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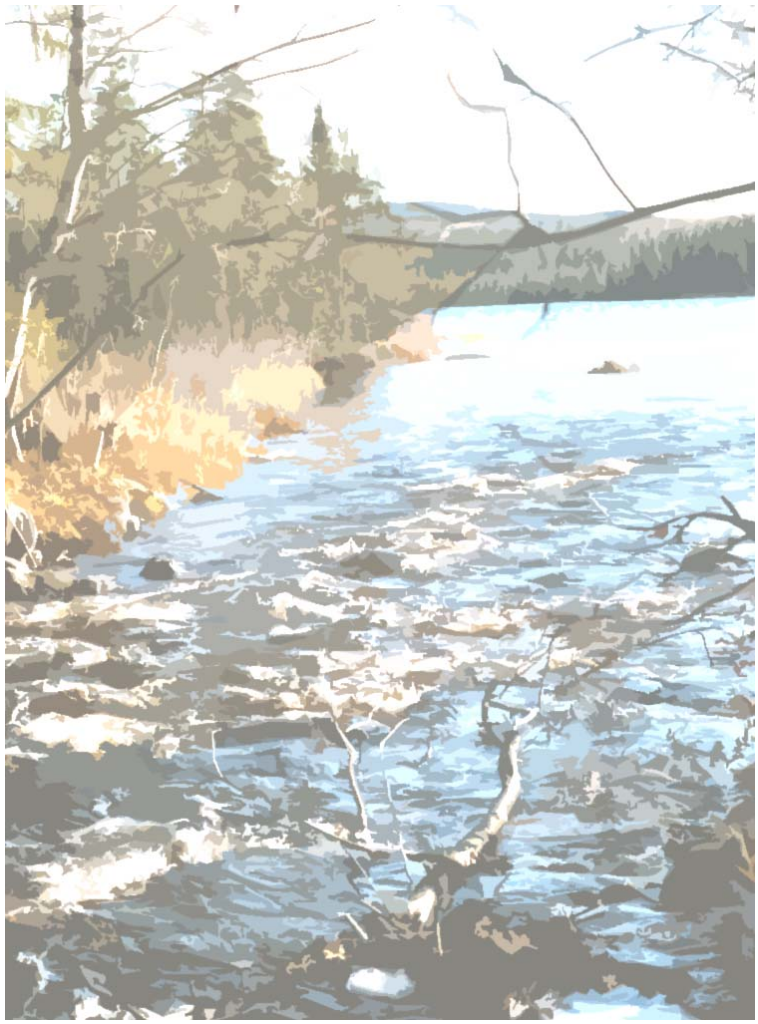

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Redaktör:
Per H. Ramqvist
epost: per.ramqvist@arke.umu.se

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Innehåll

Vessels and kettles

Socio-economic implications of the cessation of asbestos pottery in Northern Sweden

Ingela Bergman

English summary

Since asbestos-tempered pottery first caught the attention of archaeologists in the beginning of the 1900s, studies have mainly concerned its chronology, typology manufacturing techniques and functions. This paper addresses the socio-economic context of asbestos pottery by focussing on the cessation of its manufacture. It is argued that the fundamental changes in settlement patterns and technologies during the period 400 AD-7/800 AD are inconsistent with a shift within the framework of a hunter-gatherer society. The advantages of metal kettles over asbestos pottery are very likely related to an increasingly mobile lifestyle and paper suggests that the transition from use of pottery to metallic kettles and cauldrons reflects a change in the economic platform from hunter-gatherer subsistence to reindeer pastoralism.

Ingela Bergman, Silvermuseet, Torget, SE- 930 60 Arjeplog, Sweden
ingela.bergman@arjeplog.se

Introduction

Asbestos-tempered pottery was used by hunter-gatherer societies across wide areas in the Kola Peninsula, East Karelia and northern Fennoscandia - including the northern parts of Norway, Sweden and Finland - during a period of more than 2000 years, from c. 2000 BC to c. 400 AD. Since it first caught the attention of archaeologists in the beginning of the 1900s, several different types and sub-types of such pottery have been identified (see Munch 1962; Linder 1966; Bakka 1975; Siiriänen 1984; Ågotnes 1986; Edgren 1993; Hulthén 1991 and, for detailed reviews, Carpelan 1979 and Jørgensen & Olsen 1987, 1988). Northern Fennoscandian asbestos pottery is commonly referred to as pottery of the Säräisniemi 2-type (Carpelan 1979). Research on this pottery has mainly focused on its chronology, typology manufacturing techniques and functions. However, by considering the

Ingela Bergman *(f.1956). Museichef vid Silvermuseet i Arjeplog och docent vid Institutionen för arkeologi och Sámiska studier, Umeå universitet. Ingela Bergman har i sin forskning fokuserat på Sámiska kulturlandskap och på människans samspel med, och påverkan på, sin fysiska omgivning i nordliga miljöer. Hon har varit, och är, projektledare för ett flertal större forskningsprojekt med tvärvetenskaplig inriktning. Hennes vetenskapliga publicering omfattar ett tiotal artiklar i internationella vetenskapliga tidskrifter.*

socio-economic contexts of asbestos-tempered pottery and its role in the symbolic articulation of ethnicity, Jørgensen & Olsen (1987, 1988) introduced an entirely new perspective.

Following the approach of Jørgensen & Olsen (1988), this paper addresses the socio-economic context of asbestos-tempered pottery, but focuses on the cessation of its manufacture and use in an attempt to explain its disappearance from the archaeological record. The artefacts considered are pottery sherds from excavated sites in the Arjeplog area of northern Sweden, and metal objects of more recent origin found at Late Iron Age settlement sites and Medieval sacrificial sites in the Swedish part of the Sámi settlement areas, specifically the Pite and Lule lappmarker (Laplands). Archaeological data is interpreted in the light of historical records and ethnographic information on the use and importance of kettles in Sámi households. It is argued that the transition from use of pottery to metallic kettles and cauldrons reflects a change in the economic platform from hunter-gatherer subsistence to reindeer pastoralism.

Asbestos-tempered pottery in Arjeplog

There are more than 400 registered sites in the Arjeplog area dating from the Middle Neolithic to the Early Iron Age (Bergman 1995), 14% of which include pieces of asbestos-tempered pottery. During the 1960s and 1970s extensive excavations were carried out at selected sites, ten of which are located in the Hornavan, Kakel and Lullebådne watercourses. Find material was rich and varied, including c. 20 kg of asbestos-tempered pottery, which has been analysed in a previous study by the author (Bergman 1995). No complete, undamaged vessels were found and most of the pottery was highly fragmented. Potsherds were classified with respect to their thickness and decoration. In addition, rim pieces were used to calculate the diameter of the respective vessels from which they came. Decorative elements included comb impressions, textile impressions, continuous incised lines, protruding bands parallel to the rim, and ring-shaped impressions. Slightly more than half of the potsherds (54%) showed no traces of decoration, and may have originated either from vessels lacking any kind of decoration or from undecorated parts of otherwise decorated vessels. Also, some

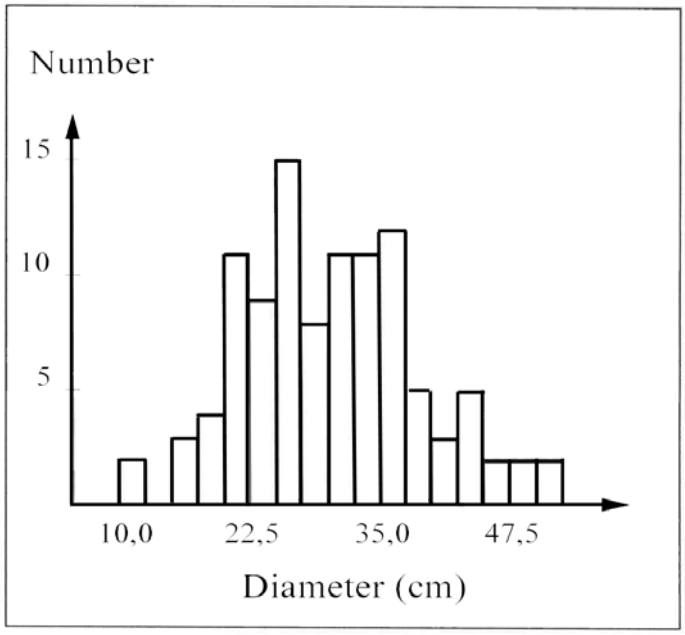

Fig. 1. Diagram showing distribution of rim diameters of vessels from Arjeplog, Sweden (n= 105). From Bergman 1995.

sherds may have been damaged in such a way that decoration that may once have been present was no longer observable. Thus, sherds with no observable decoration may not represent a distinct type of pottery, but simply pieces of pottery that lack classifiable decorative elements for various reasons. Pottery with comb impressions formed the second largest group (35%), followed by pottery with textile impressions and incised lines (8 and 3%, respectively). In some cases decoration was observed on the inside of sherds (Bergman 1995:187ff), resulting from the manufacturing procedure, in which the clay was shaped on a wooden matrix, possibly a wooden container with carved decorations on its surface. The same decorative elements, i.e. parallel

lines and zigzag-patterns, occur on the inside as well as the outside of asbestos pottery vessels.

The rim diameter of 105 sherds was calculated (including 10 from lakes Uddjaure and Storavan). The sherds were also compared with respect to decoration, colour, thickness and rim shape in order to avoid repeated measurements of the same vessels. Vessel diameters show a normal distribution ranging from 10 cm to 52 cm, with a mean of 30 cm (Fig. 1). There were no significant correlations between diameters and decorative elements, i.e. various types of decoration appeared on all kinds of vessels found, from very small cup-like ones to large containers.

Asbestos-tempered pottery sherds occur at both large sites with rich and varied finds, and sites with very limited archaeological material. Furthermore, there is no apparent correlation between pottery types and different types of sites. Pottery with textile impressions generally occurs in connection with other pottery. Spatial analyses at intra-site levels show that pottery tends to occur in well-defined depositional areas in connection with other archaeological material like lithic waste, burned bones and fire-cracked stones. Depositional areas include vessels of various sizes and types of decoration (Bergman 1995:188-190). The spatial mixture suggests that different types of pottery were used contemporaneously, and there are no strict chronological differences. Stratigraphical conditions at three excavated sites in Arjeplog provide further indications that various types of vessel were manufactured and used contemporaneously, and it is noteworthy that pottery only occurs in contexts pre-dating 400 AD (Bergman 1995: 106f, 188ff).

The great variety of vessel types suggests that asbestos-tempered pottery served multiple functions. It has been proposed that asbestos pottery was used in connection with iron production or as ember containers (Hulthén 1991:34), cooking-vessels or for storage purposes (Helskog 1983:94). All of these propositions may be true, but some vessels were clearly unsuitable for certain purposes. Small containers were not used as forges or ember containers and large containers with holes in their sides and bottoms could not have served as cooking vessels. The general appearance of asbestos-tempered pottery at hunter-gatherer sites, the chronological coherence of different types, and

the spatial correlations with other find material show that asbestos pottery formed an integral component of the standard inventory at hunter-gatherer sites. Furthermore, their decorative elements are similar to those of wooden vessels, showing that ceramics were embraced by a general design repertoire.

The economic and functional context of vessels and kettles

Hunter-gatherers in northern Sweden are assumed to have been organised in bands (Forsberg 1985; Mulk 1994; Bergman 1995; Lundberg 1997) based on kinship relations and characterised by the lack of institutionalised economic organisation (Service 1971:98). As shown by various authors (e.g. Campbell 1968:3; Helm 1969:213; Slobodin 1962:43, 73), there may have been a variety of social constellations within the frame of a band, however the local band, comprising a number of families living together for most of the year, constituted the basic unit. The marked seasonal changes in sub-arctic areas, with short growing seasons and long winters, promoted logistically organised subsistence strategies that had a direct impact on spatial and temporal settlement patterns. Band members would have joined in larger groups and split into smaller ones during the course of a year. Settlement sites pre-dating 400 AD were predominantly located along the shores of lakes and watercourses in the boreal forest area. Some seasonal settlements were reused a number of times before being abandoned, and the set of tools, utensils, and other equipment associated with each site is likely to have been relevant to its specific function. In accordance with the egalitarian character of band societies, site furniture would have been common property to all community members. Find contexts at excavated sites suggest that asbestos-tempered pottery was indeed part of the regular inventory at seasonal base camps (Bergman 1995). There are no indications of asbestos pottery possessing a distinct status differing from that of other objects. Community members had access to various types of vessels serving different functions and both the manufacture and use of asbestos-tempered vessels formed an integral part of everyday life. Local resources of raw clay and asbestos minerals made hunter-gatherer societies self-sufficient in the manufacture of pottery (Hulthén 1991:48;

Bergman 1995:150), and thus independent of external trading networks.

The manufacture and use of asbestos pottery appear to have ceased within a relatively short period across the whole of northern Fennoscandia. By 400 AD the manufacture of ceramics had ceased in the region (Linder 1966:147; Carpelan 1979:17, 20; Jørgensen & Olsen 1988:27). Since asbestos pottery had been an important part of site inventories for thousands of years and there was no shortage of raw materials for its continued manufacture, this suggests that superior alternatives had become widely available.

Copper and soapstone

Kettles and cauldrons made of metal would be the obvious replacements for ceramic vessels, but there have been no recorded finds of metal vessels dating to the period 400 - 1000 AD in northern Norrland (the Norrbotten and Västerbotten regions) and only four examples are known in southern Norrland (Zachrisson 1976:24). However, the apparent scarcity of metal containers may be illusionary. Although no intact vessels have been found there are indirect indications that copper kettles were used during the Viking Age and Early Medieval Period. Numerous iron handles with leaf-shaped mounts, sometimes riveted to bronze fragments, have been found in interior Norrland (Zachrisson 1976; Mulk 1994; Hedman 2003). Copper cauldrons with similar handles are known from Finland dating to 1050-1300 AD (Zachrisson 1976:50ff). Handles have also been found on Sámi sacrificial sites in northern Sweden dating to the Early Medieval Period (Serning 1956; Zachrisson 1976), together with numerous fragments of copper sheets. They often have rivets, holes, punched dots or dovetail joints and some fragments are folded. Dovetailing occurs on vessels found in troves in southern Sweden and Gotland. They were probably imported from the Near East and date to the 11th century (Oldeberg 1943:122; Serning 1956; Zachrisson 1976). Sheets found at Sámi sacrificial sites show signs of wear and use. Some fragments suggest that vessels had been repeatedly mended (see for instance Serning 1956:Pl.32:5). Small sheets of copper are also frequent on interior sites dating to 800-1000 AD. Only a few

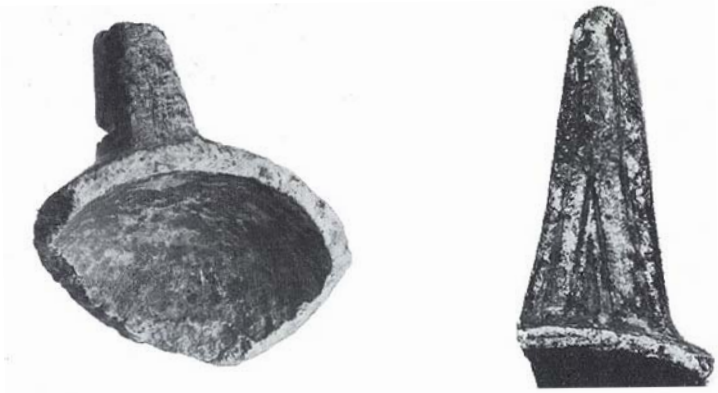

Fig. 2. Fragments of soapstone vessels, Arjeplog, Sweden. From Zachrisson 1976. Scale: 1:3 (left) and 1:2 (right).

hearths have been dated to the 7th and 8th centuries, but they too include copper sheets (Bergman 1987, 1988, 1990, 1991; Mulk 1994; Hedman 2003). Sheets from damaged and worn out vessels were clearly used as mending materials for a variety of purposes.

Soapstone vessels, or rather fragments of vessels (Fig. 2), occur at sites in interior northern Sweden, especially the Arjeplog area, dating from the Viking Age and Early Medieval Period, but they have also been registered in the Jokkmokk and Piteå areas, and in Tornedalen (Mulk 1994:183; Zachrisson 1976:35ff). Soapstone vessels were manufactured in Norway on an industrial basis (Zachrisson 1976:39). Most Norwegian finds derive from Norse graves dating to the Viking Age (Zachrisson 1976:39). In northern Sweden soapstone vessels occur at settlement sites with Stalo type dwellings (see Mulk 1994) or at sites distinguished by hearths. No finds have come to light in the coastal areas to date. Soapstone vessels were excellent for cooking since they did not crack when heated and they did not burn the food. Also, they remained hot for quite a long time (Zachrisson 1976:39). These are qualities shared by asbestos pottery, and in many respects soapstone

vessels would have been excellent substitutes. However, they were heavy and had a restricted size range, corresponding to the smallest asbestos-tempered pottery vessels. Accordingly, soapstone vessels replaced only a very limited spectrum of ceramic vessels.

Changing ways of life

In many respects the period 400 - 700 AD represents a gap in the archaeological record of northern Norrland. Finds and features from this time are sparse, and very few settlement sites have been confirmed to date to this period. Nevertheless, shifts in technologies, settlement patterns and land use occurred during this period, which profoundly influenced the ways of life of interior societies By c. 400 AD various previously common artefacts such as bifacial points, knives, scrapers, stone axes and adzes had disappeared and metal objects appeared (Serning 1960, Zachrisson 1976). No prehistoric iron production sites have been firmly verified in interior northern Norrland, however local manufacture of iron items is indicated by finds of slag from iron-working (Liedgren & Johansson 2005:290). Although iron ore and iron objects were imported, metallurgy undoubtedly replaced lithic technologies.

In addition, there was a shift in heat production techniques. Fire-cracked stones are a major feature of settlement sites pre-dating 400 AD. They occur in large, amorphous heaps and accumulations, in small hearth-like arrangements and scattered around on the site surfaces (Bergman 1995). Rounded boulders, c. 0.1 m in diameter, were repeatedly heated and used for boiling water, for food preparation (by cooking or roasting) or for heating dwellings. The stones served as thermal reservoirs and due to repeated heating they cracked and were eventually deposited as refuse (cf. Spång 1997:103ff, 200). Settlement sites from the 8th century onwards are distinguishable by formal hearths with stone linings and stone fillings and are generally completely lacking fire-cracked stones. Sites mainly occur in areas and locations that were previously devoid of settlements, i.e. away from shores and close to tarns, mires, minor brooks and high mountain areas by smaller creeks (Bergman 1988; Mulk 1994; Hedman 2003). These are typical locations of the settlements of historical reindeer herders.

Settlement patterns that had prevailed for thousands of years

dramatically changed during a period of two or three hundred years, implying that subsistence strategies, logistics, temporal patterns and migration routes also changed markedly. In short, there was a fundamental reorientation in land use, and ways of life developed in which asbestos-tempered pottery, lithic artefacts and fire-cracked stones played no part.

External trade and social differentiation

The foreign provenance of iron items, soapstone vessels and copper kettles shows that the Sámi were involved in extensive trade from the Early Iron Age onwards. The incorporation of externally produced utensils into the standard household inventory implies great reliance and dependence on trading networks. The Sámi must have been quite confident that there would be sufficient, reliable external supplies to meet their needs in order to stop making utensils locally. This, in turn, presupposes that there was a solid market for Sámi merchandise, and that surplus production for trading purposes formed an important, integral part of the local Sámi economy. Whether surplus production and trade took place through private or collective enterprises is unclear. However, Norse sagas and early historical records from Iceland, relating conditions during the Late Iron Age and Early medieval Period, mention Sámi chiefs, implying that social differentiation and elites were features of Sámi societies (Bratrein 2001; Olsen 2004). A shift in the items associated with burials, from locally manufactured burial gifts to imported items (Schanche 2000:349f), and the occurrence of markedly rich graves, also indicate that Sámi societies became more stratified during the course of the Late Iron Age and Early Middle Age (Hansen & Olsen 2004:90). According to Storli (1991, 1994) an elite evolved with the emergence of reindeer pastoralism, while other authors believe that social hierarchy developed in tandem with external trade, since individual actors controlled the imported merchandise and the wealth it generated (Hansen & Olsen 2004:90). A rich 11th century grave in Aravuobme, Jukkasjärvi parish, Sweden (Nordqvist *et al*. 1993) included a silver bracelet, a chain, two bronze broaches, an iron axe, and the remaining rim of a copper kettle (Nordqvist *et al*. 1993; Schanche 2000:407). These were valuable personal items of the

deceased, placed in her grave to help her survive in the realm of the dead and as a sign of her social status. Evidently, copper kettles were among the utensils crucial to a wealthy Sámi woman during the Viking Age, in both life and death.

The significance of kettles and cauldrons

In 1424 the court in Piteå decreed that any birkarl (a coastal farmer who had rights to trade with the Sámi) who provided items that a Sámi needed to sustain himself, his wife, children or servants, such as reindeer, nets, food, an axe, a kettle or a pot, would have the right to trade with and collect taxes from that Sámi for the next three years

Fig. 3. Copper kettle from Arjeplog, Sweden. The kettle was inherited within an Arjeplog Sámi family for several generations before eventually being donated to the Silver Museum in the late 1900s. Photo by Christina Flinkfeldt, the Silver Museum.

without interference from the regular birkarl (Nordlander 1906:222). The decree illustrates the importance of kettles in Sámi households at that time. A report dating to 1595 relating conditions in Lule lappmark, tells of copper kettles being included among commodities that birkarlar brought with them to trade with the Sámi (Hoppe 1945:59f). A note from four years later, 1599, states that four barrels of butter, two *skeppspund* of hemp, 100 ells of frieze, 12 barrels of flour, one *skeppspund* of kettle copper (sw: *kittelkoppar*), and 100 lod of silver, were needed for the fur trade in Lule lappmark during that winter (Nordlander 1906:93). In the following year the amount of goods required, including kettle coppers was greater, not only for trade but also to ´support´ the Sámi ("till undsättning", Nordlander 1906:93). In 1603 more than 900 kg of copper was needed for the fur trade in Torne, Lule and Pite lappmarker (Hoppe 1945:60). A hundred years later, kettles were the objects of a dispute in the district court of Pite lappmark. The dispute between those summoned before the court involved a quarter share of a copper kettle, referred to as a ´Russian kettle´, which was part of an inheritance. The controversy continued over three years and was finally settled in 1708 (*Västerbottens lappmarkers domböcker*). There are numerous other references to disputes over kettles in later court records. The significance of copper and brass kettles in Sámi households is emphasised by several authors (e.g. Rheen (1671) (1983:58; Högström 1747:93). They were private property and among the trading objects most coveted by the Sámi (Fig. 3).

The 1424 court decree indicates that individual Sámi families had to provide for themselves and there seems to have been no superior social level supporting the livelihood of community members. The decree also reveals that families not only included a man, his wife and children, but also servants. Households including servants were common among reindeer pastoralists during the 17th and 18th centuries (see, for instance, Djupedal 1987). In order to manage large herds the owners had to employ servants to assist them and thus reindeer herding promoted social differentiation. The notes on Sámi families including servants suggest that the characteristic socio-economic structure associated with reindeer pastoralism was fully developed by the beginning of the 15th century.

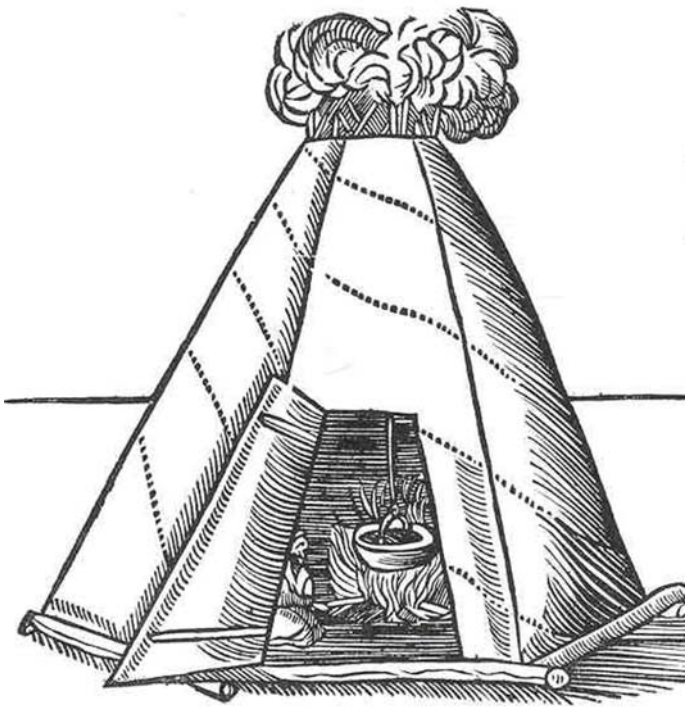

Fig. 4. Kettles were part of the regular Sámi hut inventory. From Schefferus [1673] 1956 (picture cropped).

Discussion

Cessation of the manufacture and use of asbestos-tempered pottery during the 4th century AD and the court decree dating to the early 15th century mark the beginning and end, respectively, of a trajectory of profound changes within Sámi societies in northern Norrland. During the course of a thousand years, from 400 to 1400 AD, the economic platform changed from hunter-gatherer subsistence to reindeer pastoralism, and the social structure from a society based on egalitarian principles to a stratified society acknowledging private ownership as a fundament of social order. It has been proposed that

reindeer hunting intensified during the course of the first centuries AD leading to the emergence of the "Sámi hunting society" (Forsberg 1989:73ff), and that reindeer pastoralism eventually developed during the course of the 16th century (Mulk 1994:259ff; Lundmark 1982). In my opinion, the fundamental changes in the archaeological record during the period 400 -7/800 AD are inconsistent with a shift within the framework of a hunter-gatherer society. Changes in settlement patterns, technologies, and subsistence strategies together with evidence of increasing involvement in external trade, all indicate a fundamental socio-economic reorientation. Indeed, the cessation of the manufacture and use of pottery may well mark the transition between hunter-gatherer subsistence and an emerging reindeer pastoralism. The advantages of metal kettles over asbestos pottery are very likely related to an increasingly mobile lifestyle. The importance of light and durable containers for reindeer herders is perhaps best described by Johan Graan (Graan (1673) 1983:40), relating conditions in the Lule and Pite lappmarker, who concludes that the Sámi used copper and brass kettles since they were easier to transport than pots (meaning iron pots, my comment) (Fig. 4).

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