

1 Viking-age economic transformations

The West-Scandinavian case

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The economic turn

The title of this book reflects the last few years' increased interest in the profound economic transformations of post-Roman northern Europe: the emergence of coinage, markets, towns, and mass production. The many publications within this field of research reveal a diversity of approaches to past economies; some study them within a narrow sphere of economy, while others apply a broad societal approach. Which is the most adequate and productive approach to these complex phenomena? To what extent may we rely on general theories when analysing economic phenomena, and to what extent should the various cultures and societies in question be taken into account? Is 'economy' a field in its own right, or does the singling out of economic actions and relations from other types of human dealings and interactions prevent us from understanding these aspects of human life?

Since the 1970s the societal and cultural approach to past economies has dominated, primarily inspired by the works of Karl Polanyi (1944: 142, 1957, 1963, 1968), Moses Finley (1973), and George Dalton (1975, 1977). Their theoretical strand, substantivism, has been enormously influential in both historical and archaeological research on early medieval northern Europe (Seland this vol.). Substantivism has been contested repeatedly in terms of theory, but, with the exception of some scholars adhering to classic economic theories (formalism) as well as some attempts to employ historical materialism, no coherent alternative has been applied in research on early medieval economic issues (for a comprehensive overview of alternative approaches, see Oka and Kusimba 2008).

In the last few years, however, several scholars in the field of Viking studies have explored theoretical alternatives and applied them in their research, beginning with Ingrid Gustin's *Mellan gåva och marknad* ('Between gift and market', 2004) and Søren Sindbæk's *Ruter og rutinisering* ('Routes and routinising', 2005). In Insular research the edited volumes *The Long Eighth Century: Production, Distribution and Demand* (Hansen and Wickham 2000) and *Markets in Early Medieval Europe* (Pestell and Ulmschneider 2003) have been particularly influential. One may perhaps speak of an economic turn in early medieval studies. Although economic issues had been investigated continuously through

the post-Second World War era – in Viking studies, probably most diligently and creatively treated by Johan Callmer (e.g. 1976, 1982, 1991, 1994, 1995, 2002, 2007) – the four mentioned books and other contemporary and subsequent publications have brought scholars of more diverse backgrounds into the field. In addition, they have connected the discussion of economy more explicitly to other current empirical and theoretical debates.

The new complexity of approaches is evident in Eivind Heldaas Seland's contribution to this book; he employs a number of analytical models and concepts to explain various aspects of trade in pre- and early-state societies. Pursuing a pragmatic and eclectic methodological and theoretical strategy in Seland's vein seems more viable than waiting for a full, coherent theory on premodern economy to be produced (see also Oka and Kusimba 2008). The economic history of humans is of course too diverse for any single theory to cover all variations in time and space. High-quality results emerge when scholars allow their theories and methods to be shaped by the reality of the societies and phenomena under study, adjusting their models as suited for the task at hand (Elster 2007: 447–8). This represents the likeliest path by which we can expect theoretical innovations in economic studies to emerge in the future. (For a related approach within sociology, see Swedberg 2014.)

My own contribution to this development has been to suggest that Polanyi's evolutionary model should be abandoned in favour of a view of past economies as consisting simultaneously of a variety of transaction types and circumstances of production. Correspondingly, Polanyi's idea of the economy as socially embedded should be fused with an understanding that economic considerations are a part of the human disposition. Throughout history, people have acted as simultaneously economic and social agents. Depending on the situation and circumstances, humans might perform one type of agency at the expense of the other. How these human inclinations are played out at specific times and places cannot be deduced from general theories, evolutionary or other, but calls for empirical investigation. I have proposed the term 'post-substantivism' for approaches along these lines (Skre 2008, 2011a, 2015, in prep.).

In this introductory overview of the economic upsurge in Viking-Age western Scandinavia, the main emphasis is on economic agency. Social agency receives less attention here.

Viking-Age economic transformations

In Scandinavia, the Viking Age – in this context c. AD 750–1100 – is a period of transformations. Towns were founded and became numerous, three kingdoms were established, Christianity became the dominant religion, production thrived, and long-distance contacts, peaceful and hostile, brought Scandinavian societies into closer and more regular contact with each other and the rest of Europe. By 1100 the Iron-Age communities, polities, and cultures of Scandinavia had been transformed profoundly and irrevocably.

Few scholars have attempted to grasp the interconnectedness of these transformations; exploring any single transformation is more than enough for most of us. Those who have discussed a combination of them have relied heavily on written evidence; hence they focus on the two transformations that are best testified in the texts: Christianisation and state formation (e.g. Bagge 2010). Consequently, they mainly treat the latter part of the period: the tenth and eleventh centuries. In addition, due to the nature of the written records, these studies are skewed towards a top-down perspective on societal and cultural structures and processes. Although sagas, skaldic poems, law codes, cadastres, and diplomas also contain information on everyday life and commonplace occurrences, they say more about the activities, perspectives, and interests of social elites than about those of other groups. By contrast, the materiality of the archaeological record invites the building of interpretations from the ground up, complementing the top-down perspective of the written record. Thus, by consulting the archaeological record, a new range of transformations can be studied, one connected more closely to the social and economic agency of the broader population. Among the aspects of Viking-Age society brought within closer reach by a combined exploitation of written and archaeological evidence is the economy.

Within the economic sphere, the following transformations are particularly prominent:

- Production of marketable goods: While artisanal *unica* production was previously the norm, in the earliest Viking Age, artisans also began producing series of identical items. In parallel, a rather different type of production, based in domestic raw materials such as iron, soapstone, and whetstone, was taken up or reorganised for trade over long distances. In the late Viking Age such production rose to industrial proportions. In the same period quernstone and reindeer antler production was converted from satisfying local and regional needs to producing commodities for overseas trade.
- Long-distance trade: Trade within Scandinavia and beyond increased significantly in the earliest period and again around the turn of the millennium. Goods from Arab, Frankish, and Anglo-Saxon lands were brought to Scandinavian consumers.
- Urbanisation and markets: Seasonal markets had existed in southern and southeastern Scandinavia since the early first millennium AD; the establishment of seasonal markets continued there throughout the period. In the earliest Viking Age, the first four nascent towns were established. None endured into the post-Viking period; however, numerous new towns were established from the turn of the millennium onwards.
- Monetisation: In the early Viking Age, silver bullion and coins were introduced as means of payment. By the end of the period, the three Scandinavian kingdoms had well-functioning monetary systems.

Why did these transformations happen, how were they connected, and what wider societal and cultural significance did they have? An ample range of

studies is necessary to answer such questions; this book is a step in that direction. The title of the book suggests that the expansion of the market sphere within certain aspects of the Scandinavian economy played a role in Viking-Age transformations. The idea behind the conference (see the Preface), and indeed behind this book, was to foster an economic perspective on Viking-Age Scandinavia – specifically on commodity production and the role of markets. Several important aspects of economic life discussed in various chapters of this book are not dealt with here. Thus, the scope of this book, and certainly of the study of Viking-Age economic transformations, reaches beyond what is discussed in this chapter.

Subsistence, commission, and commodity production

The production of commodities differs from production under the other two types of circumstances of this period: subsistence and commission. While commodities are intended to satisfy the needs of some unknown consumer, subsistence production is intended for consumption by the producer and the household. Production on commission is intended to satisfy the wishes of the person who commissioned the item.

Only a selection of commodities is included in this overview, namely those produced in western Scandinavia (roughly present-day Norway) that features prominently in the archaeological record. There are two reasons for their high numbers and general occurrence: first, they are everyday utensils or ornaments for the populace, and second, they are less prone to decay than are other commodities known to have been produced. For instance, stone and iron products have been found in abundance, while antler and walrus-ivory products have only been preserved under favourable conditions, fur and hide have been documented only in exceptional cases (Wigh 2001: 120–3), and hardly any products such as rope and tar have hitherto been successfully identified.

Thus, the commodities discussed in the following were not necessarily those that had the highest economic and practical significance for producers, traders, and consumers of that period. Rather, given the heterogeneous composition of tradesmen's shiploads in premodern times, they may be seen as gauges, or proxies, for the chronology and geographical scope of trade activities that no doubt have covered a much more diverse range of commodities. Because overseas trade of the commodities in question primarily was directed at southern Scandinavia – that is, medieval Denmark – evidence from that area is involved in the discussion.

Commodity production for local, regional, and intraregional trade

Prior to the Viking period, the only known large-scale commodity production directed at long-distance trade was that of iron in the early Iron Age (c. 400 BC–AD 550; Stenvik 2003; Tveiten and Loftsgarden this vol.). The following

two centuries (c. AD 550–750) saw little or no commodity production for long-distance trade. Artisans and craftsmen in the sixth and seventh centuries seem to have been producing on commission, while other types of production appear to have been predominantly directed at subsistence, and perhaps local or regional trade.

Artisanal production

Among artisans, serial production of identical items was taken up in the mid-eighth century in southern Scandinavia. Artisans that worked with imported raw materials, *in casu* metal-casters (Pedersen this vol.) and glass-bead makers, were the first to develop serial production. Possibly, the knowledge of this style of production was spread via the Frisian trade networks that brought these raw materials into Scandinavia. While serial products are more likely to have been presented to the consumer as finished products, the precise shapes and ornaments of *unica* items would probably be the result of discussions between the artisan and the person who commissioned them. Thus, the taking up of serial production may indicate that the production process had become more detached from the consumer and that in some transactions the contact between producer and consumer was limited to the act of exchange. As concluded by Pedersen (this vol.), there is good evidence that production on commission was upheld in parallel to serial production. The introduction of serial production added a new aspect to artisanal production and trade.

Several types of artisans bought their raw materials, some from regional, others from long-distance trade networks. Smiths, comb-makers, and shoemakers would obtain iron, antler, and leather locally or from the not-too-distant interior, while non-ferrous metalworkers and glass-bead makers would have to rely on long-distance trade. Remains from non-ferrous metalworking are found in sites where consumers ventured – towns, seasonal markets, and aristocratic manors – indication that products were sold by artisans to consumers, rather than in bulk to traders for resale. This was probably the case for most artisans. Consumers may have arrived to markets and towns from far afield. This is indicated by the substantial distribution of artisanal products to regions many hundreds of kilometres from the nearest production centres, for instance to northern Norway (Eldorhagen 2001) – some 1,200 kilometres from the ninth- to early tenth-century town Kaupang as the crow flies, more than 2,000 kilometres by sea. Although some artisanal products will probably have been produced and sold on smaller sites along the coast, many will have travelled that great distance after being purchased from the artisan in a market or town in the south.

The pattern is rather different in towns established in the late Viking Age. While artisans in the early towns appear to have produced goods for people in a vast circumference, those in the later towns seem to have supplied mainly the town's own inhabitants. Regarding the artisanal production, the towns established in the late Viking Age were 'consumer towns' (Hansen this vol.),

while the early towns were ‘producer towns’. The main reason for this difference is probably that the later towns housed staff that administered royal and ecclesiastical interests in the hinterland, while the early towns had few or no such functions.

Rural production

Turning to rural production, Iron-Age farms were never fully self-sufficient. No single household could extract their own iron, quarry their own whetstones, soapstone vessels, and quernstones, breed their own horses, or produce all the hide and wool they may have needed. To be able to obtain such goods, some production of goods intended for exchange will always have taken place on every farm.

The demand for such necessities may for the most part have been satisfied through local and regional trade. The increase in rural commodity production through the Viking Age made commodities from regions and towns far afield available to most people (see below). However, some types of production were not raised to that level until after the Viking period. This appears to be the case for the dominant output from rural production: foodstuffs.

It has been generally assumed that only to a very low degree were bulky foodstuffs transported over longer distances in Viking-Age Scandinavia, neither for trade nor for other forms of acquisition. This assumption is based on two circumstances. First, settlements are founded where cultivation is possible – most densely in the most fertile regions. This implies that in general, people settled where they could live from the land. This also goes for towns; the near hinterland will have supplied townfolk with food. Second, most foodstuffs have high volume and weight, and therefore demand better means of transport than were available – at least in the early Viking period.

However, long-distance trade in foodstuffs has received little scholarly attention; among the few examples is research on evidence from excavations in the four early Scandinavian towns. In the ninth century, plant remains and animal and fish bones from Kaupang (Vestfold, c. 800–930) did not indicate long-distance trade in stockfish, meat, or cereals. The latter two were probably acquired from the hinterland and fish from the sea close by (Barrett et al. 2007: 303, 308). Similar results have been obtained in Birka (central-eastern Sweden, c. 770–970), as well as Ribe and Hedeby (Jylland, c. 704–850 and 804–1070 respectively; Lepiksaar et al. 1977; Wigh 2001; Enghof 2006; Mikkelsen 2006; Robinson et al. 2006). Still, it remains an open question whether agrarian products with high value and low volume, such as butter, hide, and wool, were produced to be traded over long distances in the early Viking Age.

Although long-distance bulk trade in foodstuffs cannot be verified in the four Viking-Age towns, aristocratic lifestyles and local exchange may have contributed to the development of a market for foodstuffs and to the very idea that food could be produced for trade purposes. A greater volume in the transport and trade in foodstuffs occurred at the very end of the Viking Age,



Figure 1.1 Sites and regions mentioned in the text.

Source: Map by Kjetil Loftsgarden.

when ecclesiastical institutions and royal administrative seats were established in the new towns of that period. An early example of such trade may be the exceptional find in the late tenth-century Viking fortress Fyrkat in Jylland of large quantities of pure rye, possibly originating from the Baltic-Slavic lands (Helbæk 1977).

Commodity production for long-distance trade

Viking-Age rural commodity production for long-distance trade was based on mineral, botanical, and zoological resources of the woodlands and alpine regions. The large volume of these types of production as well as the distribution of the products indicate that the production was directed mainly at long-distance trade. Nevertheless, local and regional consumers also had access to these products.

The introduction of mass production and long-distance distribution took place at different times for the various types of commodities. The evidence for mapping these variations stems from production sites and from the remains of commodities in the archaeological record. Numerous excavations and detailed analyses have produced evidence that allows more precise assessment of chronology, production volumes, and patterns of distribution than was possible only 25 years ago (e.g. Steuer 1987). Production sites, some of them containing evidence on the chronology, volume, and organisation of the production, are well mapped for iron (Larsen 2004; Rundberget 2012; Tveiten and Loftsgarden this vol.), quernstone (Baug 2013, this vol.), soapstone (Skjølvold 1961; Baug 2011, this vol.), and reindeer hunting (Mikkelsen 1994; Stene and Wangen this vol.).

The precision with which objects can be provenanced varies substantially. On the one hand, the easily identifiable Eidsborg whetstones are known to have originated from within a few square kilometres in upper Telemark (Askvik 2008), and the quernstones made of a certain garnet mica schist have been traced to quarries within an area of approximately 15 square kilometres in Hyllestad by the mouth of the Sognefjord (Baug this vol.). On the other hand, the production of whetstones from the dark fine-grained schist has not hitherto been located more precisely than to the geological formation where this type of rock occurs – the Caledonian belt covering the western Scandinavian coastland southward to Jæren (Askvik 2008: 7–8). Although some progress has been made in developing methods for provenancing iron (Færden 1990b; Buchwald 2005), there is still a long way to go before that material can be securely traced back to reasonably small areas of origin. Better progress has been made in developing methods for provenancing soapstone items (Jansen 2015; Baug this vol.), as well as for identifying the animal species from which the antler in combs and other objects has been taken (ZooMS, Ashby 2009; Holstein et al. 2014; Ashby et al. 2015). Although the latter only point to the general areas where the various species occurred in the Viking Age, it is a great step forward to be able to distinguish between antlers from local red and roe deer used by

Ribe's comb-makers and those from reindeer antler imported from the alpine Scandinavian Peninsula. The application of isotope analysis and aDNA offers hope for further refinement of antler provenancing.

The early period (c. AD 700–950)

Contexts suited for precise dating of early Viking-Age commodities are sparse. The most significant in western and southern Scandinavia are the well-stratified and find-rich urban deposits in Ribe and Kaupang. The finds from Hedeby are also noteworthy due to their wide variety and large quantity; however, the method of excavation employed there has rendered the chronology of find contexts less precise. The high quantity in these towns of commodities associated with long-distance trade adds to their relevance for assessing the chronology and extent of trade in the early Viking Age.

Although indications of transit trade (coming in and going out in bulk quantities) of iron into Frisian trade networks have been found in early ninth-century Kaupang (Skre 2011b: 431–4), soapstone and whetstone transit trade in the early towns appears to have been sparse (Baug 2011: 332; Resi 2011a: 393; Skre 2011b: 419–20). Still, the inhabitants' needs for these products will have created a substantial demand (see below).

Regarding the distribution of commodities in rural areas, finds in settlements and graves are the primary bodies of evidence. However, only in exceptional cases do these contexts supply datings within a timespan of less than a century, a range too imprecise to address some of the research questions discussed here. In addition, objects laid down in graves were selected for that purpose, and do not necessarily reflect the material culture of everyday life. For instance, soapstone vessels were in frequent use in rural areas in the ninth century, but rarely occur in graves before the tenth (Stylegar 2007: 80–1). For these reasons, distribution of commodities in rural areas can be discussed in less chronological detail than their distribution in towns.

The dark, sometimes purple whetstones of fine-grained Caledonian schist appear to be among those early commodities from western Scandinavia that were traded over long distances, although the start date is not securely fixed. The west-Scandinavian origin of this rock is well testified (see above), although Viking-Age quarries have not yet been identified (Mitchell et al. 1984; Askvik 2008: 7–8). The stratigraphic information from Hedeby does not supply precise dates; nevertheless, it seems evident that this type of whetstone is present from the early ninth century (Resi 1990: 44–7). They are present in early ninth-century Ribe deposits, but their possible late eighth-century presence there remains uncertain due to the lack of petrographic analyses (Feveile and Jensen 2006: 140). The rock occurs in the earliest deposits at Kaupang – they date from around AD 800 – and in large quantities through the ninth century; the relation to Eidsborg schist there is 4:1 (N = 1,017:257; Resi 2011a). In Hedeby, the relation is 3:1 (N = 7,374:2,419; Resi 1990: 17). The early date of trade in this type of whetstone as well as their large quantities throughout the

Viking Age merits a fuller investigation of the history of their production, trade, and consumption. From the eleventh century onwards, the fine-grained dark whetstones are far fewer; for instance, in deposits from twelfth-century Bergen the relation is 1:3 (N = 23:74; Hansen this vol.). In eleventh to fourteenth-century deposits from the excavations in Oslogate 6 in Oslo, the dark-schist whetstones are outnumbered by Eidsborg whetstones by 1:12 (N = 28:350; Lønaas 2001: 15–16).

The breakthrough in antler provenancing has shown that in the 780s and 790s comb-makers in Ribe used reindeer antler; the raw material must have come from alpine regions in southwestern Scandinavia. Follow-up analyses of finds from Kaupang and Hedeby, as well as from the towns established in the late Viking Age (see below), will certainly result in additional information on this type of commodity production and trade. At this time, production volumes were moderate, and commodity production for long-distance trade probably represents only a fraction of the yield from reindeer antler production.

Slightly more recent than the earliest long-distance trade in antler and dark-schist whetstone is the introduction of trade in soapstone vessels. This rock can be found in most of western Scandinavia as well as in Bohuslän and Halland on the western coast of present-day Sweden. A small number of vessel shards have been retrieved in Ribe in deposits from the last three to four decades prior to the cessation of the well-stratified deposits there c. 850, simultaneously with the first occurrence of soapstone items in Kaupang. In Hedeby, vessel shards are plentiful, but dates are less precise. Evidently they appear in the ninth century, and thenceforth in large quantities until the end of the Viking Age (Resi 1979; Baug 2011, this vol.). Soapstone items found in rural Denmark follow the same general chronology and occur in similar volumes (Sindbæk 2005: 137–42).

The later period (c. AD 950–1100)

Around the turn of the millennium furnished burials disappear from the archaeological record in western Scandinavia. Moreover, very few rural settlements from the subsequent period have been excavated. Thus, an overview of commodity production and distribution must be based on excavations of production sites and urban deposits. In Scandinavia, a second wave of urbanisation began in the mid-tenth century (see below), and the well-excavated deposits from Oslo, Bergen, and Trondheim in particular supply ample evidence for mapping the urban distribution of the commodities discussed here.

From the mapping and analysis of production sites, it is evident that the production of iron (Tveiten and Loftsgarden this vol.), quernstones (Baug this vol.), and reindeer antler (Mikkelsen 1994; Stene and Wangen this vol.) increased significantly from the mid-tenth through the eleventh century. For the latter two commodities, this increase in production output was accompanied by technological innovations (see below).

As for the early period, the difficulty of reliably provenancing most types of products prevents an assessment of the extent of their distribution. Reliable results have been obtained only for Hyllestad quernstones, which began turning up in the late tenth century in Hedeby and other sites south of Kattegat (Baug this vol.). Soapstone vessels and Scandinavian whetstones continued to occur frequently in Hedeby in this period, but the lack of a precise chronology there prevents an assessment of whether import volumes changed. Reindeer antler constitutes only approximately 0.5 per cent of the antler there (Ulbricht 1978). In Lund, only a slightly higher percentage of the antler – about 2 per cent – is assumed to be from reindeer (Christoffersen 1980).

While well-dated contexts from this period are sparse south of Kattegat, some indications of commodity production may be found in Norwegian towns that were established in the late Viking Age (c. 950–1100). In late tenth- to eleventh-century Trondheim reindeer antler dominated, although Lena Flodin (1989) supplies no figures. In eleventh-century Oslo combs from reindeer antler occur in fairly large numbers (Wiberg 1977, 1987). Bone from reindeer is frequent there as compared to bone from other types of game (Lie 1988). Reindeer antler is found in Bergen from c. 1100 onwards (Hansen this vol.).

Iron objects are numerous in Oslo in the same period (Færden 1990a). Gerd Færden's (1990b) chemical analysis of the iron in nails indicate that in the period 1000–1250 Oslo received iron from a diversity of areas, mainly from the Uplands (inner eastern Norway; Stene and Wangen this vol.), but possibly also western Sweden. Additionally, whetstones of the two types discussed here appear in the eleventh to twelfth-century deposits in Oslo (Lønaas 2001).

Technological innovations

Both the early and late wave of increased commodity production appear to have been accompanied by technological innovations. The production of soapstone vessels began when such vessels first appeared in Kaupang, Ribe, and Hedeby. At that time, the production of soapstone vessels in Scandinavia had been abandoned for five to six centuries (Pilø 1990). Unlike, for instance, quernstone and iron, it appears that the production of soapstone vessel as commodities for long-distance trade was not preceded by an initial phase of production for local supply, but was directed at long-distance trade from the outset.

Somewhat earlier, iron production was reorganised. During the eighth century, a new type of furnace replaced the old slag-pit furnace, and iron extraction started up in more remote areas (Tveiten and Loftsgarden this vol.). Probably, this shift was connected to the taking up of production for long-distance trade. One of the new production areas was the Østerdalen valley in the Uplands, recently intensively surveyed and analysed by Bernt Rundberget (2013). He found that production there was taken up on a modest scale c. 700, then expanded and intensified through the tenth and eleventh centuries, reaching a maximum between 1100 and 1250. In total, some 130,000 tons were

produced there over c. 600 years. Perhaps 10 per cent of that was produced before 1100 (Rundberget 2013: 253–6), with an annual average throughout the Viking Age of approximately 30 tons. Considering that this is one of five to six production regions in the Uplands, the total annual Viking-Age production was far beyond local needs – particularly in light of its location in woodlands and mountains far from the lowlands where population density was greatest (Tveiten and Loftsgarden this vol.: Figure 6.2).

In the late Viking Age, new quarrying techniques were introduced in the Hyllestad quernstone quarries; that is, at the time when long-distance quernstone trade was taken up. While the earlier quarries in Hyllestad were what Baug calls shallow quarries where stones were ‘cut along the cleavage plane’, a technique of deep quarries was introduced around the turn of the millennium. In deep quarries stones are ‘quarried in piles, one under another, leaving tall, carved walls, sometimes with a step-like shape’ (Baug 2013: 58–9, 149–50). This technique was better suited for producing a larger number of quernstones of uniform diameter within a confined quarry area.

Large-scale reindeer trapping systems were introduced in the eleventh to thirteenth centuries; the yield from reindeer hunting consequently multiplied. The former technique of hunting with bow and arrow was complemented by extensive fencing systems designed to trap entire herds of animals, or to lead them into pitfalls (Mikkelsen 1994: 110–11). The fencing system near Tøftom, Dovre, demanded a highly refined organisation of the hunt (Mikkelsen 1994: 104–8), and probably also of the collection of antler after the annual shedding. Furthermore, the new techniques required a higher input of labour as well as arrangements for managing resources and avoiding and resolving conflicts (Stene and Wangen this vol.). Finds of antler in towns increase for the same period (Mikkelsen 1994: 142–72); however, the recently developed methods for secure identification of animal species have not yet been applied to this material.

Urbanisation and seasonal markets

In Viking-Age Scandinavia, towns and markets came into being during two periods. In the first period, c. 700–810, Ribe, Kaupang, and Hedeby were established, as well as seasonal markets like Sebbersund by Limfjord, Löddeköpinge by Øresund, and Heimdalsjordet by Sandefjord (Skre 2008: 337–8; Bill and Rødsrud this vol.). In the second period of urbanisation, c. 950–1100, towns such as Århus, Roskilde, Lund, Skien, Oslo, Trondheim, and Bergen were established (Hansen this vol.). While all the early towns were located within a zone spanning medieval Denmark and Vestfold, which at the time was probably under the authority of the kings of the Danes (Skre 2007), the later towns also include the western coast of the Scandinavian Peninsula in the urbanised Scandinavian zone.

Towns established in the early Viking Age appear to have had a modest role in supplying their hinterland with imported goods of the types discussed

here. The occurrence of soapstone in Hedeby's and Ribe's hinterland is much sparser than, for example, in the rural regions in northern Jylland and along the coasts of Kattegat (Sindbæk 2005: 141–2). The trade of soapstone to these latter regions appears to have been independent of towns. The same goes for west-Scandinavian whetstones, which have a fairly even distribution in Jylland (Sindbæk 2005: 142–5).

How, then, did consumers in rural areas gain access to necessities such as soapstone vessels, iron, and whetstones? For Jylland, Sindbæk (2005: 142) suggests that soapstone vessels were distributed by occasional trade between fishermen and farmers in the area. By contrast, it seems reasonable that the high density of soapstone finds in the Limfjord area is due to its inhabitants acquiring them at the seasonal Sebbersund market in the eastern part of the fjord, where trade began in the early eighth century and persisted into the twelfth. It is one of a number of seasonal market sites in southern Scandinavia, of which several originated in the eighth century (Skre 2008: Fig. 9.1). Some sites are large, for instance Löddeköpinge and Sebbersund (Christensen and Johansen 1992; Svanberg and Söderberg 2000), while others are small landing places and beach markets (Ulriksen 1998; Dobat 2007). Contrary to the towns, long-distance trade goods are typically few or none in finds at market sites; the craftsmen working there largely made use of local raw materials (Sindbæk 2005: 76–8, 87–97). Accordingly, these markets were not nodes of the long-distance trading network but rather seasonal market sites of essentially intraregional significance. In rural Scandinavia, trade in everyday necessities such as soapstone vessels, iron, and whetstones perhaps occurred at such seasonal market sites and in local and regional trade networks rather than in towns (Loftsgarden et al. this vol.).

Until now, only one market site from the early Viking Age has been identified in western Scandinavia: at Heimdalsjordet in Vestfold, only 14 kilometres as the crow flies northeast from Kaupang (Bill and Rødsrud this vol.). Nonetheless, finds there include more objects from far afield than do the finds from Sebbersund and Löddeköping. The numbers of hack-silver pieces and weights are much higher, and Sebbersund has no finds of Islamic coins, while Heimdalsjordet has 174 – even more than have been found at Kaupang. Conversely, compared to Kaupang, the paucity of, for example, Continental pottery and artisanal products made of imported raw material, such as glass beads, indicates the dominance of local and regional over long-distance trade at Heimdalsjordet. These features can be found at two sites in the Danish realm of that period, the so-called nodal markets Åhus in Scania and early Ribe before permanent settlement occurred there, apparently in the late eighth century (Skre 2008: 336–8). However, as Bill and Rødsrud (this vol.) emphasise, the character and activities of the Heimdalsjordet site as well as its relation to nearby Kaupang and to other Scandinavian market sites warrant further exploration.

Due to the paucity of securely identified seasonal Viking-Age market sites, it remains an open question as to when such markets were established in western Scandinavia beyond Vestfold. Pre-950 grave finds of weights and weighing equipment indicate that markets from that period may have existed in Fjære in

Agder, and possibly in Tune in Østfold (Pedersen 2008; Glørstad and Wenn this vol.); however, no market sites have been identified in the vicinity of the graves. This situation is bound to change, though. The Heimdalsjordet site was identified through a combination of archaeological methods, most importantly metal-detecting and geophysics. When the wealth of finds discovered by private metal detectors the last few years have been systematised and analysed, new market sites may turn up. Nevertheless, a possible outcome is that market sites did not exist in western Scandinavia (except for Vestfold) until the twelfth century. The numerous tenth- to eleventh-century coin hoards along coasts and waterways (see below) may indicate that in most of Viking-Age western Scandinavia trade took place in contexts other than markets.

The west-Scandinavian market sites that have left substantial cultural deposits appear to have been established in the twelfth century, although a couple of them were church sites in the eleventh. They are Lusakaupangen in Sogn, Borgundkaupangen in Sunnmøre, Veøykaupangen in Romsdal, and Vågar in Lofoten. More elusive are the small market sites referred to in medieval and more recent sources (Loftsgarden et al. this vol.). Can some of these be of a Viking-Age date? Such sites have not produced any evidence indicating a Viking-Age date, and those that have, such as Bjørkum in Lærdal (Loftsgarden et al. this vol.), have not produced evidence that clearly defines them as market sites.

Turning to the towns established in the late Viking Age, these had – at least in the thirteenth and fourteenth centuries – a more prominent role than the early towns in providing their hinterland with commodities brought in from the types of production sites discussed here (Baug this vol.). For the period before c. 1150, however, this issue is difficult to assess; the evidence from rural settlements is scant from that period. Moreover, although substantial high-quality excavations have been undertaken in several west-Scandinavian towns since the early 1970s, detailed chronological analyses of the huge amounts of artefactual material from their first 100–200 years are few (Hansen this vol.).

Also, the late Viking-Age towns may have had a more prominent role than the early towns in transit trade (Hansen this vol.). This appears to be the case at least for Skien, where a high number of Eidsborg whetstone blanks have been identified in the early deposits (Myrvoll 1992). Skien was established in the late tenth century at the mouth of the valley and water system that runs from Eidsborg approximately 95 kilometres inland to the coast. The production and overseas trade in Eidsborg whetstones expanded in this period, and may have been one of the reasons for the establishment of the town.

Trade routes and monetisation

Ancient sea routes

One of Irene Baug's main results from her survey of quernstone finds in urban and rural contexts in western Scandinavia is that, although they were quarried

much further from Oslo than the Hyllestad stones, quernstones from Saltdal dominated in Oslo. Conversely, although ships carrying either Saltdal or Hyllestad quernstones would sail along the same route from Sogn to Agder, Hyllestad quernstones were most numerous in Hedeby and other sites south of Skagerrak (Baug this vol.).

When such results appear for several types of commodities, a better understanding of the dynamics of late Viking-Age production and trade may be obtained. For example, Baug observes that long-distance trade patterns established in the early Viking Age, such as for soapstone vessels and whetstones, persisted through several hundred years and came to include other types of commodities. Thus, when long-distance trade of Hyllestad quernstones was taken up in the late tenth century, it followed the routes along which these other commodities had been traded for almost two centuries. These routes led to a rather limited area in southern Scandinavia, namely eastern Jylland, Fyn, Sjælland, and Skåne; that is, medieval Denmark. The stone commodities from the north have not been retrieved in noticeable quantities further south, for example in Dorestad or Hamwic. The spread of these commodities to the British Isles, Ireland, and the North Atlantic is, as noted by Baug (this vol.), most likely the result of travellers carrying them as personal possessions. How were such long-lasting patterns of trade and non-trade established, and what were the factors contributing to maintaining them over several hundred years?

Fittingly, Baug adapts Sindbæk's (2005) concept of 'routinised trade' for such patterns, and relates the routines to traditions, alliances, and cultural and political regions. One could add that the same agents who conducted the trade in whetstones and soapstone vessels possibly included the Hyllestad quernstones among their trade goods. It is noteworthy that the Viking-Age trade across Skagerrak was preceded by other forms of contact. Peaceful and hostile movement from western to southern Scandinavia has been frequent since the Stone Age (Østmo 2011). Conversely, based on the very limited finds of Iron-Age imports to western Scandinavia from the Baltic, sea travel in that direction appears to have been rather sporadic. Likewise, North Sea crossings do not appear to have commenced until the late eighth century, while crossing the North Atlantic to Iceland began in the late ninth. When long-distance trade from production sites in western Scandinavia across the Skagerrak was taken up around 800, travel patterns established in the eighth century and previously may have directed trade. More recently established routes, such as those to Britain and Ireland, appear not to have been used for trade purposes – or only to a very limited degree (Skre 2011b).

Judging by the imports to western Scandinavia, there is one exception to this pattern of trade routes. Finds from Kaupang indicate that the town was connected to Frisian trade networks in the first half of the ninth century. The Frisians brought in glass vessels, glass beads, amber, raw glass, copper alloy, pottery, and metalwork – some of these as trade goods, others as personal possessions (Skre 2011b). However, the overseas imports do not appear to have been brought in vast quantities into Kaupang's hinterland in Vestfold

and the Uplands. Possibly, the majority of such commodities were consumed at Kaupang by artisans living there, by local agents in the trade networks who delivered overseas goods, and by agents who brought iron and other commodities to Kaupang from woodland and alpine regions in the hinterland.

Production, trade, and consumption: free agents or aristocratic control?

While many scholars have regarded aristocratic demands and initiatives as the prime movers in the post-Roman economic upsurge in Europe (e.g. Hodges 1982; Wickham 2009), studies of production sites, find contexts, and trade goods make increasingly clear that peasant and freeholder agency, individual as well as communal, was significant at various times in post-Roman Europe in production, trade, and consumption alike (Iversen et al. 2007; Skre 2008: 338–41; Theuvs 2012).

Except for artisans, production is the lesser known of the three spheres in this respect. The social basis and organisation of large-scale rural commodity production is largely unknown and can be glimpsed only through indirect evidence – for instance, the fact that iron production thrived in areas where most farmers were freeholders (Tveiten and Loftsgarden this vol.) can be taken as an indication of individual or communal agency. As pointed out by Stene and Wangen (this vol.), the exploitation of resources must have been managed on a communal level, potentially supra-communal, particularly in cases where different resources in the same area are exploited contemporaneously. Furthermore, considerable expertise, extensive division of labour, and complex cooperative arrangements will have been necessary for managing the logistics of production. Communal involvement in resource management and conflict solving is inevitable; the question is whether it was the communal institutions or the aristocratic families that initiated and had their people conduct the various types of production. Probably, this varied between regions and types of production; local studies are needed to address this question. Tveiten and Loftsgarden's contribution to this volume, as well as Stene and Wangen's, open fruitful avenues for future research on such issues.

Turning to the social aspect of the trade sphere, the nature of the networks that brought commodities from mountains and woodlands to the coast is discussed in several contributions to this volume. As Baug has crucially observed, the vast majority of soapstone vessel fragments found at Kaupang appear to be derived from the same quarry – regrettably unidentified but probably located in one of the many soapstone outcrops in the neighbouring regions of Østfold, Romerike, or Agder (Baug 2011: 329–31, this vol.). Considering the vast number – over 100 – of premodern quarries in western Scandinavia and south-western Sweden, the uniform origin cannot be coincidental. Was the supply of soapstone vessels to this ninth- and early tenth-century town the prerogative of an aristocrat who ran a soapstone quarry, perhaps Kaupang's local lord or one of his associates? Was the lack of competition between suppliers unique for the provision of soapstone vessels to the town, or was this a general pattern for

trade, including over longer distances? If the latter is the case, can we speak of market trade, or does Polanyi's concept of 'administered trade' provide a better model for the social context of this exchange? One result from the analysis of a single type of material from a lone site cannot decide such issues. Still, Baug's result brings to the fore questions regarding the nature of production and power in the towns and markets as well as in the trade networks that brought commodities from the interior to the coast and beyond.

Apparently, the nature of these networks changed during the second period of urbanisation – that is, from the mid-tenth century onwards. At that time, both silver and weighing equipment began turning up in substantial numbers in hoards and graves in rural western Scandinavia, indicating that modes of payment from urban contexts and long-distance trade had been adopted in rural trade networks. In his analyses of finds of weights and scales in Jämtland, Olof Holm (this vol.) concludes that farmers there operated as traders in that period. The finds demonstrate that silver was among the types of payment accepted and used. How were these traders connected to producers and consumers? Were they free agents who sought a profit from buying cheaply and reselling, or were they bound by aristocrats who controlled their access to producers and possibly also to consumers? Holm (2012) argues convincingly that because farmers in Jämtland were freeholders of fairly equal status and therefore were not bound by landlords, they could operate as independent agents. If Holm is right, it would seem that in the mid-tenth century freeholders in a rather marginal rural region began acting as independent agents of trade.

Holm's findings are supported by the finds from the municipalities Valle and Bygland in Setesdal discussed by Glørstad and Wenn (this vol.). As was Jämtland, Setesdal was dominated by freeholders. The finds indicate that from the mid-tenth century onwards farmers there acted as independent traders. Probably, they would have brought iron from the extensive extraction activity in the mountains some 50 kilometres to the north to coastal sites and possibly to lands overseas. This suggestion is supported by the wealth of imported items in Valle and Bygland graves. One of the coastal sites may have been Fjære, some 90 kilometres to the southeast; grave finds there also contain a high quantity of weighing equipment and imports (Glørstad and Wenn this vol.). The evidence from Jämtland and Setesdal indicates that from the mid-tenth century onwards, independent freeholders in these regions began buying and selling commodities produced by others in neighbouring and more remote regions, possibly also participating in long-distance networks at coastal trading sites.

Besides Jämtland and Setesdal, only the inland region Hedmarken in western Scandinavia has a concentration of tenth- to eleventh-century finds of weighing equipment, all of them in graves (Pedersen 2008: Fig. 6.14), indicating that traders were buried there. Hedmarken borders on several of the iron-producing regions of the Uplands. However, regarding social stratification, the regions with finds of weights and scales were rather diverse. While traders in Jämtland and Setesdal probably were freeholders who took up trade as an additional activity, Hedmarken was a much more stratified region with landlords

and tenants. The majority of the weighing equipment finds there have been retrieved from graves on aristocratic farms with richly furnished burials, indicating that aristocratic landlords or their staff were involved in trade. Possibly, the late tenth- to eleventh-century Hedmarken aristocracy continued a tradition of administered trade established in the early Viking Age, as indicated by Baug's analysis of the soapstone vessels at Kaupang.

The contrast in social structure between Hedmark on the one side and Jämtland and Setesdal on the other indicates that the relationship between trade agency and social stratification was complex and is in need of further locally based studies.

The third and final economic sphere for which the social agency is to be considered here – consumption – is probably the best evidenced in the Viking-Age archaeological record. While production sites and transport routes are sometimes difficult to infer, consumption – at least the ultimate – can in many cases be pinpointed to the site where an item is found.

Analyses of finds assemblages in a grave, a cemetery, or a settlement often aim at encircling the person's, family's, or site's social status. Economic analyses of such assemblages are less common – except those that deal with tools of trade (e.g. Holm this vol.). The scope of finds relevant for such analyses could be expanded. Might, for instance, the presence of certain commodities indicate that residents or sites had particular roles in economic networks? Such analyses have been conducted for towns (Skre 2011c) and for seasonal market sites (e.g. Bill and Rødsrud this vol.), but rarely for finds assemblages from other types of sites.

Still, some general points regarding consumption in different social strata can be made on the basis of the traded commodities' nature and distribution. As noted above, exotic items that have been found in rather large numbers at Kaupang, such as vessel glass, exotic beads, and certain types of pottery (Gaut 2011; Pilø 2011; Resi 2011b), are found very sparsely elsewhere in western Scandinavia. Typically, they occur in aristocratic contexts, such as in the chieftain's residence in Borg in Lofoten, northern Norway (Munch et al. 2003). However, it remains uncertain and perhaps unlikely that such items arrived in Borg via Kaupang. Aristocrats at this high level may have had their own networks where such items were available, and the occurrence in Kaupang probably reflects local consumption.

Less uncertain is the identification of intended users for artisanal products from the types of artisans working at Kaupang. Several aristocratic graves, for instance the nearby Gokstad ship burial, contained non-ferrous metalwork that appears to have been produced by artisans with skills displayed in the Kaupang workshop remains. However, the wide and rich distribution in western Scandinavia of Scandinavian-type ornaments made from overseas raw materials, primarily glass, brass, and amber (Skre 2008: 340–1; Resi 2011c; Pedersen this vol.), indicates that the prime group of consumers of artisanal work from Kaupang-type craftsmen were the average freeholder or moderately well-off farmer. A consideration of trade volumes supports this assessment: to uphold a

town of Kaupang's size, the prime consumers would need to be drawn from a vast social group – the general populace. The demand for luxury goods from a narrow aristocratic class would not generate a volume of trade and artisanal production sufficient for sustaining the town.

Turning to the consumption of products from raw materials originating in western Scandinavia, the populace is an even more obvious target group for traders. The products in question – whetstones, iron items, quernstones, antler combs, soapstone vessels, and the like – are everyday utensils, not rare luxuries. Of course, aristocratic farms also needed these items, but their general occurrence in the west-Scandinavian archaeological record demonstrates that the general populace formed the prime market. Probably, only poor peasants would have had to suffice with what whetstones and quernstones they could find in the ground, as everybody had done before such products became available in trade in the early and late Viking Age, respectively.

The interplay between the agencies of farmers, aristocrats, and eventually kings in the three economic spheres in Viking-Age Scandinavia remains largely under-investigated; its continued exploration potentially holds the key to a deeper understanding of the period's economic and social transformations.

The use of silver as payment in rural regions and towns

By contrast with finds of tenth- to eleventh-century weighing equipment, contemporary hoards containing coins do not cluster in certain regions, but rather are dispersed (Skaare 1976: 238–43, maps 7–12). It is noteworthy, however, that hoards were deposited either near the coast or along waterways that led up into woodlands and alpine regions. Several of these finds have been made in the most fertile rural regions, such as Ringerike, Jæren, and Trøndelag, possibly indicating that Hedmark was not the only region of aristocratic involvement in trade in the late Viking Age.

The distribution of weighing equipment and coin hoards indicates that trade routes connecting production areas in woodlands and alpine regions with coastal towns, markets, and harbours prospered from the mid-tenth century onwards. These routes are also detectable in the ninth- and early tenth-century distribution of scales and weights (Pedersen 2008: Fig. 6.14), although at that time the use of silver had hardly spread from the coastal sites to the rural interior. In the early Viking Age, minting and the use of silver appear to have been urban phenomena. Minting in Scandinavia began in Ribe in the mid-eighth century, was taken up in Hedeby from the early ninth, and in Sweden and Norway from just before AD 1000. The use of cut silver as a medium of payment began in Kaupang, probably also in Birka, in the early ninth century, and from the mid-tenth century hoards containing cut silver were deposited in most of Scandinavia.

Apparently, the use of silver as payment, whether in the form of coinage or cut-up silver, was in the eighth and ninth centuries mainly connected to trade in towns with agents for overseas trade networks. The occurrence of silver,

scales, and weights in rural areas is predominantly a phenomenon of the late tenth and eleventh centuries – the very period when rural commodity production underwent its second and largest expansion. However, it remains an open question as to whether hoarding of silver and coins and the occurrence of weights and scales in rural areas indicate that these means of exchange were actually used there in the tenth and eleventh centuries. They may have been kept and buried in rural areas until the occasion might arise for their use in towns and on long-distance expeditions. Although Holm (this vol.) presents a convincing case for the burial of actual users of silver, weights, and scales in late tenth- and eleventh-century Jämtland, the items need not have been used locally. Moreover, the fact that such concentrations of silver, weights, and scales are found only in two other regions in western Scandinavia (Setesdal and Hedmarken) would caution against regarding them as expressions of common occurrences. The actual use of coins as payment in rural areas is not securely testified in Norway until the late twelfth century when coins in large numbers began to fall through gaps in the wooden floors of rural churches. In addition to trade, the compensation to *thingmen* for their travels and provision (Iversen and Gullbekk this vol.) may have contributed to bringing coinage into rural people's hands and purses.

However, as pointed out above, securely identified Viking-Age seasonal market sites in western Scandinavia can be counted on one hand. Thus, except for Heimdalsjordet, we do not really have rural sites where the use of silver for payment would occur with a frequency sufficient for noticeable quantities to be lost. As long as arenas for the rural use of coins and silver are absent prior to the late twelfth century, the volume of tenth- to twelfth-century rural coin use cannot be assessed. Identifying and dating potential arenas would be worthwhile.

The coast and the interior

The transformations experienced by west-Scandinavian societies also influenced conceptions of the land. In *Othere's* account recorded at the court of King Alfred the Great c. 890, it is said that the populated zone of his homeland was narrow, except in the east, where cultivated land was found far from the coast (Bately and Englert 2007: 46). The same conception of the land is provided in greater detail in *Historia Norwegie* written in the 1150s or 60s (Ekrem and Boje Mortensen 2003). There, a distinction is made between two parts of Norway: the *Zona Montana* (the Mountainous Land, the Uplands) and the *Zona Maritima* (the Coastal Land).

Indeed, this division points to the striking characteristics of the western parts of the Scandinavian Peninsula. While the majority of settled land in western and central Norway lies less than 10 kilometres (and a maximum of 50 kilometres) from the sea, settlement in eastern Norway stretches more than 250 kilometres northwards from the inner end of the Oslofjord. There, the most populated regions (the Uplands; e.g., Telemark, Ringerike, Hadeland,

Hedemarken, Hallingdal, Valdres, and Gudbrandsdalen) are found in lowlands and valleys more than 50 kilometres inland; Vestfold and Østfold were the only densely populated coastal regions.

Developments in production and trade contributed to changing this conception of the geography. Of the types of production discussed here, whetstone (dark schist) and quernstone quarrying took place in the *Zona Maritima*. Iron extraction, reindeer hunting, and quarrying of Hyllestad whetstones occurred in the woodlands and mountains of the *Zona Montana*. Soapstone quarrying may have happened in both zones. The same goes for artisanal production, although some types appear to have been conducted primarily in the coastal towns (Pedersen this vol.).

Of these types of commodities, iron – production of which had an average annual output of well over 100 tons throughout the period – will have contributed the most significant economic value. Therefore, the increased commodity production in the Viking Age, particularly that intended for overseas trade, contributed to connecting the *Zona Montana* and the *Zona Maritima*. The trade routes from one zone to the other, established in the early Viking Age and significantly expanded from the late tenth to the thirteenth century, contributed to shaping the administrative landscape of the high medieval Norwegian kingdom. The early organisation in the two rather homogeneous topographic, economic, and climatic zones was converted to administrative units that connected coastal towns with inland and mountainous areas where commodities were produced (Iversen this vol.).

Concluding comment

In the seventh and eighth centuries rural commodity production was modest and directed at satisfying local and regional needs. In the decades around AD 800 (whetstones, soapstone vessels, and iron), and again around AD 1000 (quernstones, reindeer antler, and again iron), this small-scale production and distribution was expanded, reorganised, and developed using novel technologies into large-scale commodity production for long-distance trade. Only the production of soapstone vessels was not preceded by local production, but rather was directed towards long-distance trade from the start.

These two waves coincided with two waves of town foundation. In the early wave four Scandinavian towns were established; none of these endured throughout the Viking Age. The much more numerous towns established in the second wave, c. 950–1100, have endured until the present. While the early towns appear to have been mostly ‘producer towns’, meaning that the majority of the population was engaged in some sort of craft or artisanal production, the later towns were to a higher degree ‘consumer towns’ as they housed staff that administered royal and ecclesiastical interests in the region. The early towns had few or no such functions.

These and other developments in Viking-Age urbanism indicate that the connection between rural commodity production and urbanisation is not

direct and simple, but indirect and complex. Thus, I find the line drawn by Ashby et al. (2015: 18) is too direct in concluding that those ‘involved in foraging expeditions in the Scandinavian outlands were . . . engaged in a quintessentially urban activity’. There is much more to the story of rural commodity production than the emergence of towns. Only a limited proportion of the output from that production made its way to towns – for some commodities only the quantities that were consumed by the towns’ inhabitants. Seasonal markets, magnate sites, the rise of economic agency among the rural populace, and ancient routes to the lands overseas – all these elements and more need to be included to understand the profound economic transformations of Viking-Age western Scandinavia.

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