

WHY DID POTTERY PRODUCTION CEASE IN NORWAY DURING THE TRANSITION TO THE LATE IRON AGE?

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ABSTRACT

This article discusses why pottery production in Norway ceases at the transition to the Late Iron Age in Norway. The use of pottery undergoes a range of changes throughout the Iron Age, from simple storage vessels, via various forms of decorated tableware which are a part of a sophisticated table service placed in graves, to simpler forms of storage vessels with stamped decoration, before disappearing altogether. The decline of pottery production coincides with a number of larger societal changes, involving the abandonment of farms, a change in inheritance regulations, and trade contacts with Europe. There is a decrease in the number of grave finds at the same time as there are changes in clothing styles and weapons use. In addition, the use of hillforts intensifies, as does the hoarding of precious metals, and these changes together provide the basis for the theories of societal restructuring due to crisis and rivalry. Hypotheses about the decline in pottery production are discussed in the context of Ian Hodder's theories about the process of change. I discuss whether the changes have socio-cultural reasons and/or can be explained as the outcome of crises such as climate deterioration, failing crops/loss of resource base, disease or war. Another factor is whether the changes can be associated with political instability and, as a final point whether the break in continuity occurs quickly or comes as the result of long-term processes. Overall, it appears that several factors are involved, but that the basis for the large consumption of ceramics falls apart when the old warrior aristocracy is no longer able to maintain their own power base.

INTRODUCTION

Over the course of the Iron Age, pottery production gained momentum in Norway, developing from relatively simple shapes without decoration in the period 500 BC–AD 200¹, to more complex vessels with rich ornamentation during the 3rd and 4th centuries. The craft reached its greatest technical and aesthetic

levels towards the end of the Migration Period in the early 6th century (Fredriksen, Kristoffersen & Zimmermann 2014), after which it disappears rather abruptly. In this article, I will focus on this break in continuity and attempt to outline various explanations for what may have caused this and how it may shed light on other processes taking place during the transition to Merovingian Period. First, a brief description of pottery use throughout

¹ Kjelmøy pottery is not considered in this article.

the Early Iron Age will be presented, after which previous interpretations of the break in pottery production will be discussed, followed by a description of several other social changes taking place at that same time. In conclusion, I will attempt to compile the various explanations and discuss different suggested interpretations against the background of the theories presented.

The subject of the article will revolve around the craft's cessation and research questions that rely partly on older theories but also on Ian Hodder's (2012) more recent thoughts on the process of change. It will be discussed whether the changes have a socio-cultural basis and/or they can be explained as the outcome of periods of stress such as climate deterioration, loss of resource base, disease or war. Another factor is whether the changes can be associated with economic reorganization, political instability or something similar. As a final point, it will be discussed whether the discontinuity occurred quickly or was the result of long term processes.

POTTERY IN IRON AGE GRAVES

Burial deposits currently provide the best basis for studying the development of pottery use in the Iron Age. The use of vessels as burial urns, or crushed as a part of the burial rite characterizes the Pre-Roman Iron Age and Early Roman Period (Fig. 1). A new feature appears in single graves from the Early Roman Period. Assemblages of both ceramic vessels and imported items replace the use of single vessels. This is particularly evident initially in rich inhumation burials with Roman imports (glass, scoops, strainers, bronze cauldrons) in Eastern Norway, but transfers rapidly into individual graves with combinations of ceramic vessels and imported items in Vestfold. Eventually the inclusion of these sets of tableware extends to various forms of cremation burials. The sets

initially consist of import goods (often in pairs), or of imported objects combined with ceramic vessels. In the Late Roman Period (particularly from the 4th century AD) changes continue and with greater impact. By this stage a set of ceramic vessels had become common in the graves, usually two or three, but up to six have been found in the same grave. Import objects never appear uniquely, but in combination with ceramic vessels in a type of hybridization process. The tradition of burial urns did not die out completely, even if the symbolic meaning of the vessels was altered through inclusion in sets. Urns continued to be used in parallel with other pottery/tableware, but to a much lesser extent. The placement of ceramic vessels in burials became gradually less frequent over the course of the Migration Period (already by AD 400 in Østfold), before dying almost completely in the Merovingian Period, when only a few of the graves² are equipped with pottery (Rødsrud 2012).

The transition from individual urns to sets of burial equipment may be associated with two types of vessels: cookware/storage vessels and tableware/drinking cups. As the sets are becoming more common, changes in pottery techniques are also occurring. These changes involve finer tempering and further development of shape (a greater range of vessel types) and surface (polishing), but it is the ornamentation which stands out. During the last half of the 3rd century, pottery production develops towards being an industry, with the period AD 300-500 being somewhat of a Golden Age of pottery production. Results of trace element analyses on 13 vessels from burial contexts in the Oslofjord area (Isaksson 2008) supports the functional subcategories mentioned above (Rødsrud 2010; 2012: 84-90). Both vessel categories are found throughout the Early

2 20 graves according to Gudesen 1980: 69-70, see also Rødsrud 2012, attached database.



Figure 1. A typical collection of Early Iron Age pottery from Rogaland. S1423, S1478, S327, S1850, S2008, S3741 a, S2697 a, S5852. Photo: Terje Tveit. Arkeologisk museum, University of Stavanger.

Iron Age, but it is the finely polished tableware that dominates the Late Roman/Migration Period. In the 6th century, the production of the finer vessels slowly declines, and these disappear completely from the material culture by the Migration/Merovingian Period transition (Rødsrud 2012). Despite the disappearance of tableware, some examples of coarser, stamp decorated pottery are known from very early Merovingian Period graves (Gudesen 1980: 69-70; Rødsrud 2012: 194) (Fig. 2). A decline is also seen in Denmark and Sweden, but here it is largely an issue of the reorganization of production, where the polished, sand-tempered tableware is replaced by simpler, granite-tempered storage vessels (Brøndsted 1960: 290; Brorsson 2002: 113).



Figure 2. Stamp decorated vessel from the Merovingian Period. C9013 from Nalum, Brunlanes, Vestfold. Photo: Christian L. Rødsrud.

EARLIER INTERPRETATIONS

With the transition to the Late Iron Age, we are facing a clear break in pottery production. Only 19 graves with pottery are known from Eastern Norway, including two with possible "burial sets", dating to the Migration/Merovingian Period transition or Merovingian Period (Rødsrud 2012). The following summarizes earlier attempts at explaining this change:

1. Bøe (1931: 234-237) calls this the end of the pottery craft, and argues that there is no satisfactory explanation for the degeneration and disappearance of pottery. Is it possible that there was a change in the symbolism associated with burial? One interpretation, mentioned briefly by several authors (Bøe 1931; Solberg 2000; Nordby 2012), is that vessels made of soapstone and organic materials take over.
2. A general approach to the interpretation would involve comparing the disappearance of pottery with the main social trends in Scandinavia. There is a pattern to ritual investments throughout the Iron Age. The creation of new elites in the Roman Period and Migration Period was manifested most notably through large burial mounds or high status burial items (especially of foreign origin) as a demonstration of power (Myhre 1987; Kristoffersen 2000). In her study of the consolidation phases within the Iron Age in southern Scandinavia, Lotte Hedeager (1992: 207) finds that after many years in the burial arena, ritual symbolism seems to be transferred to other theaters such as public, ceremonial places. The changing of ritual arenas may have been intended to emphasize the divine nature of elite families and their function as a link between humans and gods. With the change of arenas, pottery production may have become too excessive and
3. Terje Østigård (2007) has treated this theme indirectly through his work on the "Transformer" in the Iron Age. His starting point is that the blacksmith, as a "master of fire", had a primary role in cremation burial rituals, in addition to metal production. He argues that the smith was a "jack of all trades" and not least a liminal character with both creative and destructive powers and a leading social position. This coincides with the role of cremator, responsible for the realm of death and the transformation to a new life (Østigård 2007: 40-44). Such a role may explain the uniformity in graves from 500 BC–AD 100 where cremations are standard, and the use of urns dominates. Over the course of the Iron Age, the responsibilities of the Transformer slowly narrow before seemingly disappearing completely in the Late Iron Age. Both in cremation patches and in graves, the bones are buried on the site of the cremation and this may indicate that family members take responsibility for parts of the cremation ritual, perhaps under the guidance of the Transformer. As one nears AD 500, these burial forms intensified while the role of the Transformer became more marginalized. By the transition to the Late Iron Age, this process of change appears to be complete (Østigård 2007: 44-46, 81-83, 109, 169). Østigård (2007:115-116, 135) suggests that the meeting of the earlier pagan, animistic religion

in turn unnecessary to maintain. From this it can be deduced that the social structures associated with elite hospitality, which are established and renegotiated throughout the Roman/Migration Period, are no longer an arena of social rivalry towards the end of the Migration period. Once these social structures were consolidated and became an integrated part of society, it was not necessary to use metaphors for elite hospitality in burials (Rødsrud 2012: 187-191).

and Christianity is at the heart of this change. The use of vessels in burials may therefore have become taboo to the point that they were no longer used in that context.

4. Another factor which may explain the transition is the "popularisation" of vessels (the "turnstile effect" in Appadurai 1986: 56). If ceramic pottery is kitsch, it loses its value, and alternatives will be sought (such as vessels of iron, soapstone and organic materials), or perhaps given an entirely new material expression. Pierre Bourdieu's (2002 [1979]) research into distinctions provides the basis for an indirect explanation. The burial vessels have become representations of an idealized death, which reflects the lifestyle pursued (Rødsrud 2012). When the custom dies out towards the end of the Migration Period, this can be interpreted as a result of the elite seeking new ways of distinguishing themselves in death, a response to a wider range of people (although not slaves or laborers) using elite symbolism (Dietler 2001: 86).

CONTEMPORARY SOCIAL CHANGES AT THE TRANSITION TO THE MEROVINGIAN PERIOD

The history of research on the Merovingian Period has provided plenty of fodder for theories of change based on crises, restructuring or strife/conflict. The transition between the Early and Late Iron Ages marks not only a rift in Scandinavia but across most of the European continent (Randsborg 1991). Whether due to internal dynamics or external influences, there are many aspects of change. Several factors may have affected pottery production, while at the same time the decline in pottery production can provide insight into other, contemporary changes.

It is not just the use of pottery that changes in burial rituals. In general, the number of grave goods decreases, and a simplification of burial equipment

can be seen during the transition to the Merovingian Period (Shetelig 1925; Stenberger 1933; Gudesen 1980; Solberg 2000:186-197). There is also a clear change in the use of personal items of adornment, as clasp brooches, relief brooches and cruciform brooches (Solberg 2000: 192-195; Rostad 2015: 99-170, 348-349) disappear from the graves. Yet it must be stressed that, unlike pottery, female decorative items do not completely disappear from the record, with new types of jewelry, and likely a new dress style, appearing. The ornamentation on burial items also changes from the Scandinavian Style I to the more continental and insular inspired Style II (Solberg 2000: 192-195). The combinations of weapons burials also change, the axe becoming a permanent feature in the grave material. The change in weapons coincides with the fall in the use of hillforts and this has been associated with the rise of guerrilla warfare and the development of new fighting techniques (Ystgaard 2014).

It is not only the burial inventory which gives voice to troubled times. A significant upsurge in the deposition of gold hoards coincides with the changes in the burial deposits (Bøe 1923; Stenberger 1979: 493 Axboe 1999) and a number of farms and fields of arable land are abandoned (Welinder 1975; Rønneseth 1981; Pedersen 1999: 50; Widgren 2012). This abandonment can be seen in connection with the restructuring of agriculture and changes in property rights in which land was gradually united into larger estates (Skre 1998; Iversen 1999; Myhre 2002: 191; Ljungkvist 2006; but see also Hamerow 2002 for European examples). It appears that smaller farms were abandoned and large estates established by an elite on the best available ground in the vicinity of power centres, characterized by, among other things, monumental burial mounds (Myhre 1987; 2002). The transition in building techniques from supporting posts dug into the underground to cross-timbered structures may also explain the decreasing number

of settlement traces in the Late Iron Age, contra the Early (Weber 2003).

Changes in inheritance laws/rights are much discussed in connection with the restructuring. Based on the Odal rights in medieval legislation, it is likely that property rights can be inherited (Zachrisson 1994; 2011; Iversen 2013), but in Nørre Snede, Jutland there is evidence which suggests that land rights are controlled by a central authority (Holst 2010). Perhaps the transition to primogeniture (only the eldest heir receives the inheritance) and subsequently split inheritance (property is divided amongst several heirs) does not begin prior to the amalgamation of smaller farms into larger estates in the Late Iron Age. As a complement to the changes in social organization, a modification in the runic alphabet (syncope) at the transition to the Merovingian Period should also be noted (Voyles 1992; Nielsen 2009). One final process of change stands out as a positive development. Iron production finds a new technological form and organization in the 7th century, when several new sites are put to use (Larsen 2009: 70–97).

Although changes can be followed at the local level, there is reason to believe that external factors have influenced the developments. The collapse of both the Roman Empire, on the continent, and the Sasanian Empire, in the Middle East, would have consequences for trade relations and networks previously maintained through imperial control over vast lands (Ystgaard 2014; Buntgen et al. 2016) and, in addition, the migrations which admittedly started even earlier. Large population movements are described in a number of written sources and many of them deal with groups of people moving into and out of Scandinavia, but ethnic groups also moved from the Arabian Peninsula and the Asian steppes into Europe (Hedeager & Tvarnø 2001: 138–191, 267–281; McCormick et al. 2012). Developments on the continent, as well as the rise

of Christianity must likewise have caused great social turmoil, failing/irregular trade networks and breaks in alliances and/or federations, especially after the fall of the Roman Empire (Hedeager & Tvarnø 2001: 192–231; Wiker 2004; Ruhmann & Brieske 2015).

In earlier literature, the Merovingian Period is described as a period of decline that is readily explainable by population decrease due to pestilence, crisis, crop failure and/or a restructuring of trade routes from the continent (Shetelig 1925; Gjessing 1934; Gräslund 1973). In such interpretations, myths surrounding *Fimbulwinter* and *Ragnarök* were associated with real events and collective memory related to hunger and collapse. In recent years, these have become theories involving the impact of natural disasters, and several authors have suggested that a known climatic crisis, the AD 536 dust veil event, could have given rise to changes of greater magnitude (Axboe 1999; Gräslund 2007; Lowenborg 2010; Gräslund & Price 2012; Arrhenius 2013; Tvauri 2014; Sigl et al. 2015; Buntgen et al. 2016). Later data from volcanic eruptions in other parts of the world in AD 540 and AD 547 have reinforced the situation on a global level (Buntgen et al. 2016). The Justinian Plague, in combination with excessive land use (Welinder 1975), may have compounded the situation (Gräslund 1973; Iversen 2013).

WHAT CAUSES CHANGE WHEN SOCIAL BONDS ARE STRONG?

From scarce occurrences in the early Pre-Roman Iron Age, pottery production becomes increasingly intertwined in society and this creates a dependent relationship (Hodder 2012). A sophisticated symbolic language gradually developed as the potters widened their selection of shape, style and decoration. When the craft is at its most developed in Norway, the dependent relationships were many and ceramics played an important role in domestic production,

in food processing, as tableware in drinking rituals and not least in death and burial rites. Pottery use ceases rather abruptly after this.

Changes in the use of ceramics also seems to coincide with changes in farm structure, as discussed above, and part of the explanation is likely to be found in a new, or altered, social structure. A key to understanding this most probably lies hidden in the social interplay within the walls of longhouses in the 5th century, although no one has been able to fully explain it. Obviously, it appears that demand for pottery changes in the 6th century, and disappears completely during the early Merovingian Period. Some of the finest examples of the craft belong to the late Migration Period, and have clear parallels to the fine metal working associated with Style I (Fredriksen et al. 2014), but the craft then disappears/ degenerates at the same time as the structure and layout of farms seems to be changing.

The change, as mentioned above, is obvious when it comes to burial contexts, but also seems to apply to settlement contexts. In a new study of houses from the Late Iron Age, it is seen that only 6 of 65 possible dwellings contained pottery (Eriksen 2015 catalog). Three of these six contexts have datings stretching back to the Migration Period (Aure IV, Gausel 8F and Rossaland E). In the last three, the find contexts of the pottery are not secure, and it cannot be stated with certainty that the fragments do not belong to an older phase (Garder I, Gausel 11 and Evje). In Sweden and Denmark, pottery production continues in this period, but in the form of simpler storage vessels with a different quality and shape than previously. The transition in these areas thus also represents a break, even though pottery production continues (Brorsson 2002).

This leads to a broader question: What is the catalyst that makes it possible to dissolve societal structures? Ian Hodder (2012: 159-165), in his book *Entangled*, attempted to outline the types of

events that can alter the course of a society, despite its strong bonds:

- Climate catastrophes
- Collapse of resource base
- Disease
- War
- Ideological, social or political instability
- Slow, long term changes that erupt during periods of instability

The AD 536 climate disaster and the subsequent collapse of the resource base can of course have triggered change. If grazing resources and agricultural yields were stressed to begin with (Welinder 1975; Herschend 2009), such a crisis would have worsened the situation to the point where the weakest and most vulnerable in society fell below the subsistence level (Buntgen et al. 2016). However, that can hardly be a satisfactory explanation for the complete loss of all potters and knowledge of pottery production. Such a disaster may have helped to change the supply and demand over time, if it led to poor harvests and demographic crisis (population decline) as Bo Gräslund and Neil Price (Gräslund & Price 2012) have claimed. This could have ripped the bottom out of the market, but does not answer why the craft disappeared so abruptly in Norway, while continuing in another form in Sweden and Denmark. It is difficult, therefore, to see a climate disaster as the single causal factor. Both crops and livestock populations can, of course, have been affected, but research on adaptation to disaster (resilience) shows that the vulnerability of a society tends to be scattered on several fronts. While some areas are left with social disaster, abandonment and degraded resource bases, other areas/regions may gain momentum and are characterized by development and adaptation (Widgren 2012: 129, 131-133).

The question of disease as a causal factor should be considered in the same way as the climate catastrophe theory. The Justinian Plague (*Yersinia pestis*) that ravaged Europe in the 540s and after (Gräslund 1973; Solberg 2000: 201-202; Wagner et al. 2014) may have contributed, but hardly caused the cessation of pottery production by itself. The plague bacillus has been identified via DNA analyses performed on skeletal material as far north as Bavaria, Germany and Vienne, France and outbreaks are documented in historical sources from Marseilles, France (Drancourt et al. 2007; Little 2007; Rosen 2007; Wagner et al. 2014). The mortality rate in Northern Europe is unknown and there is so far no historical or archeological evidence that the plague reached Norway or Scandinavia, but mass mortality in southern Europe could have caused a break in trade and communication routes with the continent which in turn would have led to a shortage of resources and thus instability for the craftsmen. This probably would have affected the petty kingdoms and merchants of Scandinavia.

The next candidates are war and instability. Ingrid Ystgaard (2003; 2014) has convincingly explained how the upswing in the use of hillforts and a change in the weapon burial set, with axes coming to be included, coincides with the breaking of lines of communication with the Roman Empire in the 500's, and the introduction of guerrilla warfare. The weapons and equipment used until the 6th century were a Germanic adaptation of Roman legionary equipment, and were used for large-scale warfare against external enemies. Ystgaard believes that the axes, which begin to appear in the weapons sets after AD 500, are a Germanic addition, and mark the transition from large battles against external enemies, to small-scale warfare.

The appearance of axes and the use of hillforts are linked, as warfare begins to be focused on internal/local competition for resources. By the time

conditions stabilized, around AD 600, many of the smaller chieftains had succumbed, with only a few remaining. This led to a new concentration of power, which may have formed the basis for a reorganization of land and perhaps a completely different need for pottery. Frands Herschend's (2009) interpretations of the restructuring of settlement on Öland, and my earlier description of the use of burial pottery in eastern Norway, together form an important base for interpreting the phenomenon (Rødsrud 2012).

Herschend (2009: 287-298) argues that a population surplus at Öland³ towards the end of the Early Iron Age occurs as the result of the Roman Period practice of raising sons to be warriors. In a situation where the profits of war decrease or disappear, and larger armies can no longer be maintained, a strain on the available resources arises, and this can provoke a crisis. It is in such a situation that a small elite appears able to collect power and property in fewer hands. If this is combined with Per Ditlef Fredriksen's (2006: 133-135) view that vessels in graves should be seen as representations of the individual's life experience and an interpretation of the vessels as representations of feasting/gatherings in halls, and thus the ability to maintain military forces (Rødsrud 2012), the fall in pottery production appears somewhat more understandable.

If a large part of the basis for ceramics production is to be found in the aristocracy and their need for ritual symbols, the importance of metaphors for the hall and feasting in burials (Rødsrud 2012: 187-191) decreases as the elite class is reduced in size and turn their focus to new symbols. This would then contribute to a decrease in the demand for pottery. In general, it seems that pottery has an important domestic function in the first part of the Early Iron Age, while towards the end of the period of production it appears as if bucket-shaped vessels in

3 Similar circumstances can also be seen during the reign of Charles XII of Sweden.

particular were manufactured for the express purpose of inclusion in burials (Fredriksen & Kristoffersen 2014). The demise of pottery production in Norway corresponds to a change in Sweden and Denmark, where the fine tableware disappears, but simpler storage vessels continue to be produced. The similarity is that the fine tableware, which in a burial context can be associated with prestige items such as glass, ladles/sieves and bronze cauldrons, disappears with the old elite (Rødsrud 2012), while simpler, functional pottery continues in some areas, and is probably replaced by vessels made of organic materials and soapstone in others.

In my opinion, there is also a change in which drinking vessels cease to be used in burial contexts, but are rather given a public ritual significance, as votive deposits and in religious ceremonies. Even though pottery production ceases, there are high status finds, for example imported glass from building contexts dating to the second half of the Migration Period in Uppåkra, Scania, in Sweden (Larsson & Lenntorp 2004), in Lille Børke, Ringsaker, Hedmark (Lislerud & Stene 2007), on Helgö in Sweden (Arrhenius 2013) and apparently also in the form of sherds in the as yet unpublished building from early Merovingian Period at Hov, Lillehammer (Resi 2008). Sherds of claw beakers (*snabelbeger*) found at Borre in Vestfold have a somewhat more obscure context (Myhre 2015: 45-57). The cups can be interpreted as ritual objects belonging in a sacred building or part of a hoard deposited in a settlement context. The find from Lille Børke was recovered from a settlement context and is currently interpreted as a hoard, but it cannot be excluded that it also belonged to a cult house or similar.

Hodder's final explanation is long term changes that erupt suddenly during periods of instability. This point is important because there seems to be many parallel events or processes that reach a *crescendo* at the end of the Migration Period. Although many

researchers have focused on crisis as an explanation, Ulf Näsman (1988; 2012) takes a different approach when he suggests that the material changes may be caused by issues of representativeness and believes that an upheaval of social and political structures lays behind it all. Herschend (2009: 288-289) also maintains that the changes must be understood in a long-term perspective, where a complex regional pattern underlies the triggering of an imbalance in the system. The idea is therefore that changes can be traced to social rivalry such as was known in the Roman Period, but that it takes many years before this causes permanent changes, perhaps triggered by crises or crop failure, eventually leading to a loss of ceramics as one of several outcomes. This is also a chain of events paralleled in adaptations to disasters seen in modern-day cultural geographical/anthropological studies (Widgren 2012).

WHAT HAPPENED TO THE CRAFTSMEN?

When demand ceases, it is natural to consider the causes as well as the long term effects on the craftsmen. What was the source of inspiration for the changes in technique and style over time, and why could production not continue?

Fine-tempered, polished pottery was introduced to Norway in the Early Roman Period. In earlier research, this pottery was referred to as "foreign decorated ware" or Jutish ware, but was actually produced locally and only inspired by the craftsmanship of areas in Northern Denmark (Bøe 1931: 24-41; Resi 1986: 51-55; Rødsrud 2012: 48, 208-211). The Black Polished Ware common in the Late Roman/Migration Period (Stout & Hurst 1985; Stout 1986) were in turn inspired from these early forms of tableware, and it was perhaps the specialized potter rather than the pots that were imported.

A further question that arises is how the craftsmen were organized. Was it purely domestic production or was it organized at a higher level? Most studies

Enestående i Norden:

Industrisamfunn fra Jesu tid er blitt avdekket i Torridal

-4. JUL 1975

— Det samlede resultat av de arkeologiske utgravninger i Torridal er, som vi tidligere har skrevet, helt enestående i Norden — man kan for første gang påvise et helt landsby-samfunn som har ernært seg ved kommersiell keramikk-fremstilling. Vi har hittil funnet nærmere 50.000 keramikk-skår, og vi har gravd ut flere hustufter som man må helt ned til Nord-Tyskland for å finne maken til i større mengder. De finnes sporadisk i Sør-Sverige og Danmark. «Industrisamfunnet» i Torridal skriver seg fra Romertiden — funnene er datert til tiden fra Kr. fødsel til år 400 e. Kr., sier konservator Perry Rolvsen fra Universitetets Oldsaksamling til Fædrelandsvennen.

— Østlandet og Sørlandet øst for Lista er et fattig område når det gjelder tydelige

— Vi har også funnet rester etter en 4.000 år gammel boplass like i nærheten — her lå bl.a. en pent forarbeidet spydspiss av flint. En praktnål av forgyllt bronse som i virkeligheten er en bit av et bokbeslag av anglo-saksk opprinnelse, har forvirret oss en smule. Bokbeslaget skriver seg fra år 800 — altså den tidligste vikingetid — og den kan ikke ha noe med de øvrige funn å gjøre. Vi har sikket et matjord-lag på 1,2 m. tykkelse, det går på transportbånd opp i en siktemaskin, og vi vet ikke hvor dypt i matjordlaget dette funnet lå. Det er mulig praktnålen er kommet fra Kristiansand eller et annet sted på kysten, og at den har havnet i jorden sammen med gjødslet. Andre funn tyder på at de har fulgt gjødselkjørrer — bl.a. en mynt fra 1668 (ca. 38 år etter Kristiansands grunnleggning) og

like utenfor husene — i graver som ligger like ved avfallsgropene. Vi har funnet mennesketenner som viser dette, sier konservator Rolvsen.

— Svære klatter med råleire — over en meter i diameter — er blitt lagret i området. Vi har sendt prøver av leiren til keramikere i Oslo som har laget de nydeligste krukker av den. Keramikere slår fast at leiren må være bearbeidet — den er nesten helt ren. Det finnes fortsatt mye fin råleire i grunnen i Torridal sier konservator Rolvsen.

Utgravningene i Torridal ble påbegynt i fjor i forbindelse med omleggingen av riksvei 12. Det ble allerede etter fjorårets undersøkelser i selve veitraseen klart at man stod overfor funn som var enestående i Norden. Og de seneste gravinger har så absolutt bestyrket dette.

Utgravningene i Torridal av-

spor fra folkelivet på denne tid. Det har vært noen gravfunn og fornminnefunn — men utgravningene i Torridal viser en landsby som gir et godt bilde av hverdagslivet den gang. Folket bodde i rektangulære hus — vi har funnet fire tufter etter slike — det største på 20 X 5 m. Videre har vi funnet et grophus på 11 X 8 m og et rund-hus som er 4 m i diameter. Vi vet ikke hva de to siste hustypene ble brukt til — det er mulig det har vært verksteder eller smier. Mellom hustuftene har vi funnet graver, avfallsgroper og ildsteder. Landsbyboerne har livnært seg av bygg fra en åker i nærheten, men de har også spist mye kjøtt — det viser benrester etter gris, sau, ku og smågnagere, sier konservator Rolvsen.

under konservator Perry Rolvsens ledelse, vil nå reise hjem etter å ha gjort en fin jobb.

Og etter noen spredte etterundersøkelser som skal være avsluttet før felleseferien er over — kan så Vest-Agder vegvesen fortsette sine arbeider på riksvei 12. Arkeologene har gravd ut og finsikket til sammen 3 mål jord i løpet av de to siste somrene.

Det kan fastslås at «industrisamfunnet» fra Keiser Augustus' tid dekker et større område enn 3 mål. Man vet at landsbyen fortsetter på begge sider av veien mot nord, men hvem skal finansiere eventuelle utgravninger her?

Dette er nemlig alle norske arkeologers hodepine — de får ikke penger til utgravninger dersom ikke det moderne menneskes inngripen i naturen gjør at



Perry Rolvsen: 50.000 keramikkskår i hustufter fra Romertiden. ved velbygging, kraftutbyg- bekoste arkeologiske undersø-

Figure 3. Newspaper article reporting the excavations at Augland, Kristiansand, Vest-Agder. Fædrelandsvennen, July 4, 1975.

of craft environments are based on material from the Late Iron Age/Medieval Period, but in general the discussion focusses on the scale of production (Christophersen 1980; Hagen 1994; Strand 2011):

- Domestic production – for personal use, requiring only general knowledge of production processes
- Domestic industry – sale of all items that exceed the needs of the household

- Professional craft production – production is source of livelihood, production of surplus, specialist knowledge required

The scale of pottery production may have varied, but it has its origin in the household. In the Pre-Roman Iron Age the style is uniform and unsophisticated (Rødsrud 2012: 47-48, 65-68), which may indicate a simpler technical level. During the Roman Period, however, production escalates, and the production

site at Augland, Kristiansand bears witness to large-scale production/manufacturing (Fig. 3). At Augland, c. 55000 fragments (137 kg) from an estimated 7-8000 vessels, four clay beds, six longhouses, one pit-house, an underground (dug down) house, at least 14 pits which may be remnants of furnaces and 141 pits (graves, fireplaces, cooking pits, charcoal pits, slag pits, waste pits and postholes) that can be linked to pottery production were identified (Rolfen 1980). Evidence for pottery production was found together with iron objects, copper alloy and beads, all of which suggests that several craftsmen were gathered in one place and working on a large scale. It is, however, not possible to state whether or not they lived there year-round. In Sogn, craft traditions are discussed on the basis of manufacturing techniques of bucket-shaped pottery, and it has been concluded that there must have been a center for production of high quality crafts, even though no specific site is known and the size of the production unclear (Kristoffersen & Magnus 2015). Considering the distribution of high quality pieces amongst larger estates which may have been linked in alliance systems, there is reason to believe that specialist production goes beyond the needs of the individual household.

It has been previously noted that in Western Norway the production of handled vessels ends by about AD 500 (Stout 1986: table on page 51), while in Eastern Norway the timing of this is less certain. The black polished vessels, except shoulder-bossed pots (*bulevaser*), generally seem to disappear from graves about the same time as cruciform brooches (Kristoffersen 2000; Kristoffersen & Magnus 2010: 62-64 and figs. 16-19), further linking potters and metalworkers at this time. Similar decorative elements and styles have also been shown on both pottery fragments and fine metalwork, indicating a close relationship between potters and metalworkers. In addition, traces of gold have been found in

bucket-shaped pottery, which may suggest that production took place in the same workshop (Fredriksen et al. 2014). The same authors also propose a possible explanation for ceramics production collapse in the link between metalwork and pottery making, although space does not allow for an in-depth discussion of this. The large number of objects decorated in the Style I found together with pottery stands in stark contrast to the objects in Style II which are alone in this respect. There seems to be a lacuna in the material between Style I and the introduction of Style II (Fredriksen et al. 2014: 16). Pottery in the Merovingian Period can primarily be related to Eastern Norway, and specifically the first part of the period (Gudesen 1980: 69-70). The form gets more rustic, using coarser temper and thicker walls than previously and is ornamented with stamped decoration (Bøe 1931). Stamped decoration is known from bucket-shaped vessels, but otherwise there is little evidence of continuity. It seems rather that one is back at a simpler household level production.

With this as an overall basis, I conclude that it is the specialized craftsmen rather than the production itself that disappear, since pottery is still found in Eastern Norway in the Merovingian Period (Gudesen 1980: 69-70; Rødsrud 2012: 194) and on a larger scale in Sweden and Denmark (Brøndsted 1960: 290; Brorsson 2002: 113). The abrupt fall in the production of tableware must be viewed in the light of lack of demand, which in turn must be seen in conjunction with the many social changes and reorganization that occur at the transition between Early and Late Iron Age. Perhaps there was no longer a market for tableware; mostly because there was no longer any need for ritual symbolism in the graves of the fragmented warrior aristocracy. A demographic crisis in connection with an epidemic or the proverbial dust cloud could have worsened the situation, but the die had already been cast in the 4th and 5th centuries. At Augland, where a group

of artisans were practising several handicrafts in a delimited area, pottery production ceases completely, and the lack of locally produced pottery is not supplemented by imported ware. This stands in contrast to comparable South Scandinavian central sites, such as Gudme/Lundeborg (Grimm & Pesch 2011) and Uppåkra (Hårdh 2002), where both the production and importation of pottery increases after a period of decline. The reason for Augland's decline as production site needs to be investigated through multiple data sets, but it appears that potters were central to the site's existence.

CONCLUSION

I believe that the sum of the social changes described above forms the basis for explaining the decline of pottery production. It seems that several factors were working together and that the outcome varied locally (Widgren 2012), but climate disasters and plague epidemics may still have been precipitating causes. The seed of this lies far back in time, but seems to be connected to the warrior aristocracy no longer being able to maintain its power base in many areas. This in turn caused a change in ritual investments and further a rapid fall in pottery production as the basis for the large consumption of pottery associated with ceremonial use in tombs amongst the elite lapses. Although the vessels were originally items of everyday life, this role seems to disappear in the late Migration Period, when they come to be linked to a greater degree to ceremonial use in burials (Rødsrud 2012; Fredriksen & Kristoffersen 2014). The need for clay vessels seem to end when production ceases in Norway and changes in Sweden and Denmark occur at the end of 6th century.

That the cult moves in and uses vessels of other materials is only one explanation of the whole complex of changes described, and it is clear that society is affected long before pottery production stops. It seems that the potters became redundant

as a result of the reorganization of society that takes place in the 6th century. If one imagines the craft as a limited "tacit" knowledge that was passed on from generation to generation (Arnold 1988; Gosselain 2011), it may make sense that the craft ceases abruptly and degenerates when the craftsmen move or are forced to take up other livelihoods. It has been previously argued that the fine-polished vessels common in the Roman Period have their origins in Jutland. Perhaps highly specialized potters from Jutland were taken to larger estates (e.g. Augland) and produced pottery there. With the fall in demand for pottery, in a time when the old warrior aristocracy was crumbling, it may be that craftsmen became unemployed and were forced to leave once the aristocracy could no longer maintain the old social structure.

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