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Stones for Bread. Regional Differences and Changes in Scandinavian Food Traditions Related to the Use of Quernstones, Bakestones and Soapstone Vessels c. AD 800–1500

Quernstones, bakestones and soapstone vessels represent everyday products related to food processing in prehistory; for centuries, these artefacts comprised important parts of the Scandinavian household. Throughout history, grain and grain products have been an indispensable source of food, with bread and porridge as vital elements. In the Middle Ages, up to 80 per cent of the consumption could stem from grain and grain products (Øye 2002, 323, 406). To make grain digestible it had to be crushed and, for this, querns and quernstones were needed. Bakestones were necessary for baking bread over the hearth, and soapstone vessels were important for making porridge. These different stone products were thus directly and indirectly a precondition for the daily bread in both prehistoric and historic households. But was bread and porridge the only food that was baked and cooked using these tools?

The preparation and consumption of food represents one of the most central aspects of all cultures, reflecting biological needs and functional aspects, as well as established customs that structure the actions and perceptions of identity and people (Øye 2009, 225). Is this reflected in the spatial and chronological distribution and use of the three household artefacts presented above? What causes differences, similarities and changes temporarily but also spatially? A discussion of habitual practices and traditions versus innovations is also central. How do changes in the composition of the population affect food processing and the use of household utensils? Regarding the latter questions, I will take a closer look at the Viking Age town of Kaupang in Vestfold county and medieval Bergen, both representing towns that were inhabited with, to some degree, an international and culturally mixed population. Were the stone products used in food processing resistant to change as the population changed, or were they replaced by other technologies? In the following, references to archaeological material, scientific data and historical sources will be combined in order to look into the use and traditions connected to the different stone products.

Quernstones and grinding

Quernstones are utensils directly related to household and food processing. Grinding using the hand quern was conducted in households, and is traditionally seen as a task mainly performed by women (Bergström 2007, 176). The use of the rotary quern in the household represents a new phenomenon in Scandinavia in the late Iron Age. The rotary quern seems to have been introduced to Scandinavia in the Pre Roman Iron Age (c. BC 500-0) (Cederlund 1964, 536; Steensberg 1964, 538) and in this first phase during the Pre Roman and Roman Iron Age, it was concurrent with the saddle quern (Zachrisson 2004). Recent studies indicate that the use of the rotary quern in the early Iron Age was not part of daily household tasks, but was used in rituals at special and sacred places. During this period, bread was not eaten every day, but was consumed at special places and on special occasions. Helgö in Mälaren, Sweden, is a site where quernstones and bread may have had a ritual meaning in the early Iron Age. Remains of carbonised bread from AD 200 are interpreted as being part of sacrifices (Zachrisson 2004, 151, 153-154; 2014; Bergström 2007, 179).

At the beginning of the Viking Age, approximately AD 700-800, quernstones seem to have gained a new importance in Scandinavia and were now becoming part of the daily household routine. The need for quernstones increased, leading to large-scale production with a wide-ranging distribution. Grain was normally kept unground on farms, and only as much as was needed for daily consumption was grind, meaning that the quern must have been rotated daily, or at least several times a week.

An important innovation in grinding technology in Scandinavia was the introduction of water mills that led to grinding beyond individual household needs; these mills were often operated by professional millers. It is uncertain when this technology was introduced to Scandinavia. Written sources date watermills in Denmark to the 1100s, and in Norway and Sweden to the early 1200s (DN XII nr. 860 1209; RN bd. I no. 216, 336; Ek 1962, 542; Helle 1982, 430; Fisher 2004, 35). Archaeological investigations in Denmark indicate, however, that these watermills date back to the Viking Age, as early as the 10th century (Kristensen et al. 1999, 209-210; Fisher 2004, 107; Jessen in press). It is also possible that the production of millstones in Norway date to the late tenth or eleventh centuries, based on C14-datings from millstone quarries in Hyllestad, Western Norway (Baug 2013, 35, 151-152).

The mills were often built and owned by ecclesiastical institutions and aristocratic landowners (Øye 2002, 346-347). In Denmark, milling provided a basis for privileges and duties. According to written sources, the farmer and others were obliged to grind their grain in certain mills; the owner of the mill would demand levy on the ground grain. A royal letter of 1175 states that the inhabitants of Odense in Denmark were allowed to grind their grain solely at the mill owned by St Knuds monastery (Fisher 2004, 33). The principle of this kind of mill force was to secure the mill owner's income, and in some areas in Denmark private querns were forbidden (Jessen in press). Excavations at Danish mills have revealed large amounts of fragments from quernstones that may represent private hand querns that had been collected and destroyed in order to secure milling at the watermill (Fisher 2004, 8). Similar conditions are suggested for Sweden (Ek 1962, 544), but cannot be documented in Norway. Despite the introduction of watermills and the use of mill force in several places in Scandinavia, archaeological investigations both in urban and rural sites indicate a continuous and extensive use of hand querns. Also, the production of quernstones for hand querns in Norway and

the distribution of Norwegian quernstones to Southern Scandinavia do not seem to have been reduced in the Middle Ages. On the contrary, both the production and distribution of quernstones apparently increased (Baug 2013).

Spatial and chronological distribution of quernstones

During the Viking Age and the Middle Ages, some rock types were preferred to others as raw material for quernstones and, in Norway, quernstones were largely produced from garnet mica schist. Several quarries of this type are known; the quarry areas in Hyllestad, Vågå, Selbu, Brønnøy and Saltdal are the largest and are thus considered to be particularly important production sites (Grenne et al. 2008, 48) (Fig. 1). The oldest production site for quernstones is located in Hyllestad in Sogn og Fjordane county, where production may go back to the 800s. Large-scale production and distribution are documented from the latter half of the 900s, continuing into the Middle Ages, with an increase from the 1100s (Baug 2002; 2013). Another important site is in Saltdal in the county of Norland. These quarries have been dated to c. 900s-1200s (Helberg 2010, 114; 2010/2011, 9). Activity here seems to have started in the late Viking Age, but gained importance throughout the Middle Ages. Quernstones from Saltdal are present in medieval towns and rural sites in Norway and, for instance in the medieval town of Oslo; they outnumber the stones from Hyllestad (Baug 2013, 221). However, quernstones from Hyllestad were more widely distributed outside Norway compared to quernstones from other Scandinavian quarries. They are found within Norway, but also in Denmark, Sweden, Northern Germany, Iceland and the Faroe Islands. The stones from Hyllestad found in medieval Denmark were mainly spread within the eastern parts of the



Figure 1. Quernstone quarry in Hyllestad, Sogn og Fjordane (Photo: Kim Søderstrøm & Jørgen Magnus ©Riksantikvaren)

country, in Northeast Jylland and the islands including Skåne and Bornholm, and here they dominated the market (Carelli and Kresten 1997; Baug 2013, 228-235). Within Southwest Denmark, quernstones of basalt from the Rhine area dominated from the 700s onwards. The varying distribution patterns of different quernstone types most likely testify to different contact and trading networks that gave different access to diverse types of quernstones.

Bakestones and food processing

Bakestones are often rounded or oval in shape, approximately 25-50 cm in diameter and 1 cm thick and are used to bake bread over the hearth. Characteristics of the bakestones include incised grooves in different patterns, either at one or both of the sides (Fig. 2). The grooved side seems to indicate the side used for baking whereas the smooth side would be placed against the fire (Tengesdal 2010, 23-26, 30).



Figure 2. Fragments of a bakestone from Bryggen in Bergen, dated to AD1248-1322 (BRM0/50627). (Photo: Marcin Gladki©Museumsenteret i Hordaland)

Mineralogical identification shows that bakestones were mainly made of two types of rock; soapstone and chlorite-rich talc-bearing green schist, with an increase in the latter in the high and late Middle Ages (Weber 1989; Tengesdal 2010, 20-22, 31). So far, only three production sites for the chlorite-rich talc-bearing green schist are known; one in Øye in Sør-Trøndelag, one in Rennesøy in Rogaland and one in Ølve and Hatlestrand in Sunnhordland, the latter representing the largest and most important production centre for bakestones in Norway. The extraction of bakestones in Ølve and Hatlestrand dates back to the early medieval period, c. 1030-1100; bakestones do not seem to have been used in Norway prior to the Middle Ages, and represent a technological innovation in food processing (Baug 2013). They are not known

to have been used in the preceding period when frying pans of iron were used in both Sweden and Norway (Petersen 1951, 417–421; Granlund 1956, 307). Outside of Norway, Shetland is the only place where the production of bakestones has been documented. Here, archaeological finds may indicate that bakestones made of soapstone were produced and used as early as the Viking period, and it is thus suggested that the Shetland bakestones were an innovation that may have influenced the production and use of bakestones in Norway (Forster 2009, 237). The production of bakestones in Ølve and Hatlestrand may be regarded as a commercial industry; from the 1100s onwards, bakestones became a common household utensil in both urban and rural areas in Norway (Baug 2013). They are, for instance, found in large quantities in archaeological material from Bergen, Oslo and Trondheim (Weber 1984, 159; Hansen 2005, 179; Tengedal 2010). Traces of soot and remains of food indicate that the bakestones were used within the towns, even though some of the material may represent commodities meant for trade.

In Scandinavia, especially in Norway and Sweden, barley and oats were the most important types of grain used in cooking, needed for porridge, bread and beer (Grøn 1939, 90; Campbell 1951, 9–12; Øye 2002, 314–318). Both types of grain lack gluten, meaning that the dough would not rise, resulting in hard, unfermented bread. As a consequence, the flatbread (Norw. *flatbrød*), thin unfermented crispy bread, has been identified as the most common type of bread within Norway and large parts of Sweden (Grøn 1939, 93; Campbell 1950, 97; Visted & Stigum 1975, 16–19). According to written sources from the 1500s and 1600s, bread, flatbread and also *lefse*, a soft and thin pastry, were baked on griddles of stone or iron (Friis 1632, 73; Campbell 1950, 14–15; Visted & Stigum 1975, 18). The oldest written evidence for the Old Norse term *hleifr* (Norw. *lefse*) in Scandinavia is found on a runic stone at Tune in the county of Østfold dated to c. AD 300 (Bergström 2007, 188). Archaeological remains of the bread type are, however, scarce, but in a burial from the late Iron Age in Helgö in Sweden, a bread that may resemble *lefse* has been found. The bread was round, thin and approximately 18 cm in diameter (Bergström 2007, 141–142).

After the introduction of watermills, larger amounts of grain could be ground, and it is claimed that it was impossible to store bread before the introduction of the watermills. The hand quern was not very efficient, and only made it possible to grind grain that would cover the daily needs of the household. Thus, bread was baked for immediate consumption in Viking Age Scandinavia (Granlund 1956, 307). The new technology that was introduced at the beginning of the Middle Ages made it possible to grind large quantities of grain (Campbell 1950, 12; Ek 1962, 4; Visted & Stigum 1975, 17), and bread could be baked in large amounts. From the sixteenth century, so called stock bread (Norw. *forrådsbrød*) or flatbread that could be stored over long periods of time was common (Visted & Stigum 1975, 17). The term *flatbrød* (flatbread) is recorded for the first time in the early 16th century. According to documentary sources from Bergenhus castle in Bergen, 14 barrels of flatbread were brought from Sunnhordland (Granlund 1956, 308), the same area in which the bakestone quarries in Ølve/Hatlestrand are located. In 1613, the priest and writer Peder Claussøn Friis wrote about the production of bakestones and the baking of bread. According to Friis, the flatbread was baked on thin rounded stone griddles (Friis 1632, 72). It has been claimed that not only the bakestones, but also the flatbread originated from the western part of Norway (Grøn 1927, 55; 1939, 93; 1942, 62).

Bakestones with carbonised food remains are quite often noted in archaeological records; however, analyses of the food remains have only rarely been conducted, making it difficult to compare the use of the griddles temporarily and spatially. Analyses of bakestones from Northern Norway dated to the high Middle Ages indicate remains of a fatty acid most likely originating from milk or milk products from cattle, possibly cream or butter. The presence of oilseed crop is also pointed out, indicating that peas or beans may have been baked and mixed with the milk fat. This description of the content largely concurs with analyses of bread from late Iron Age contexts such as Birka, Gotland and Grobin (Reiersen 1999, 74-75). The analyses from Northern Norway do not match the traditional interpretation of the bakestones being used for baking flatbread or *lefse*, and a wider use of the bakestones with new ingredients in the Middle Ages, such as beans and rye should be considered. The latter observation also leads to the suggestion that bread of leavened dough was baked (Øye 2009, 232). The transition from the flatbread of barley to the fermented bread of rye is considered as one of the most important changes in the medieval diet (Viklund 2007, 128).

Spatial and chronological distribution of bakestones

In medieval urban contexts in Norway, an increase of bakestones is seen from the latter part of the 12th century and towards the beginning of the 15th century, especially bakestones of chlorite-rich talc-bearing green schist. In Bergen, approximately 90 per cent of the investigated material at the medieval settlement and trading site, Bryggen, is made of green schist (Weber 1989; Tengesdal 2010, 34-36, 74). This is most likely to be related to the large-scale production in Ølve and Hatlestrand that emerged during the Middle Ages.

Bakestones are found more or less all over Norway. An interesting aspect, however, is that bakestones from Northern Norway are mainly found by the coast, whereas they are found in the inland areas only to a minor degree. Thus, the use of bakestones seems to be limited to specific regions and places along the sailing route – places that had contact southwards, for instance with Bergen (Reiersen 1999, 47-48; Øye 2009, 232). According to written sources from the late Middle Ages, bread was in Northern Norway normally baked in ashes. It was also more common to eat dried fish than bread (Grøn 1927, 53; Granlund 1956, 309). It is likely that Bergen played an important role in the distribution of bakestones, and may thus have influenced the areas in which they were used. Practical aspects, such as the supply of commodities and the technology to produce food, were most likely important influences upon food customs. However, it was not just geography and closeness to the sea that were decisive for the distribution of bakestones; also habits and cultural traditions were important. Most likely, regional differences occurred with regard to the role of the bread in the daily diet and in some areas, it may have been replaced with other foodstuffs. To what degree bakestones were used by both Norwegians and the Sami population in Northern Norway has not been investigated.

Outside Norway, the North Atlantic islands of Iceland, Shetland and the Faroes are the only areas where bakestones, most likely from Norway, have been found in large quantities (Hamilton 1956, 183; Arge 1989, 119; Smith 1999, 127; Weber 1999, 134-139; Forster 2004). In Shetland, stones have been found from the 1100s (Weber 1999), which is more or less the same time as they appear in Norwegian towns.

Bakestones are also found in Sweden and Denmark, but a thorough investigation of these finds has not been conducted. The finds show that bakestones from Norway were known in Sweden and Denmark, but the amount of finds does not indicate a large-scale or organised distribution. Bakestones seem to have been used here only exceptionally. Most likely, different cultures, customs and traditions of food processing were decisive factors in the use of bakestones. The bakestones in Sweden and Denmark are mainly found in towns and areas with close trading contacts to Norway in the Middle Ages, such as Lund in Sweden and Århus and Tårnby in Denmark. In these areas, quernstones from Hyllestad dominated the market. In the Middle Ages, the foreign trade was mainly organised over Bergen. Trading ships from Bergen, perhaps loaded with quernstones and other commodities, may at times have transported bakestones to Sweden and Denmark. Nevertheless, the bakestones do not seem to have gained any importance in either Swedish or Danish households, and there are no indications of a routinised trade. It is also possible that bakestones were brought there partly by merchants and other travellers as personal belongings.

Technology, habitual practices and traditions were of importance in food processing. Food is an important component in the construction of group identity, and incorporating special dishes helps to confirm this identity. Consequently, changing food customs and implementing new dishes and new ways of preparing food within a culture involve a certain resistance, especially in cultures without a written language, that is, without cookbooks (Bergström 2007, 173). Outside Norway, bread was normally baked in different ways without the use of bakestones.

Different ways of baking bread

Bakeplates and frying pans of different materials, such as pottery and iron, were also common (Olaus Magnus, 595; Campbell 1951, 11, 16-17; Granlund 1956, 307-308). In medieval Germany, bread was also made on spits, as stick bread baked over the hearth (Bergström 2007, 139); this may have been a custom in Norway as well. Bread was also boiled in water, and bread baked in ashes is known from both medieval Sweden and Northern Norway. Finally, bread was also baked in ovens (Granlund 1956, 309; Bergström 2007, 129-139, 155-162). In Denmark, baking ovens have been used since the Roman period (Granlund 1956, 308), and a more extensive use of rye compared to Norway and Sweden produced a somewhat different type of bread. Danish food customs and kitchens to a large degree resembled continental traditions. Baking ovens are, however, known from written sources to have existed in Norway from the 13th century (Grøn 1927, 50-51).

Swedish ethnologist Åke Campbell examined bread culture in Scandinavia in relation to the Eddic poem *Rígstula*, where the social classes in the Viking Age were defined according to the type of bread they ate. The farmer's bread is described as a flatbread, possibly baked on bakeplates of iron or stone, while the thrall's bread was baked in ashes and the earl's bread was made of wheat and baked on frying pans of iron with shafts (Campbell 1951; Granlund 1956, 307). Naturally, economic differences lead to different food traditions. Wheat was a luxury product and was not part of the daily diet for most people (Grøn 1927, 40). It was, however, not only economy and access that influenced people's food customs, but also what was considered socially acceptable.

Within Scandinavian towns, baking of fermented bread in public baking ovens became more common from the 14th century, and bread seems to have been made for sale (Grøn 1927, 51-52; Granlund 1956, 309). King Håkon Magnusson's special law of 1302 decreed that the price of bread (ON. *brauð*) was double the price of a hunk of bread made of rye (ON. *rughleifr*) (NGL III, 13). At the same time, an increasing number of bakestones appears within the Norwegian towns, indicating the existence of different bread traditions; most bread was in all likelihood baked within the household (Helle 1982, 431). As a consequence, *lefse* and flatbread belonged to the everyday life of most people, while bread baked in ovens was twice as expensive and enjoyed mostly by the upper echelons of society.

Soapstone vessels as cooking utensils

Soapstone outcrops are only found in parts of Scandinavia, mainly in Norway, but also in southwestern parts of Sweden (Risbøl 1994, 121). At the transition to the Viking Age, c. 800, an increasing Norwegian production of soapstone vessels is identified that continues throughout the Viking Age and into the Middle Ages.

The three main vessel types from the Viking Age are bowl-shaped vessels, trough-shaped vessels and vessels with handles. The first type is by far the most common. Typical for the bowl-shaped vessels of the Viking period is an iron handle attached with a cramp iron on either side of the vessel (Petersen 1951, 352, 357; Skjølsvold 1961, 15-17, 20-21). This handle was used to suspend the vessels over the hearth.

From the 12th century onwards, a change in vessels types occurs. The bowl-shaped types are still the most common; additionally, a vessel type with straight walls with a marked bend towards the bottom dominates. The iron handle from the Viking Ages is largely replaced with smaller shafts carved in soapstone. From the 13th century, the vessels are generally smaller compared to the Viking Age types (Vangstad 2003), indicating a change in the use of the vessels from the Viking period and into the Middle Ages (Fig. 3).



Figure 3. Medieval soapstone vessel from Bryggen in Bergen (BRM0/43549) (Photo: Gitte Hansen)

Soapstone has good heating qualities, and the stone can stand repeated heating and cooling without fracturing (Øye 2009, 228; Baug 2011, 313). But what was cooked in the vessels? Baking bread is not the easiest way of preparing a vegetable diet; making porridge is far easier (Bergstrøm 2007, 178). The Old Norse term *grjót* means stone, and is especially connected with soapstone. The Norwegian terms *graut* (porridge) and *gryte* (vessel) both derive from this word, and as an important part of the diet, porridge was most likely cooked in the vessels. Porridge was made of flour or grain and liquid – water, milk or whey (Grøn 1927, 63; 1942, 30). Vessels with soot on the exterior indicate their use as cooking vessels. Chemical analyses of the content in vessels from Hedeby show carbonised food remains containing carbohydrate (Augdahl 1979, 168-169). In Northern Norway, soapstone vessels are found in somewhat large quantities. Analyses have been conducted of the content of vessel shards from Harstad that date to AD 1025-1220. The analyses indicated remains of glue from elk sinew mixed with tare, to a large degree consisting of proteins. The fat is most likely animal, probably tallow from cattle (Reiersen 1999, 46, 74).

At the chieftdom Borg in Lofoten, analyses have been conducted of the contents of six vessel fragments from the period 1000-1300 (Brodshaug 2005, 115-116). The analyses indicate large differences between the samples, but all contained several different ingredients. Remains of vegetable protein, most likely barley, oak and peas are found on five of the shards (Brodshaug 2005, appendix D). The analyses also indicate the presence of innards of meat from ruminating animals and others, perhaps swine, as well as vegetables, fish and acidified milk products. It is possible that meat and fish were cooked together, possibly in some kind of soup with a varied mix of ingredients, but the mix could also be explained by poor cleaning of the vessels (Brodshaug 2005, 109). Remains of possible grain products are established; however, none of the analyses indicate the cooking of porridge. How representative the analyses from Northern Norway are compared to the rest of Scandinavia is not known as equivalent analyses from other regions are lacking.

Research indicates that meat was most commonly consumed among the upper strata of society, while fish was common among all levels of society. Most food was boiled (Grøn 1927, 153). Bread was almost the only dish that was baked. The water in which meat and fish was cooked was used in soups and is called *sodd* or *suvl*; ingredients such as flour, groats, beans and peas would also have been added. In the Viking Age, cultivation was mainly limited to grain, onion and beans whereas, in the Middle Ages, vegetables such as garden angelica, cabbage, turnips and peas were also included (Grøn 1927, 154-155; Øye 2002, 319, 406). Analyses from medieval latrines and household garbage indicate that people had a varied diet based on meat, fish, grain, vegetables and fruit (Kristiansen 2009; Skaarup 2009, 220). Thus, the analyses of the soapstone vessels in Northern Norway largely concur with what was considered a normal diet in the Middle Ages.

Spatial and chronological distribution of soapstone vessels

The large-scale production and use of soapstone vessels in Norway seem to have increased throughout the Viking Age and into the Middle Ages. The use of soapstone vessels are documented in both rural and urban contexts, and they occur in settlements and burials (cf. Randers 1982; Kaland 1987; Risbøl 1994, 133; Vangstad 2003; Øye 2009, 231; Baug 2011). In comparison, few vessels are known of from settlements in Sweden. A lack of investigations

of settlements is suggested as an explanation; however, soapstone vessels only rarely occur in the graves as well as the settlements (Risbøl 1994, 126, 130). Archaeological investigations thus indicate that the use of soapstone vessels in Sweden was limited to certain areas.

Shortly after AD 800, soapstone vessels from Norway were exported to Denmark, where they are mostly found within all areas with a permanent Scandinavian settlement (Risbøl 1994:122; Sindbæk 2005, 137). Vessel fragments are often found in settlements, normally in deposits interpreted as household debris (Roesdahl 1980, 99; Risbøl 1994, 134; Sindbæk 2005, 138). Even though the vessels are found all over Denmark, a regional tendency is indicated. The amount of vessels diminishes southwards; the main area for soapstone seems to be in northern and eastern parts of Jylland (Jensen 1990, 126; Risbøl 1994, 127; Sindbæk 2005, 139, 161). This is the same area where quernstones from Hyllestad dominated, approximately 200 years after the export of soapstone vessels started. In other words, this is an area with relatively close contacts with Norway through centuries. This may to a certain degree have influenced the choice and use of product types in food processing. The use of soapstone vessels was dependent on cultural traditions and customs. Archaeological investigations indicate a decrease in the pottery in Denmark during the Viking Age, a situation which seems to concur with the import of soapstone vessels from Norway.

The Viking Age towns of Hedeby and Dorestad seem to mark the southern line with regard to commodity exports from the Nordic countries (Steuer 1987, 187). In Hedeby, more than 3000 soapstone vessels have been found (Resi 1979, 17). Hedeby is also the southernmost location for the distribution of quernstones from Hyllestad (Baug 2013, 231-232, 235). At the transition to the Middle Ages, the export and use of soapstone vessels in Denmark cease, and from the 11th to the 12th centuries soapstone disappears from the Danish area (Sindbæk 2005, 137). The situation has been explained as a result of the introduction of a new pottery technology in the 12th and 13th centuries. Immigrating monks to Denmark introduced turntables and potters' ovens that made pottery production more efficient (Risbøl 1999, 123). After a while, pottery seems to have fully replaced the soapstone vessels.

Soapstone versus pottery

Both in the Viking Age and the Middle Ages, cooking vessels of other materials have been used alongside soapstone vessels, such as pottery, wood and metal – either bronze or iron pots (Petersen 1951; Øye 2009, 228). The relationship between cooking vessels of pottery and soapstone has long been discussed. In Europe, pottery was the most common tool used when preparing, storing and serving food. However, pottery was not common within Viking Age Norway, and pottery is extremely scarce at archaeological excavations of Viking-Age settlements (Petersen 1951, 380-384). So far, pottery production in this period is only documented in the county of Rogaland (Molaug 1982, 202; Pilø 2011, 281); pottery was, in effect, not manufactured in Norway between 600 and 1600. In Norway, soapstone vessels largely fulfilled the functions pottery had elsewhere in Europe. Thus, study of the use of pottery may shed light on questions related to traditions and innovations in food processing (Øye 2009, 225).

I will look closer into the situation in the Viking Age town of Kaupang in the county of Vestfold. Kaupang was established in approximately AD 800, and thus immediately before the start of large-scale distribution of vessels to Denmark. There are reasons to believe that

Kaupang was established by the Danish king; the first inhabitants of Kaupang most likely came from areas with no tradition of using soapstone (Skre 2006, 461; Baug 2011, 332). Kaupang is the only Viking Age settlement in Norway where pottery is found in large quantities and, in the first settlement phase of Kaupang, pottery was used in food processing (Pilø 2011, 332). Soapstone vessels become a common artefact approximately 10 years later. Nevertheless, vessels of soapstone never fully managed to compete with pottery vessels at Kaupang (Baug 2011, 332). For the foreign traders, it seems to have been important to use cooking utensils from their own culture, perhaps in order to stress identity and cultural affiliations.

In medieval Europe, pottery generally makes up one of the largest urban find categories, Norway being no exception (Molaug 1982, 201). Because of the relatively good chronological contexts of the material found at Bryggen in Bergen, it has been possible to investigate developments in the use of soapstone. In the Middle Ages, Bergen was an arena for international trade where people met from different traditions and food cultures. Despite the good qualities of soapstone vessels compared with those of pottery, a possible decline in the use of soapstone vessels within urban contexts is indicated in the period from the 12th to the 13th century. This indicates further that technology is not only a functional aspect, but is also culturally dependent (Øye 2009, 230). The import of pottery cooking vessels, mugs and tableware increases and gradually replaces the more coarsely made cooking vessels of soapstone (Christophersen 1999, 144; Øye 2009, 229). During the 13th century, vessels of soapstone became smaller, perhaps as a result of imitations in the form of continental ceramic cooking pots introduced by foreign traders. The finds indicate that a gradual internationalisation took place within urban contexts, and perhaps also a certain distance grew between the town and its rural surroundings regarding life and conventions (Christophersen 1999, 144). Medieval pottery is rarely found at excavations within rural areas in Norway (Molaug 1982, 201). Here, other utensils dominated, primarily made of soapstone.

Altogether, the finds from medieval Bergen and Viking Age Kaupang indicate that people with different backgrounds and traditions influenced the use of both soapstone vessels and bakestones. Material culture is a communicative medium where one can express, and make visible, belonging and contrasts (Christophersen 1999, 124). Perhaps it was important for the foreign traders to stress differences in habits and culture, which may have made it important to use cooking vessels that were common within their own home countries. The need to stress belonging, and distance to ‘the others’, is often greatest where the contact is most extensive, such as in Bergen and Kaupang.

Regional differences and changes through time – concluding remarks

It may be difficult, based on the archaeological material, to provide a clear picture of regional differences and changes in food traditions and the use of cooking utensils; however, temporal and regional patterns can be suggested. Generally, the amount of finds tends to diminish the further away they are from the production areas. While all the artefacts presented here are relatively numerous in Norway, the number decreases eastwards, westwards and southwards, and also to a certain degree northwards. The distribution and use of Norwegian quernstones, soapstone vessels and, to some extent, bakestones over large parts of Scandinavia should be seen in relation to contact networks and exchange from approximately 800 onwards.

The distribution pattern shows a large degree of concurrence, and the eastern limit of the distribution seems to coincide with the border between the Danish and Swedish kingdoms in the Middle Ages. Perhaps these two kingdoms acted as separate trading regions with different contact networks, as has been suggested by the archaeologist Peter Carelli and the geologist Peter Kresten (Carelli & Kresten 1997, 126; Baug 2013, 309-313). This could possibly explain the absence of quernstones from Hyllestad and the marginal export of soapstone vessels to large parts of Sweden. The distribution indicates organised and routinised trade with long-lasting trading networks. Soapstone vessels and quernstones from Hyllestad dominated within the same areas in Scandinavia, albeit at different times. Soapstone vessels from Norway are found in South Scandinavia shortly after 800, and the distribution ends in the 11th century. This is at about the same time as the export of quernstones from Hyllestad begins, c. 950. The use of these quernstones in South Scandinavia continues throughout the Viking Age and the Middle Ages. The distribution indicates long-lasting and stable contact zones and trading networks, although with changing types of commodities.

The distribution of bakestones indicates a much more limited area of use compared to that of soapstone vessels and quernstones; such artefacts are found mainly within the West Norwegian cultural sphere, also including the eastern parts of Norway. Outside these core areas for bakestones, the products are found mainly within settlements and towns with contacts with Bergen, and the amount seems to decrease the further south and northeast of Bergen one travels. The limited distribution and use of bakestones is most likely to be related to different food habits. Food processing represents conservative cultural aspects in which traditions, possibilities, but also choices and social roles are important (Øye 2009, 225). These are aspects that may have made it difficult for the bakestones to achieve importance outside the Norwegian cultural sphere. Alternative ways and habits for preparing and baking bread seem to have limited the market for the Norwegian bakestones.

Bakestones and soapstone vessels were used for baking and cooking different dishes. It is, however, a challenge that analyses of food remains on the artefacts have only been rarely conducted. This makes it difficult to gain a holistic picture of the way the artefacts were used, and the regional differences and temporal changes in food habits. Food was not only food, and the tools used in food processing were not only tools. Both the food and the tools used symbolise social and cultural ties (Øye 2002, 405). Not only regional differences, but also social distinctions affect food habits and the way of preparing food.

Trade contacts influenced the distribution of technology, developments in food processing and the use of tools. Tradespeople and other travellers brought with them new habits and food cultures. However, innovations did not lead to a sudden disappearance of traditional utensils used in the preparation of food. Instead, a coexistence of different tools, technologies and food customs are visible over centuries. The need for food and ways of preparing it may be seen as an interaction between traditions, access and influence. None of these aspects is constant but changes through time, albeit slowly.

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