize in the metal production and trade, allowing the subsequent emergence of regional political hierarchies. At the same time, along the Danube in Hungary, sheep production shifted from generalized culling practices towards one geared to wool production (Vretemark 2010). Here, too, a regional settlement hierarchy

emerged that suggests a chiefdom-like political structure (Earle & Kristiansen 2010: Fig. 8.9).

By the Middle Bronze Age and into the beginning of the Iron Age, following lowered costs in production and transport and increased population densities, the new export industry of southern and central Europe appears to have provided northern Europe with woollen garments. Several thousand woollen textiles, in the form of large 2×3 m pieces of cloth, were then exported north on an annual basis. We estimate that between 1500 and 5000 textile pieces reached Denmark alone (Bergerbrant 2020; Kristiansen & Sørensen 2020). In south Scandinavia, these large pieces were cut up to create male and female garments. At this time in Denmark 80% of woollen textiles were imported, and only 20% were eventually locally made (Frei et al. 2017), but even those last 20% could have been imported due to overlapping strontium baselines between Denmark and northern Italy. After 500 BC, however, new breeds of sheep with full fleece made it possible for villages and individual households to produce their own woollen textiles, thus leading to a decline in textile trade. Many regions of Europe participated in different ways in the emerging wool economy providing textiles, which were historically one of the mainstays of World Systems. All in all, the development of regional specializations both met existing demands and created new demands as unexpected efficiencies and uses became evident, so that progressively integrated economies of special commodities emerged.

15.4 Conclusion: forces and incentives of mobility between 3rd and 2nd millennium BC

The third millennium BC reshaped the cultural, genetic, and linguistic identity of Europe, by people originally of pastoral steppe origin, who turned out to be extremely adaptive on their continuous migrations during a period

of nearly thousand years. A spirit of seeking a better life though migration must have prevailed, in combination with a new patrilineal/patrilocal social organization of nucleated family groups that turned out to be well adapted to social expansion and dominance. It represented perhaps also an attractive social alternative to more hierarchical Neolithic social formations, allowing room for individual and group agency. Once Europe had been permanently settled the onset of a new trading economy of metal and woollen textiles allowed control of surplus generated through trade, leading to more hierarchical societies, yet still with some room for social mobility. In combination with increasing wealth distribution and increased health conditions populations increased and allowed for internal colonization. Seeking a better life would now be controlled and channeled through chiefly networks of long-distance exchange, leading to the formation of confederacies, that would soon encompass all of Eurasia, and persist for another thousand years.

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