THE ARCHAEOLOGY OF REGIONAL TECHNOLOGIES

Case Studies from the Palaeolithic to the Age of the Vikings

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CHAPTER 9

Woven and cast – entangled trajectories in north-western Scandinavia, 1000 BC

Ørjan Engedal

Introduction

Recent debates on the 'thing' and the 'social', suggest modifications to our research strategies. In particular, it has been argued that the social sciences ought to reassemble and trace relations across a number of boundaries.[1] Below, I make a thrust at four boundaries that typically obstruct the tracing of relations in an archaeological context. There are those boundaries made by prehistoric depositional practices in combination with archaeological excavation practices. There are spatial boundaries made by recent political history. There are those boundaries drawn between entities of the world, most prominently the one between humans and non-humans, but also between different categories of non-humans and their respective technologies. Finally, there is a divide between research strategies aimed at the small-scale versus those aimed at the large-scale. This is an attempt to explore processes of culture contact in the Bronze Age of northern Europe, in light of the technological fingerprint of a bronze axe from north-western Scandinavia.

Strategies and boundaries

The human being is best defined by the many strings attaching him to the world. He is only one of many active participants in this web, a weaving spider and a captured prey all at once. Among the participants are also things. The word 'thing'

[1] B. Latour, "Why has critique run out of steam? From matters of fact to matters of concern", *Critical Inquiry* 30 (2004), Latour, *Reassembling the Social. An Introduction to Actor-Network-Theory* (Oxford: 2005), B. Olsen, "Material culture after text: re-membering things", *Norwegian Archaeological Review* 36/2 (2003), Olsen, "Momenter til et forsvar av tingene", *Nordisk Museologi* 2 (2004), Olsen, "Scenes from a troubled engagement: Post-structuralism and material culture studies", in C. Tilley et al. eds., *Handbook of Material Culture* (2006)

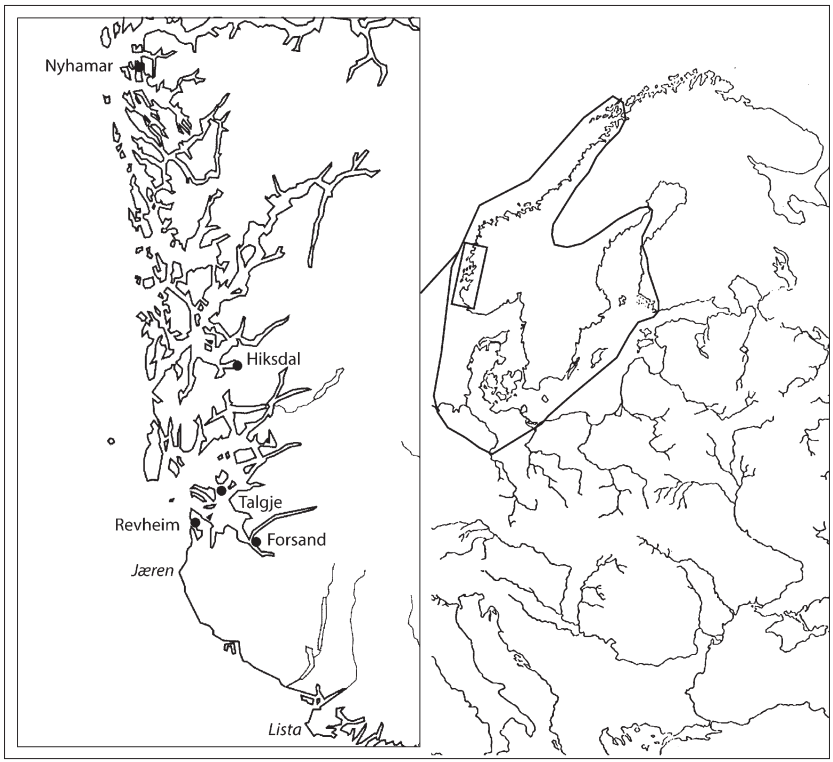

Figure 9.1: South-western Norway and the Nordic Bronze Age Culture. Sites mentioned in the text.

originally designated a gathering or a meeting.[2] I find this etymology inspiring in relation to the metaphor of the relational web: the 'thing' gathers and ties up multiple threads – threads that might be seen as the trajectories, biographies or life-histories of human or non-human entities. From such a point of view, the central archaeological research strategy should be aimed at untying and retracing the threads entangled in the 'thing', and tracing them indiscriminately into other domains and entities. Crucial to such a strategy, is our ability to reach beyond the static, complete artefact, into the sensory characteristics of materials being combined and manipulated through technological procedures. Based on a case

[2] Olsen, "Material culture", Latour, "Why has critique run out of steam?"

study from Hiksdal in the county of Rogaland in south-western Norway, I explore how trajectories in bronze became entangled in trajectories of other kinds, and how bronze things participated, enabled and held together, within and across the regional boundaries of 'Nordic' and 'Arctic'.

In archaeology, 'culture' refers to a time-space box of material remnants from human activities. These boxes are largely defined on the basis of similarities in the designs, raw-materials and use of artefacts. The making and handling of similar artefacts in similar ways, is thus considered as indications of shared cultural practices.

The Nordic Bronze Age has for a long time been recognised as a time-space box with distinct morphologies, ornamental styles and iconographies. Along the coast of the western Scandinavian peninsula, centres have been defined predominantly by clusters of bronzes, moulds for bronze casting, rock art and monumental burial structures. One of the most distinct centres within present Norway is Rogaland county in south-western Norway. In these fertile farmlands, there are dense clusters of bronzes, soapstone moulds for bronze casting, significant rock art locales, as well as earthen burial mounds of a type found in the larger centres of southern Sweden and Denmark. Particularly the use of earthen mounds instead of stone cairns, the findings of heavy cult axes and bronze trumpets (*lurs*), are often seen as diagnostic of the sharing of southern ritual practices and world-views.[3] Archaeologists have also long recognised a border further north, running across the Scandinavian peninsula, between a 'Nordic' and an 'Arctic' Bronze Age.[4] Research on the Bronze Age of modern state Norway has revolved around the issues of whether there was a proper Bronze Age in this area, whether it should be included under the 'Nordic' cultural umbrella or not and whether there might have existed Stone and Bronze Age cultures side-by-side. The area of south-western Norway has, however, always been on the safe side in these discussions.[5]

During the last three decades, new excavation techniques have produced a range of new data: traces of houses, fences, pits, fireplaces, plough marks, fields,

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[3] A. Hagen, *Norges oldtid* (Oslo: 1967), p. 116
[4] E. Bakka, "Arktisk og Nordisk i Bronsealderen i Nordskandinavia", Det Kgl. Norske Videnskabers Selskab, Museet. *Miscellanea 25* (1976), pl. 16, E. Baudou, *Norrlands forntid – et historisk perspektiv,* fig. 32
[5] Hagen, *Norges oldtid*, T. Løken, "Rogalands bronsealderboplasser – sett i lys av områdets kulturelle kontakter", in J. Poulsen ed., *Regionale forhold i Nordisk Bronzealder, 5, Nordiske symposium for Bronzealderforskning pa Sandbjerg Slot 1987*, Jysk Arkæologisk Selskabs Skrifte 24 (København: 1989)

pollen and macrofossils, but very few bronzes.[6] The old mappings of bronze types and cultural blocks and the new charts of post holes and plough marks seem to describe two radically different worlds. Although finding the houses and fields of Bronze Age people, their real everyday life, was a major breakthrough, a divide was made: between the symbolic, prestigious and international sphere of bronzes, and the muddy, monotonous, homely sphere of houses and fences. Another purpose of this chapter is thus to reassemble across this divide; to draw these worlds together, by putting bronze – in the shape of axes – back into houses.

There has no doubt been a focus on the higher scales of social organisation in Bronze Age studies: culture, region, chiefdom.[7] This was probably a result of the fact that bronzes, moulds, burial structures and rock art long remained the sole data from the Bronze Age. Thus, there is clearly a need for exploring the lower levels of social organisation, but more importantly, there is a need for strategies that link the low scale and the large-scale. My final aim is therefore to combine the smaller scales of the sensual individual in the dynamics and technologies of households, with the large scale dynamics between the larger regional blocks of 'Nordic' and 'Arctic'.

The axe

In order to recognise axes as complex assemblies – in line with the introductory critiques – we need to explore more complete axe trajectories, explore the other trajectories that axes bump into, and consider the axe, not merely as the sharpened hand of its user, but as an enabler of trajectories in its own right.

To the spectator, the pouring of a small cup of liquid bronze into a mould might be fascinating but not necessarily impressive in scale. The preparations, the small tricks of safe-guarding against the ever present risk of failure, are not appreciated by the spectator. But to the person manoeuvring the crucible, master and novice alike, the project is larger than emptying the cup of bronze. This is merely the climax and the node of trajectories extending back in time and out into space. To make something in bronze is a technological project that knits together a vast number of threads from the most basic features of the world. There are skin, sinews, tallow and dung from the animal; clay, sands, metal from the earth; quartz

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[6] B. Myhre and I. Øye, *Norges landbrukshistorie* 1. *4000 f.Kr.–1350 e.Kr.* (Oslo: 2002)
[7] B. Magnus and B. Myhre, *Forhistorien: fra jegergrupper til høvdingsamfunn* (1976), p. 185, Bakka, "Arktisk og Nordisk i Bronsealderen"

from the rocks; fuel, rope, thread and more from the tree, all meeting in a crescendo of fire and air.[8]

There are three conceptual tools I find particularly interesting when it comes to exploring sensory experiences of the technology of bronze casting in general. First there is the human inclination to think in terms of containers and containment.[9] This is relevant because I find bronze casting to be strongly focused on the four containers of bellow, mould, crucible, and furnace. The project is largely about the making of appropriate container walls, the emptying and filling of containers, and facilitating the entering and escape of air, metal and waxes from these containers.[10] Second, is exploring the ingredients as individual entities with trajectories or biographies of their own: the way they intersect, meet and get entangled. Bronze casting involves *many* entities, and it is a situation were some entities die while others are born; some melt together and change appearance dramatically. Third, are the binary relations of inside/outside, positive/negative, fluid/solid, templates and off-prints; all stemming from the way bronze, clay and wax are able to move between the states of hard, soft and fluid. An 'inside' might thus be traced to a related 'outside'; an impression to a stamp.

To make an axe around 1000 BC meant making a socketed axe. Socketed axes are the most numerous bronze artefacts from the Nordic Bronze Age, and the variant of bronze casting most widely practiced.[11] Still, it is quite a complex piece of work. In foundry terminology it is a thin-walled, cored bronze.[12] This implies that bronze is poured into a complex container, or mould: in addition to the basic outer mould, an internal core must be precisely suspended within it. The best preserved technological procedure is reconstructed from reusable bi-valve stone moulds, with disposable clay cores.[13] It is, however, also possible from the axes themselves to infer that other methods were used as well. The entire mould could be made of clay, built around models in clay, wax, wood or bronze. My main point here is that

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[8] Ø. Engedal, "Verdsbilete i smeltedigelen", Det 10. nordiske bronsealdersymposium, 5–8. oktober 2006, *Vitark* 6 (Trondheim: 2009)
[9] G. Lakoff and M. Johnson, *Philosophy in the Flesh. The Embodied Mind and its Challenge to Western Thought* (New York: 1999), J-P. Warnier, "Inside and outside: Surfaces and containers", in C. Tilley et al. eds., *Handbook of Material Culture* (2006)
[10] Engedal, "Verdsbilete i smeltedigelen"
[11] E. Baudou, *Die regionale und chronologische Einteilung der jüngeren Bronzezeit im Nordischen Kreis*, Acta Universitatis Stockholmiensis, Studies in North-European Archaeology, 1 (Stockholm-Göteborg: 1960)
[12] C. W. Ammen, *Metalcasting* (London/New York: 2000)
[13] C. Neergaard, "Haag-Funnet", *Aarbøger for nordisk Oldkyndighed og Historie* (1908)

in reality there are many crossovers, and possible technological paths towards a typical bronze socketed axe.

What may be inferred from the life of the bronze axe? I assume that it was generally the life of a farmer's axe. It was probably used for constructing heavy houses, putting up fences, making ploughs, making digging implements, making loom frames, for building boats and it might also have been used as a weapon in situations of conflict. These assumptions rest on the fact that we lack non-bronze candidates for solving these complex tasks. It seems unlikely that there existed networks dealing with high quality stone axes, flint, diabaze or greenstone, beyond the Early Bronze Age. This means that the socketed bronze axe was responsible for the multitude of wooden artefacts and constructions we infer from excavated settlements. Most important though, we should recognise the axe as a valuable tool, kept and protected under roofs. Most of the time, axes lived close to their owners within the house.

How did axes end their trajectories, end their co-existence with humans? Why, or on what occasions were axes killed? Casting technology enables recycling of the raw material. If an axe ended its trajectory through a melt-down, it could be argued that the occasion was actually the birth of a new bronze artefact. There are also examples of axes and axe-moulds deposited in post-holes of houses, indicating that the occasion was the birth or death of a house.[14] A few burials with axes are known, linking the death of the axe to the end of a human life.[15] Most common though, were depositions in bogs, lakes, screes and beside large boulders, outside the farmsteads. It is more difficult to assert what *stage* in what *kind* of trajectory these depositions represented. Was it stages in celestial trajectories, such as lunar or solar? Was it stages in the trajectories of crops, such as sowing, reaping, or harvest? Or was it significant stages in human trajectories, such as birth, adulthood, marriage or death? What kind of threads decided when an axe was to be killed?

The house

The concept of the household is useful as a basic analytical unit of social organisation. On the other hand, it is crucial to recognise that households consist of social actors differentiated by age, gender, role, and power, potentially with different

[14] N. Björhem and U. Säfvestad, *Fosie IV. Byggnadstradition och bosättningsmönster under senneolitikum,* Malmøfynd 5 (Malmø: 1989), T. Løken, "Forsand: Nå også med den første kjente bronsealderlandsby i Norge", *Frá haug ok heiðni* 3 (1987), p. 239

[15] K. Rygh, *En gravplads fra broncealderen,* Det Kongelige Norske Videnskabers Selskabs Skrifter No. 1 (Trondhjem: 1906)

interests and agendas.[16] Thus, there are controversies in houses: between different individuals, coming from different places, doing different tasks, using different things. It is also crucial to grasp the diachronic dynamics of households, in that they are founded, they grow, they mature and they come to an end.

Some of the basic ingredients for the formation of a new household are derived from two mature households, the bride and the groom. This is a potential source of controversies: not only between female and male, but between affine and their lineages and clans. The house itself was as basic as the couple in this formation. In the spirit of rebalancing the human-non-human relation, the household-assembly can be loosely defined as the assembly of entities belonging under the roof – human or not.

One of the major advances in recent Bronze Age research is that we have gotten a glimpse of the house, and the basic building-block of society – the household. Another advance is the data concerning clearances, pastures and fields. From this, a second expansion in farming has been formulated for the period from c. 1000 BC.[17] This change is characterised by: first, a shift towards smaller houses, second, evidence that half the house was reserved for domestic animals, and third, a geographical expansion in land-use, with new fields and pastures being established. The changes in house-size has been interpreted as a change from larger extended or joined households, in the large houses before 1000 BC; to smaller core household-units, in the small houses after 1000 BC.[18] Thus, there is a change in social organisation at the level of the household, paralleled by an expansion of settlements into new territories.

Many houses from around 1000 BC were erected at locations where there had not been houses before. The formation of such a new household involved a series of challenges: clearing the forest, building the house, clearing and ploughing fields, establishing pastures, breeding a herd of domestic animals and filling the house with tools and utensils of every kind. Some of this might be derived from each of the parent households, through bride-wealth, dowry, heritage, like animals

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[16] J. Hendon, "Archaeological approaches to the organization of domestic labour: Household practice and domestic relations", *Annual Review of Anthropology* 25 (1996)
[17] Myhre and Øye, *Norges landbrukshistorie*
[18] Løken, "Hustyper og sosialstruktur gjennom bronsealder på Forsandmoen Rogaland, Sørvest-Norge", in K. Løken ed., *Bronsealder i Norden – Regioner og interaksjon, Foredrag ved det 7. nordiske bronsealdersymposium i Rogaland 31. august–3. september 1995,* AmS-Varia 33 (1998), pp. 118

to start a herd. Many, on the other hand, were put together anew from strands of the non-human world. Timber was to be felled in the woods, clay for walls was to be dug, and reeds for roof-thatching were to be cut. The heavy cutting edge, the axe, is likely to have been a crucial enabler in this process, the door-opener to a world of wood we often underestimate. Thus, the house and the axe were prominent members of the household: the house kept it all together, contained and framed the assembly; the axe made houses and a range of wooden members of the house.

The household produces and it consumes. Humans and animals multiply. Threads from the outside – water, firewood, clay for pots, cereals and meat for human-food, grass and leaves for animal-fodder – are continuously brought in. The household consumes and the remnants – ashes, food scraps and excrements are spread on the fields. I assume that there was a work-division based on gender and age in these households, and that a likely version of such a division was a linkage between clothing, pottery, cooking and the female on one side and ploughing and axing and the male on the other side. Such a division is supported by findings of axes in male burials,[19] and a loom-weight in a likely female burial.[20] However, it is the male axe that makes the loom, enabling the female to weave the textile cloth, the cloth that enables the male to face the outside of the house. It is thus a dense and complex web that is produced within the house.

The house, like the axe, has a life: it is built from timber from the woods, it frames the bundle of trajectories we term a household, and it is sooner or later killed – left to rot, burned or dismantled. We have local information particularly of the last phase, the dismantling of the house. In three cases in south-western Norway artefacts had been placed in post-holes after dismantling the posts. In an Early Bronze Age house from Talgje, Finnøy, an island in south-western Norway, four loom-weights made of burned clay were found in a post-hole.[21] In one of the houses at Forsand, innermost in a fjord in the same region, a ceramic vessel had been put down a post-hole. In one of the other houses at Forsand, a complete soapstone mould for a socketed axe was discovered.[22] All these items, or 'things', might be considered members of the household – the loom, the pot and the mould – members ending their trajectories along with the house. These members might also be considered

[19] Rygh, *En gravplads fra broncealderen*
[20] H. C. Broholm, *Danmarks Bronzealder III* (København: 1946), burial 1399
[21] O. Hemdorff, "Hus fra eldste bronsealder funnet på Talgje", *Frá haug ok heiðni* 4 (1993)
[22] Løken, "Forsand: Nå også med den første kjente bronsealderlandsby", p. 239

essential in a range of technologies: making clothes, making food and making axes. The pot, the mould and the house, could all be seen as containers and metaphors for each other and for the human body. The loom-weights, the pot and potentially the clay-walls of the house, were linked through the common medium of clay.

Clearly, there were many logics available for understanding and conceptualising the bundle of trajectories tied together by the initial knot of marriage and the building of the house.

The Hiksdal-axe

The case in point is a socketed axe (B 11805) from Hiksdal, Vindafjord municipality on the northern border of Rogaland County (Cf. Plate 9.1). The parallel sides and the horizontal ridge low on the front and back points to a period IV date (1100–900 BC).[23] The diamond or net-pattern above the horizontal ridge, on the other hand, is unique. It deserves a closer examination in order to discern the technological procedures used, and in order to trace the threads assembled in this particular 'thing'.

The axe has positive diamond frames and negative diamond bodies. The walls that this surface once solidified against, i.e. the insides of the mould in which the axe was cast, must have had the opposite characteristics: negative frames and positive bodies. There are several possible ways of making such a mould. An obvious alternative is to carve the pattern into a soapstone mould. Studying the pattern up close, it can be seen that the raised ridges making each frame, are irregular and curved, and that the diamond-shaped depressions are curved rather than flat. None of this would come naturally from carving with a pointed object in soft soapstone. I find it likely that the pattern is a result of a moulding procedure that somehow involved stamping on clay, using some kind of braided, plaited or woven fabric. This implies that the axe was not cast in a soapstone mould, but in a ceramic mould.

There are basically two candidates for stamps, producing similar patterns, but opposite in terms of positive and negative. The first is a textile of tightly woven broad, flat fibres, like a cloth. The other is a textile of loosely knitted, thin threads, like a net. Both types could, with different procedures, produce a Hiksdal-mould. A 'cloth' might have been applied on to a model of heated wax or plastic clay, and then a mould could have been made around this model. Alternatively, a clay mould without pattern could be made in a conventional manner, and a 'net' could

[23] Cf. type A2a in Baudou, *Die regionale und chronologische Einteilung*

be applied directly on to the still plastic inside of the mould. Judging, without doing actual experiments with a range of different textiles and procedures, I would favour the first alternative and the 'cloth-onto-model' procedure.

I thus presume that the pattern on the Hiksdal-axe was the result of textile on clay – or an imitation of this phenomenon. Regardless of uncertainties related to the specifics of the procedures, it reveals an intention to produce a certain textile or net-like pattern quite extraordinary in contemporary Eurasian bronzes. Quite similar patterns were widely used at this time north and east of the Nordic region, on so-called textile-ceramics – but never on bronze. Therefore, we might recognise the Hiksdal-axe as a bronzecasting with basic design derived from contemporary western bronzes, combined with a technological procedure and a design derived from contemporary eastern ceramics. There seems to be a merging not merely of Nordic and Arctic designs and procedures, but also a merging of procedures from bronze technology with procedures from ceramic technology. My point is that this is something different, something that runs deeper, than the more common mixing of regional bronze designs.

A finding from outside the Nordic region, from Satinskoe, Eastern Russia within the 'Arctic', is of relevance to this question.[24] This is a ceramic model for making bi-valve ceramic moulds for socketed axes. More complex than merely a model-axe, this model makes both the mould cavity and the parting faces (the plane faces were the mould halves meet). The Satinskoe-stamp is furthermore asymmetric, and demonstrates that this stamp was meant only for half the mould, the other half had to be made from a model with the axe-loop on the opposite side. The Satinkskoe find is relevant in two respects: first, it exemplifies a technological procedure, involving ceramic models that open the possibility for making additional impressions on the model while it is still plastic. A Satinskoe-type model used in combination with some kind of cloth could have produced a Hiksdal-axe with slightly different decoration on each side. This may also be relevant in a more direct historical way, since it might be possible to actually trace threads running between western Scandinavia to eastern Russia.

There is little information available on the specific uses of the axe from Hiksdal, its life so to speak. Its death, on the other hand, is illuminated through

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[24] S. V. Kuz'minych, "Osteuropäische und Fennoskandische Tüllenbeile des Mälartyps: ein Rätsel der Archäologie", *Fennoscandia archaeological* XVIII (1996), Abb. 10

the circumstances of its discovery.[25] It was cultivation of a marshy area that led to the discovery. Central on the bog, there was an earthen mound, 2 m in diameter, 1.5 m high. Inside this mound there was a large, round boulder, 1 m in diameter. In order to remove it, the farmer used explosives to fragment this boulder. The following year, the axe was found in the soil were the boulder had been. This is in fact an unusual situation in that it combines three common features. The deposition of bronzes in lakes or wet areas that in time became bogs, discovered by farmers through drainage projects, is perhaps the most common situation. The deposition of bronzes beside, under or between large stones is another common situation. In a few cases, axes have also been found in burials or in relation to burial mounds or cairns. The Hiksdal-axe seems thus to be related to a bog, a large stone and a likely human made earthen mound. One possible scenario is that the area had already grown relatively solid by 1000 BC, and that the stone and the earth were brought there as a monument – probably for a cremated human being along with the axe. If so, it was the death of a human being that demanded the death of the Hiksdal-axe. A place was trajectories of water, stone and earth entangled – the liquid, the solid and the in-between – was a suitable end of the journey.

The treatment of the Hiksdal-axe as a complex knot of threads, a dense gathering of associations, has brought into light some procedures and entities of particular interest, largely in the domain of non-humans. On this basis, I will now make a thrust against the domain of humans.

Socketed axes were made throughout the period 1500–500 BC in northern Europe; a full millennium. By any procedure, and certainly with the popular stone-mould procedure, it would have been very easy to apply decoration to the mould and thereby to the axe. Despite this fact, the several thousands of axes from Scandinavia show little artistic experimentation. A few ornamental and morphological schemas were followed across the area.[26] The axe from Hiksdal thus also poses the question: Why did such an experiment take place at this place at this time? What kind of setting lifted the barriers that in most other cases prevented any divergence from the common schemas? I consider such a setting could more easily arise in the new houses and the new mode of social organisation inferred from 1000 BC onwards. This shift has been interpreted as a shift from extended to core households. The

[25] B. Magnus Myhre, *Tilvekstfortegnelse 1962–1966*, Historisk Museum, Arkeologisk avdeling, Universitetet i Bergen (Bergen: 1971)
[26] Baudou, *Die regionale und chronologische Einteilung*

mere decrease in the number of (human) household members might potentially increase the relative power and influence of each member. The adult couple would be rather autonomous, and if one of them was originally brought up in a different cultural setting, this might make a relatively larger impact than in the earlier, extended households.

Why were links to the domain of ceramics and textiles lifted to such a significant position in the making of the Hiksdal-axe? Does it hint at the identity of one of the household members in particular? The household in which the Hiksdal-axe belonged, might have been born out of not merely two different mature households of south western Norway, but out of one household situated within the culture of 'Nordic', the other within the 'Arctic'. If so, two people with distinctly different bases of cultural knowledge were locked into co-existence within the frame of the house, and within the institutions of marriage and/or household.

The most intimate relationships among humans are the threads running between those living under the same roof, and between these and their next of kin. The concepts of co-residence, kinship and marriage in the human domain, might be reflected in the domain of artefacts. Cast artefacts might be especially prone to recall such metaphors: first, behind and before them, exists equipment that was made with intentions of making more than the individual artefact; second, the close similarity between cast artefacts that are exposed only to minimal subsequent mechanical treatment, and third, the re-casting of bronze also created potential links to former artefacts made tangible by the very same metal; and finally casting technology enabled the seamless union of different artefacts with separate biographies, into the crucible and the mould. The melt-down and casting were examples of unions within the domain of non-humans, on which unions of humans, such as marriage and sexual intercourse, could be modelled – or the other way round. One aspect of this argument is thus that humans might conceptualise the world of things in ways comparable to the sphere of humans. A second is that these worlds and webs of relations among humans and things might intersect, entangle and cross-cut. The domains of human and non-human are reflexive and co-dependant.

'Arctic' and 'Nordic'

The boundary between the 'Nordic' and the 'Arctic' in the Bronze Age was of a different kind than many of those criss-crossing the European continent between different blocks of a 'pan-European' Bronze Age. But modern political history has

by no doubt enforced this boundary, by simply making it easier to trace threads running southwards from Norway through Denmark, Germany and all the way to the Mediterranean Sea; rather than eastwards across Sweden, Finland and Russia.[27] These relations are still rather poorly understood and poorly embedded in 'grand stories' of the Scandinavian Peninsula. The Hiksdal-axe should have a place in these stories, and be considered in a long-term perspective on eastern, and north-eastern relations.

The clearest indication of a Nordic-Arctic relation in the Bronze Age is another group of socketed axes, dated c. 800 BC. These are the so-called Akozino-Mälar axes, distributed from the Volga in the east to the shores of the North Sea in the west.[28] Within this category, there are distinct 'Norwegian' and 'Swedish' designs. Except for rarities such as the Hiksdal-axe, these axes represent the first and the only significant design to be developed in bronze during the Bronze Age within the territory of present Norway.[29] For these reasons alone, one would have expected the Akozino-Mälar axes to have occupied a central position in the study of the Bronze Age in Norway, but this has not been the case. One of the reasons, I believe, is simply the obstruction met in attempts to trace eastwards into publications in a different language, with different chronological systems, within different methodological and theoretical traditions.

It may be the case that we have overlooked some early clues to the Akozino-Mälar phenomenon, like e.g. the Hiksdal axe. It could also be that we have been staring too hard at the frontier, rather then behind it for clues. Both south-western Norway and Mälardalen in Sweden are considered to be far from the northern frontiers, and safely embedded within the Nordic Bronze Age.[30] Finally, we have been unwilling to lean on the unique, the odd and the few. There is hardly any doubt that the Nordic zone, even its northern parts, has *more* Nordic than Arctic bronzes. But if we only dare to lean on the broader patterns and the many, we will fail to

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[27] Cf. H. Bolin, "Ockuperad förhistoria – om östligt inflytande i den nordiska bronsålderskretsen", in J. Goldhahn (ed.), *Mellan sten och järn,* Del II. Rapport från det 9:e nordiska bronsålderssymposiet, Göteborg 2003-10-09/12, Gotarc Serie C. Arkeologiska Skrifter 59 (Göteborg: 2005)
[28] C. F. Meinander, "Akozino, Achmylovo och Mälaryxorna", *Finskt Museum* (1985), Kuz'minych, "Osteuropäische und Fennoskandische Tüllenbeile", E. Hjärthner-Holdar, "Samspel mellan olika regioner i Sverige och Rysland under yngre bronsålder sett utifrån jernteknologins införande", in K. Løken ed., *Bronsealder i Norden – Regioner og interaksjon*, Bolin, "Ockuperad förhistoria"
[29] A. W. Brøgger, "En celttype fra Norges yngre bronsealder", in *Studier tilegnet L. Dietrichson*, *Kunst og Kultur 1909* (Kristiania: 1909), W. C. Brøgger, "Bronsecelten fra Bøle nær Porsgrund", *Oldtiden* VII (1918)
[30] Cf. Bolin, "Ockuperad förhistoria"

construct plausible trajectories leading up to 800 BC and the rather overwhelming evidence of the Akozino-Mälar axes. Leaning on the singular case of Hiksdal, and arguing for the presence of an 'Arctic' wife and a 'Nordic' groom in a house in the west, c. 1000 BC, will aid in the understanding of the how Akozino-Mälar phenomenon became.

The entanglement of two historical trajectories might have made a phenomenon like the Hiksdal-axe possible. One was the new household organisation and the geographical expansion of these households. Another was the establishment of communications between eastern Russia, Mälardalen in Sweden and south-western Norway. The change in household organisation created a new balance between members of the house, and a 'foreign' wife or groom would make a larger impact than in the earlier extended households. This might have been a marriage between a male trained in Nordic bronze casting, and a female trained in eastern ceramic and moulding technologies. This kind of internal controversy within the household need not have been a novel feature, but in combination with the new core-households, these controversies might have had different effects.

Gathering the threads

One aspect of the general need to reassemble in the social sciences could be seen as a need to reassemble two Bronze Age spheres created largely by prehistoric depositional practices and modern excavation practices, the sphere of houses and that of axes. It could also be seen as a need to reassemble across some borders reinforced through recent political history, the border between the Nordic and the Arctic. Finally, it could be seen as a need to reassemble across some material categories, such as clay, wood, fibres and metal. I have tried to reassemble, and trace threads running across these boundaries, out from a 'thing' that gathered and contained them all.

The hybrid axe from Hiksdal could typically be written off as a rarity or as a weak indication of diffusion, influence, contact, the result of large cultural blocks rubbing against each other. However, it could also be held up close, and recognised as a way to enable, hold together and contain, for humans in a changing world.[31]

[31] I wish to thank Per Ditlef Fredriksen for encouraging and valuable discussions. I also acknowledge Liv-Helga Dommasnes and Svein Ove Agdestein at Bergen Museum, University of Bergen for making the axe from Hiksdal available for closer examination.

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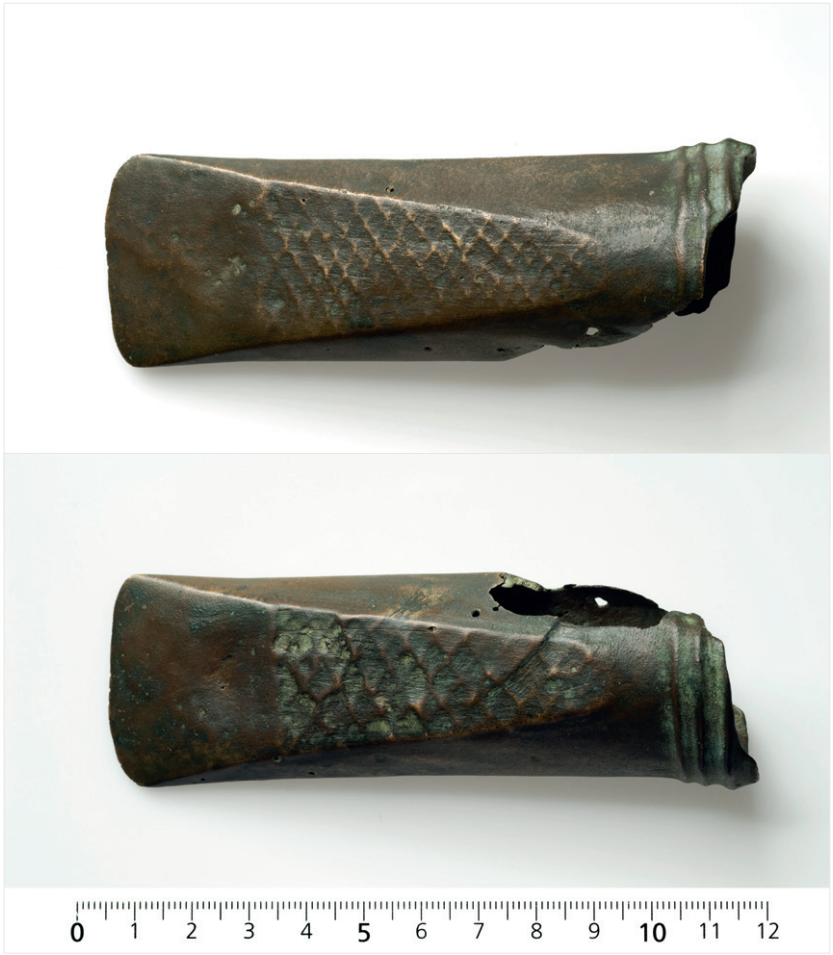

Plate 9.1: Axe from Hiksdal, Vindafjord municipality, Rogaland county. (B 11805, copyright Bergen Museum)