Research Article

Astrid J. Nyland*, Daniela Hofmann, Rune Iversen

The Blurry Third Millennium. "Neolithisation" in a Norwegian Context

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Abstract: In this article, we critically review recurrent tropes, implicit frameworks, and unexplained concepts in current research on the process of "Neolithisation" in the western part of southern Norway. Two models are on offer, as also seen elsewhere in the European research: either 1) the transition to agriculture is rapid and substantially carried by migrants, or 2) the Late Neolithic transition builds on a long history of local adaptation. After outlining these models, we scrutinise especially west Norwegian evidence, pointing out ambiguities and limitations in the material which mean that neither of the two models fit. In the final section, we consider which new questions could be asked to move beyond the current, somewhat polarised debate: Who are the actors of the transition, how are boundaries between groups created, and can the acknowledgement of the complexity of the process of 'migration' result in new narratives? Addressing these questions remains a fundamental challenge for archaeological migration studies as a whole.

Keywords: Neolithic, migration, transition models, west Norway

1 Introduction

In a European context, the term 'Neolithic' obscures as much as it reveals. While originally used to denote the appearance of polished stone tools, in central, western, south-eastern, and southern European discourse it is now mainly associated with the establishment of agriculture as the main mode of subsistence, which in turn supposedly causes further social and behavioural changes (demographic growth, sedentism, routes to hierarchy, and so on). In contrast, in eastern Europe and the eastern Baltic, 'Neolithic' denotes the appearance of pottery in hunting and gathering societies. In northern Fennoscandia, it is the use of slate tools in hunting and gathering societies that is designated 'Neolithic'.

In Norway, this terminological confusion takes its own regional form. In the European context, Norway is in many ways a special case, as land with agricultural potential is very limited, particularly along the west coast, and the transition to an agricultural way of life was therefore late. The geography of the country, with its central mountain ranges, also encouraged regionally diverse developments in east and west, with areas north of the Arctic Circle following a third trajectory. The chronological Neolithic period lasts roughly from 4000 to 1700 BC, but how the cut-off points, that is, the thresholds of the chronological periods, are placed in time and defined archaeologically varies by region. Problems arise because the term *Neolithic* is used to

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*** Corresponding author: Astrid J. Nyland,** Department of Cultural Heritage Management, Museum of Archaeology, University of Stavanger, Stavanger, Norway, e-mail: astrid.j.nyland@uis.no
Daniela Hofmann: Department of Archaeology, History, Cultural Studies and Religion, University of Bergen, Bergen, Norway
Rune Iversen: SAXO-Institute – Archaeology, Ethnology, Greek & Latin, History, University of Copenhagen, Copenhagen, Denmark

name the time period, while often also being taken to imply a particular way of life, that is, an agriculture-based society. As Christopher Prescott pointed out in 1996, 'Though chronology is a common denominator for most "Neolithic" usages, there is a degree of slippage in meaning from chronology to cultural-economic implications' (1996, p. 78). In 2006, Håkon Glørstad could document the continuation of this practice in Norwegian Neolithic research, and as our own literature review of papers from the last 15 years shows, this still continues (see Table S1 in Supplementary Material).

In the following, after briefly situating ourselves in a research historical context, we critically review some recurrent tropes, frameworks, and concepts of the debate, focusing on western Norway and the onset of the Late Neolithic as significant turning points (see the location of named regions and sites Figure 1).[1] Here, we contrast the two dominant models that emerge from a literature review undertaken for the purpose of identifying how terms and concepts are used, and whether researchers build on the same understanding of terms, chronology, and data. We will elaborate more on this in the following sections. In this article, we

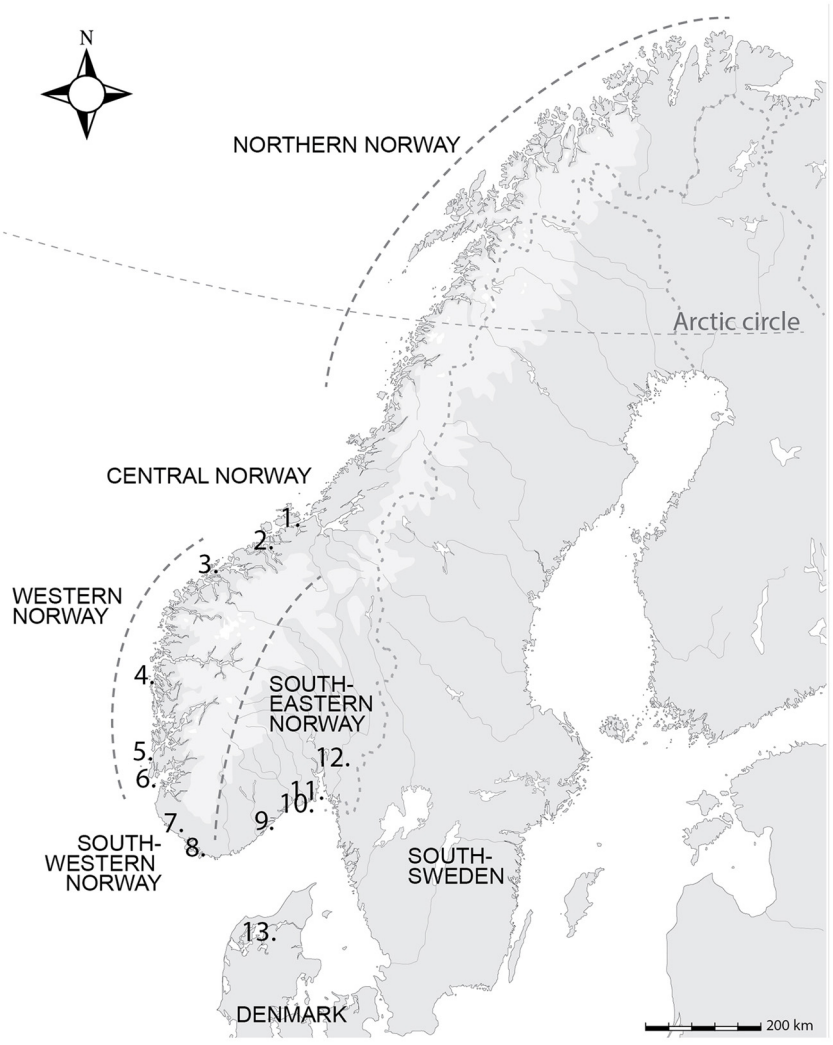


Figure 1: Map with names of regions and sites mentioned in the text: 1, Hitra; 2, Aukra; 3, Mjeltehaugen; 4, Straume; 5, Bømlo; 6, Karmøy; 7, Slettabø; 8, Lista; 9, Hesthag; 10, Auve; 11, Nøklegård; 12, Oslofjord; 13, Limfjorden, Jylland (illustration: A. J. Nyland).

1 Norway is generally divided into three parts/regions, northern, central, and south Norway (see map). In this text, as is the common usage, when the region name west or western Norway is used, this denotes the west coast of south Norway.

are using the term 'Neolithic' first and foremost chronologically for the period 4000–1700 BC and employ the current standard subdivisions into an Early (4000–3300 BC), Middle (3300–2350 BC), and Late Neolithic (2350–1700 BC) in order to allow comparison with the existing research (Figure 2). However, after tracing the complexities of the archaeological record in Section 2, we conclude that the currently favoured date for the beginning of the 'Late Neolithic' as a *social* rather than a chronological phenomenon is not tenable; there is no clear cut-off point at which one kind of society suddenly transforms into another. Indeed, whether periods of material culture change that form the basis of our 'culture' divisions coincide with actual social upheavals is a moot point (e.g., Bjerck, 1986; Le Goff, 2014). Instead, over half a millennium southern Norway sees the blending of new impulses from a variety of directions with existing trends and traditions, with much regional variation — a complex situation which we here describe as 'blurry'. This created a social formation that has so far not received sustained attention, as it is not explicitly named in the traditional chronological and cultural frameworks and does not conform to neat, pre-defined types. On this basis, in Section 3, we attempt to move the discussion away from polarised either/or scenarios. By using selected analogies, we try to open the field to new kinds of questions and suggest possible future research directions.

1.1 What is 'the Norwegian Neolithic'?

One consequence of *Neolithic* being equated with agriculture are discussions concerning which elements have to be present to warrant the use of the term. In this lies also a presumption of there being an 'authentic' (Høgestøl & Prøsch-Danielsen, 2006, p. 31), 'true' or 'full' Neolithic also implied by the idea of a subsequent "de-neolithisation" (Hinsch, 1955; Nielsen, Persson, & Solheim, 2019). The added implication is that the rapid introduction of a complete 'package' is a likely indicator for migration (and a gradual transition to the (Late) Neolithic indicates its absence). This focus on either/or scenarios is not limited to Norwegian research (see, e.g., Finlayson, 2013; Thomas, 2003 for Britain; or Furholt, 2010 for northern Germany/western Baltic), but we argue that the Norwegian case is a particularly clear example of how terminology affects research perspectives, interpretations, and lines of inquiry (see also Finlayson, 2013; Olsen, 1988; Robb, 2013; Zvelebil, 1996). In addition, human remains are not plentiful in the region, and aDNA data are thus likely to play a relatively reduced role in understanding Neolithisation processes.

The strong regional diversity in material culture and ecology in the south Norwegian chronological Neolithic has resulted in regionally diverse terminology and thus divided opinion as to what defines the start and character of the Neolithic. In south-eastern Norway, the Mesolithic-Neolithic transition is generally placed somewhere between 4000 and 3700 BC (e.g., Glørstad, 2004, 2009; Reitan, Sundström, & Stokke, 2018, p. 552; Solheim, 2021). This is aligned with the Funnel Beaker culture and the establishment of agriculture in South Scandinavia (Denmark and south Sweden), of which some elements (imported flint axes, a few megalithic monuments, and some evidence for agropastoral activities) are also found. South-eastern Norway is then said to go through a period of "de-Neolithisation" (Nielsen et al., 2019) in which most of these innovations are shed until the return of pastoralist practices in the Battle Axe culture (approximately 2800–2400 BC). In contrast, on the west coast of southern Norway, the start of the Neolithic around 4000 BC is defined by the introduction of a cylindrical core reduction technique, a new type of four-sided ground adze made of local rock, quarrying and use of rhyolite, and the use of ground slate (e.g., Bergsvik, 2002a, 2011; Nærøy, 1993; Olsen, 1992). Landscape changes, such as the gradual opening of the forest cover, are long-term processes whose connection to the appearance of agriculture is uncertain but associated with incipient husbandry (Bergsvik, Hjelle, Halvorsen, Olsen, & Zinsli, 2020; Hjelle et al., 2018; Hjelle, Hufthammer, & Bergsvik, 2006; Hjelle, Solem, Halvorsen, & Åstveit, 2012; Prøsch-Danielsen, Prescott, & Kähler Holst, 2018).

This admittedly complex situation has caused a terminological murkiness, in which societies drifting in and out of varying commitments to agriculture are variously called Neolithic, Sub-Neolithic (Malmer, 1962), or Epineolithic (Forsberg, 2012). The suggestion of a period of "de-Neolithisation" (e.g., Nielsen et al., 2019,

p. 82) implicitly defines 'Neolithic' to involve agricultural practices. The term 'Neolithic' is also applied to artefacts associated with South Scandinavian groupings such as the Funnel Beaker, Corded and Pitted Ware, and Bell Beaker cultures. In a Norwegian context, these so-called 'agro-Neolithic artefacts' (Olsen, 2012, p. 130) are sometimes considered enough to describe the Nordic region as having an 'artifactual Neolithic' (Rowley-Conwy, 1993), since agriculture is mostly absent.

Everyone, however, agrees that the onset of the fully agricultural Neolithic across southern Norway coincides with the chronological Late Neolithic and begins around 2350 BC. It also sees the introduction of new artefact types and bifacial flint technology, new two-aisled house types, boat technology, metallurgy, and so on. This is associated with the arrival of southern impulses from the Bell Beaker cultural area initially to the counties of Agder and Rogaland, i.e., south-western Norway, and then spreading north along the coast of central Norway towards the Arctic Circle (Prescott & Glørstad, 2012; Prescott, 1996, 2009, 2020; Prescott, Sand-Eriksen, & Austvoll, 2018). It is this second transition that particularly highlights many of the interpretative issues which are also associated with "Neolithisation" debates elsewhere in Europe, such as the relative impact of migration versus acculturation, the establishment of social inequalities, and the exploitation of landscapes in new ways. Predictably, the resulting debate (discussed below) has often been polarised along similar lines as in other European regions, with two contrasting models on offer: in the first, the transition to agriculture is rapid and substantially carried by migrants; in the second, the transition builds on a long, local history.

These debates are waged particularly fiercely with regards to material from the western coast of Norway. One recurring problem is that key concepts used in the literature, such as migrations versus expansion, long-distance travel versus mobility, egalitarian bands versus chiefdoms, etc. are largely unexplained, while other terms like 'cultures', 'horizons', or 'phenomena' remain as fuzzy as 'the Neolithic'. Another challenge is the continued use of the South Scandinavian chronology (especially Vandkilde, 1996; Vandkilde, Rahbek, & Rasmussen, 1996), although materials and processes used to develop that scheme are only partially present in the Norwegian setting. Attention is thereby often directed away from the particulars of the Norwegian sequence, such as the divergent dates at which innovations appear, and towards broader similarities.

1.2 Two Dominating Models of the Late Neolithic Transition

Although there are many different gradations, nuances, and angles in the explanations of the developments in the third millennium BC in Norway, they can be grouped into two main narrative strands. These models have deep historical roots in research, originating in a well-known opposition between two central archaeologists, Håkon Shetelig and Anton Brøgger, working in south Norway in the early 1900s. Their original debate can be traced through all subsequent discussions (summarised by Glørstad, 2006), and our own review of 21 papers published in the last 15 years shows that the two models are still alive and well (Table S1).

Our literature review aimed to trace any potential developments in how the term 'Neolithic' is understood and to collate the range of transition narratives currently proposed. The list of articles is not exhaustive, but articles were selected for their geographical focus on south Norway, ideally including the region of south-west Norway, particularly the county of Rogaland with its rich Neolithic material record. We have also privileged papers that not only present a new find from the period but are also primarily discussing the transition to the Late Neolithic (a few articles dealing with the transition to the Early Neolithic have been included for comparison: the issues addressed are similar, but the discussion less heated). For each article, we have noted applied chronology, comments, or definitions of 'the Neolithic', which type of migration or mobility is suggested, and which social units, groupings, or institutions are designated. Furthermore, we have collated how developments preceding the transition to the Late Neolithic agriculture-based lifeways are characterised, who the main actors of transition are, and where the source for innovations is argued to lie. On this basis, we now provide an up-to-date snapshot of what the two models currently look like.

1.3 Model 1: Change Comes From the South

Model 1 argues for the swift and decisive establishment of a new way of life, breaking almost entirely with previous indigenous traditions (e.g., Glørstad & Prescott, 2009; Ling, Earle & Kristiansen, 2018; Prescott, 1996, 2009, 2012, 2020; Prescott & Glørstad, 2015). This view is rooted in 19th and early 20th century writings by, amongst others, Håkon Shetelig (1922) and Oscar Montelius (1874, 1919), essentially reconstructing a northbound spread of farming cultures (thought to be superior to hunter-gatherers) to Scandinavia (Østigård, 2009).

Within the last 15 years, the development into a farming society around 2400–2350 BC has been described in drastic terms, involving the "most dramatic rerouting of the historical trajectory" in terms of "scope (economy, society, technology, and mentality), speed (a generation?), and geographic impact (1,000 km along the coast) experienced in Norway after deglaciation" (Prescott & Glørstad, 2015, pp. 77–78). Recurrent themes involve "the establishment of the farm as the fundamental social and economic entity, [...] bifacial lithic technologies, European artefact forms, weaponry, early copper metallurgy, regular crossings of open stretches of sea, regional patterns of interaction" (Prescott et al., 2018, p. 180), alongside new, hierarchical social structures. The transition happens rapidly along the west coast, north to the Arctic Circle, also taking in inland valleys, fjords and highland regions. It is largely driven by ambitious 'entrepreneurs' seeking personal gain, who are only later followed by a broader range of people (e.g., Prescott, 2012, p. 122). Interaction with locals is also described, with the new arrivals appealing to "sub-groups in the traditional societies — younger, entrepreneurial segments who felt frustrated with the oppressive levelling mechanisms of the old egalitarian societies" (Prescott, 2012, p. 123). In sum, the main premise of this model is that the appearance of new material culture heralds a full-blown economic, social, and ideological change. Bell Beakers, daggers, and farmhouses form a coherent package that is transplanted into Norway through migration, with an ultimate origin generally placed in 'Jutland'. This represents a complete break with what went before; "life was forever transformed" (Prescott & Glørstad, 2015, p. 78).

1.4 Model 2: The Long, Slow Goodbye: Local Adoption of Agriculture Over the Long Term

Model 2 in contrast sees the transition as primarily driven by the demands and contradictions of the local indigenous societies, and with considerable overlaps in lifeways. Its early roots can be found in Anton Brøgger's (e.g., 1905, 1909, 1925) emphasis on local developments and regional particularities, fuelled amongst others by the realisation that local rock sources were exploited for making axes and adzes, rather than all these items being imported from Denmark or Scania (Brøgger, 1906). This gave rise to explanations of slowly unfolding change where local societies, often characterised as complex and dynamic foragers, selectively adopted southern impulses (e.g., Bergsvik, 2012; Nyland, 2006, 2016, 2019; Olsen, 2009a,b, 2012; Mansrud & Berg-Hansen, 2021).

According to model 2, animal husbandry already began in the Middle Neolithic A (3300–2700/2600 BC) (Olsen, 2012, p. 137), changing where people settled in the landscape and beginning a slow change in orientation away from solely hunting and fishing. Eventually, the resulting social tensions between established 'Big Men'[2], who controlled communication routes along the coast, and younger generations led to the adoption of a full-scale farming economy around 2350 BC. Prior to the Late Neolithic transition, there was little substantial demographic influx; at most, a few marriage partners might have come from further afield (e.g., Bergsvik, 2012, p. 101; Glørstad, 2012b, p. 91). The local hunter-gatherer societies are described as

2 It is worth pointing out that terms like 'Big Men' or 'entrepreneur', 'chief', etc. are rarely explicitly defined in the texts dealing with Neolithisation in Norway, nor are they traced to the social anthropological studies from which they were first derived. The resulting vagueness, which leaves readers to fill in the gaps with their own preconceptions, further adds to the confusion.

'traditional' (Bergsvik, 2012, p. 100), 'well-adapted' (Mansrud & Berg-Hansen, 2021, p. 881), and even 'extraordinarily successful' (Prescott, 2020, p. 394), making the transition a bit of a puzzle.

1.5 Comparing the Models

The two models differ in defining the main actors of the transition to the Late Neolithic and an agriculture-based lifeway, using either a short or long chronology (Figure 2). Our survey – albeit not comprehensive – shows that in recent years, proponents of model 1 have been more vocal than those supporting model 2 (Table S1). There is also a tendency for the proponents of model 1 to emphasise the presence or absence of artefacts and to focus on key sites, while supporters of model 2 rather rely on more general patterns of landscape exploitation, settlements, and raw material procurement. There are striking divergences within the papers of each model too, concerning, for example, the details of the suggested chronology, as well as convergences between models 1 and 2, for instance, in the key role assigned to elites.

The remainder of our article therefore first reviews the archaeological evidence used to argue for or against a package deal, trying to assess its reliability. Here, we conclude that – against the narrative of model 1 – the evidence currently available does not support the narrative of a fast and comprehensive package of change. However, the proponents of model 2 can be criticised for underplaying sharp horizons of change in some aspects of life. Both models also follow a set of implicit assumptions regarding the nature of small-scale societies that need to be more critically reflected. In the last part of the article, we therefore outline some more conceptual issues that we argue must be tackled more directly by supporters of both models in order to move the debate forward.

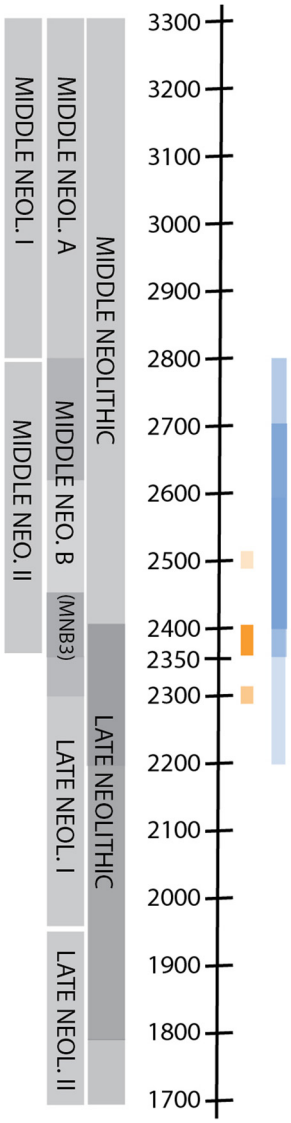
2 A Blurred Picture: How Sharp is the 3rd Millennium Transition?

Much excellent research has been carried out within the framework of both models, and there are also naturally more theoretical nuances to the debate than our summary implies (e.g., Mansrud & Berg-Hansen, 2021; Nielsen et al., 2019; Nyland, 2020). Nevertheless, lingering and under-discussed assumptions of the two main models affect the lines of enquiry, and hence interpretations of ongoing Neolithic research. In the following, we will first draw out some of the, in our opinion, under-communicated ambiguities of the material evidence in Norway. These can be used to question the existence of a 'Bell Beaker package', although we explicitly do not want to rule out migration as a key driving force in the changes we do observe.

2.1 Chronology: The Rapid Transition

The current chronological framework for understanding the Neolithic in Norway is still mainly built on South Scandinavian developments, as it is from here that most of the tell-tale new artefact types are inspired. Yet this is not necessarily helpful, as strict period divisions encourage thinking in coherent packages where none such may exist. The presence of a single artefact of southern type is hence often already taken to imply all the others, and to herald the beginning of a new era.

This remains the case partly because the independent dating framework for key artefacts and practices in Norway has long been poorly developed (although this is beginning to change regionally, see Mjærum, 2012). This means that when the 'Late Neolithic' in Norway begins is answered very differently by different researchers. Many scholars suggest a precise 2350 BC for the decisive transition to agriculture, derived from the appearance of flint daggers in Denmark ('dagger period', see, e.g., Müller, 1902; Vandkilde, 1996, p. 13), but in detail, much confusion remains in applying Danish phasing to Norwegian material. Our Figure 2



Short transition	Reference	Long transition	Reference
In MNB3- around 2400 BC	Prescott & Glørstad, 2015, p. 78	LN starts 2400 BC	Mansrud & Berg-Hansen 2021, p. 971
Around 2400-2350 BC, possibly from 2500 BC	Prøsch-Danielsen, et al. 2018, p. 49, 57	Transition in MNB 2700-2350 BC	Olsen, 2012, p. 131
Around 2400-2350 BC	Prescott, 2009, p. 201	Transition 2500/2200 BC (but LN starts 2350 BC)	Høgestøl & Prøsch-Danielsen 2006, p. 26
Around 2400-2350 BC	Prescott, et al. 2018	Long transition (but LN starts 2350 BC)	Bergsvik, et al., 2020, p. 340
Around 2400-2350 BC	Prescott, 2012, p. 115; 2020, p. 384	Transition in MNB 2600-2300 BC	Bergsvik, 2012, p. 100
LN starts 2300 BC	Glørstad, 2012, p. 87	Between MN and LN 2600-2200 BC	Sørensen, 2014, p. 479

Figure 2: Divergent models of the timing and duration of the Late Neolithic transition: The named chronology and varied duration of periods (grey boxes to the left of the timeline) are referred to in the analysed texts (Table S1). To the right, the blue and yellow markings correspond with the table below, that is, yellow markings show the model advocating a rapid transition, while blue markings indicate the model of a drawn-out process. Darker colours mean that more authors refer to the period, as well as overlaps, i.e. where the period is said to start/stop at different dates (see references in the table) (illustration: A. J. Nyland).

illustrates some of the disagreements as to where the subdivisions are and clearly illustrates the preferences for either a short or a long transition, i.e., as argued by proponents of either model 1 or 2. These kinds of discrepancies cloud the discussion of the ongoing developments, especially since there is also varying utilisation of even finer subdivision, e.g., the "Middle Neolithic Period II (MN II)/Early Late Neolithic (ELN)" (Høgestøl & Prøsch-Danielsen, 2006, p. 19), or "Middle Neolithic B3, Late Neolithic 1" (Prescott & Glørstad, 2015, p. 77). These fine period distinctions imply the existence of an absolute dating framework, but this is not actually backed up by securely contextualised C14 dates. Hence, interpretative leaps are made.

Articles discussing developments in south-west/western Norway usually build on chronological work based on regional and inter-regional material studies by west Norway-based archaeologists, such as Bergsvik (2002, 2006), Nærøy (1993), and Olsen (1992). Local typologies are then combined with the South Scandinavian chronologies (e.g., Høgestøl & Prøsch-Danielsen, 2006, p. 21). Table S1 and Figure 2 show that the dates offered for the duration of the process as a whole differ by several centuries. For example, those proponents of model 1 advocating migration from the Limfjord, Denmark, to Lista, and from there on to the west coast of Norway, push the date of the 'Late Neolithic' transition back to 2600–2400 BC (Melheim, 2012; Prescott & Glørstad, 2012; Prescott et al., 2018; Prescott, 1996) – a time frame that researchers more sympathetic to model 2 consider the final phase of the Middle Neolithic B, a period involving increased acculturation (Bergsvik, 2012; Nyland, 2006; Olsen, 2009a). Høgestøl and Prøsch-Danielsen (2006, p. 28) argue for an "escalation of agricultural activities from 2500/2200 BC, i.e., the LMNII/ELNI, in south-western Norway" (i.e., the Late Middle Neolithic II/Early Late Neolithic I). Meanwhile, in eastern Norway, the transition date to the Late Neolithic is also set at 2350 BC, but external impulses allegedly entered the region from the south-east, that is, not via immigrating Bell Beaker people, but as a result of contact between the Corded Ware/Battle Axe cultures of the Middle Neolithic and Bell Beaker groups further south (Glørstad, 2012a; Malmer, 1975). It seems the model used to explain change influences where the chronological threshold is placed.

The confusion is exacerbated by the fact that southern Norway, in line with parts of southern Scandinavia, formed a complex 'cultural patch-work' (Mansrud & Berg-Hansen, 2021, p. 862) in which, amongst others, Pitted Ware/Cord Stamp culture, Late Funnel Beaker, Battle Axe culture, and Bell Beaker material complexes partly overlapped (see also Prescott, 2020, p. 386), alongside hunting and gathering societies drawing on their own material culture repertoire. In such a scenario, different innovations and practices are quite likely to have been introduced at different times. Dating a context by referring to 'type' artefacts as dated hundreds of kilometres further south is hence unhelpful.

2.2 A Bell Beaker 'Package' From Jutland?

Supporters of a sharp Late Neolithic transition often argue that a Bell Beaker 'package' arrived in Norway from somewhere in Jutland, occasionally specified as northern Jutland and the Limfjord area (Ling, Earle, & Kristiansen, 2018, p. 495; Prescott et al., 2018, p. 183). However, there is no direct link between the material characteristics exhibited in Norway and a particular area of Jutland, let alone 'Jutland' as a whole, which is itself far from coherent. In Jutland, regionalisation already set in during the closing centuries of the fourth millennium BC, when steppe-inspired stone-heap graves in northern and western Jutland (constructed c. 3100–2800 BC; Johannsen & Laursen, 2010) coexist with the Pitted Ware culture of the north-east Danish coast, with its largely hunting, fishing, and gathering focus (Iversen, 2010; Iversen, Philippsen, & Persson, 2021; Klassen, 2020).

This pattern of cultural diversity continues in the subsequent centuries. From c. 2850 BC, Corded Ware/Single Grave burials appeared in southern Scandinavia containing interments with the so-called 'steppe ancestry' (Allentoft et al., 2022; Egfjord et al., 2021; Hübner, 2005; Malmström et al., 2019). From central and western parts of Jutland, single graves spread to most of the peninsula and the island of Funen, but northern Jutland, parts of eastern Jutland, and the eastern Danish Isles (i.e., Zealand and adjacent islands) were left out. Instead, the eastern Danish Isles formed a regional group with a strong basis in old Funnel

Beaker traditions, such as the use of megalithic tombs and large communal gathering sites in the form of palisaded enclosures (Iversen, 2015).

The beginning of the Late Neolithic (c. 2350 BC) does see some definite changes associated with the introduction of Bell Beakers in central and northern Jutland. One is the use of pressure-flaking and a widespread production and distribution of flint daggers reaching Norway and Sweden (Apel, 2001; Lomborg, 1973). The pottery itself is often referred to as 'Bell Beaker-like' and is most similar to the late Epi-Maritime and Veluwe style beakers occurring around 2300 BC in the Dutch Veluwe region of the Lower Rhine. In addition, the period saw the re-appearance of a limited number of metal artefacts, both copper and gold, across Denmark, mainly in northern Jutland. Interestingly, Bell Beaker-inspired gold *lunulae* are found on Zealand and Funen, away from the bulk of Bell Beaker pottery and arrowheads. Finally, the Late Neolithic sees a diversification of arable agriculture, now practiced more extensively in the landscape, and the occurrence of pressure-flaked flint sickles. Two-aisled longhouses of modest dimensions (5–20 m) and with or without sunken floors are also built in greater numbers from 2350 BC onwards (Andreasen, 2009; Gron et al., 2021; Iversen 2015, pp. 103–115; Sarauw, 2006).

In sum, all the elements of a classic Bell Beaker package are present, but the picture is blurrier than this initial characterisation suggests. To begin with, according to Eva Hübner's revised chronology, there is an overlap of c. 100 years between the final Single Grave period (ending c. 2250 BC) and the beginning of the Late Neolithic (Hübner, 2005, pp. 665–667, Figures 477, 482–483), so that some mutual influencing may well have taken place. Although this needs greater consideration of methodological issues such as the old wood effect, archaeologically this is shown in the production of straight-walled beakers with Single Grave culture precedents but ornamented in Maritime or Bell Beaker-like styles. Hence, Danish Bell Beaker pottery mixes developed Bell Beaker features with local traditions (Iversen, 2015; Sarauw, 2008; Vandkilde, 2007). In addition, the reappearance of metal artefacts is unlikely to have had any significant social impact, given their relative scarcity. In her study of the Late Neolithic and Early Bronze Age metal finds from Denmark, Vandkilde (1996) only records 72 finds from the c. 400-year-long early Late Neolithic period (LN I, c. 2350–1950 BC). Metal items only increased in number from about 1950 BC (LN II) due to closer contacts with the flourishing central European Únětice culture, which probably inspired the large houses of almost 50 m now being built in Denmark (Iversen, 2017; Johannsen, 2017; Nielsen, 2019; Vandkilde, 1996).

The Late Neolithic burial custom was also varied and included stone cists, reused megalithic tombs, burial mounds (including reused Single Grave mounds), and flat-earth graves. Sarauw (2007) defines a group of 'Bell Beaker-inspired' archery graves, mainly located in the hotspots of Bell Beaker pottery in central and northern Jutland. They contain elaborate lanceolate flint daggers (subtype IC) and pressure-flaked arrowheads with concave bases – the classic barbed and tanged Bell Beaker type is relatively rare in Denmark. These archery graves are single supine interments, often oriented east–west, which contradicts the typical layout of crouched, north–south oriented Bell Beaker graves elsewhere in Europe (Iversen, 2015).

Hence, the overall picture of the third millennium BC in Jutland is one of cultural diversity and regionalisation with wide-ranging contact networks. While the introduction of Bell Beaker pottery can be associated with other changes and novelties — metal, pressure flaking, intensified agriculture, and so on — there is also evidence for admixture with local tradition, recombinations, and selective adoption. This was a creative context of considerable innovative potential, but no straightforward package deal. The 'classic' picture of the longhouse farm commanding metal resources takes several centuries to emerge.

As a background for the situation in Norway, this pattern is more complicated than the simple implantation of a coherent set of material culture. Moreover, only some of the innovations characteristic of (northern) Jutland's Bell Beaker culture — such as agriculture and longhouses — ever appear in Norway, while many others — the syncretic straight-walled beakers with metope decoration, the innovations in burial rite, and the low-level, but consistent deposition of copper axes — never do. This should invite us to reconsider which people and processes lay behind such transfers, especially since pottery and burial rites are supposedly central symbolic elements of what characterises the Bell Beaker phenomenon. In a few

instances, where practices like those seen in Jutland are documented in Norway, they do not occur together, nor do they start a lasting tradition; rather, these are islands of short-term innovative flashes.

2.3 The 'Type Sites' of the Transition in Western Norway — Are They Representative?

There is a restricted range of well-excavated sites or diagnostic artefacts that are time and again argued to be crucial for understanding chronological and social developments around 2350 BC. One of the most referred-to examples is the open-air site of Slettabø in Rogaland, south-west Norway (Skjølsvold, 1977; reinterpreted by Glørstad, 1996); the only place where fragments of a classic Bell Beaker pot have been documented in the country (Skjølsvold, 1977) (Figure 3). While this may partly be a matter of preservation (pottery is often too fragmented for secure typological assessment; e.g., Lindell, Fyllingen, Lempiäinen-Avci, & Lechterbeck, 2018; Nyland, Lempiäinen-Avci, Tjemsland, Mooney, & Denham, 2018), it raises the question of how to argue on the basis of missing or negative data – can we assume that Bell Beakers formed a standard part of the inventory, or was a defining artefact of this material complex in fact never consistently introduced?

In contrast, barbed and tanged arrows associated with Bell Beaker groups, or 'heart- or leaf-shaped' arrowheads with concave base, have been found in great numbers in south Norway, along the coast, inland, and in the mountains (e.g., Mjærum, 2012; Østmo, 2012; Prescott, 1986, 1993) (Figure 4). Recent excavations have secured tanged and barbed arrowheads and production waste from good stratigraphic contexts (2470–1830 BC) (Mansrud, van de Lagemaat, & Mooney, 2022; Zinsli & Ramstad, 2018). The arrowheads with concave bases also occur in the Early Bronze Age in Norway, and as late as the Late Bronze Age in Denmark (Ebbesen, 2004, pp. 93–97). Hence, mapping all the stray finds of these types together may hide chronological depth. Furthermore, most finds of larger tools, such as flint daggers or flint and shaft-hole axes, are stray finds or from hoards, and unfortunately not primarily from scientifically excavated contexts.

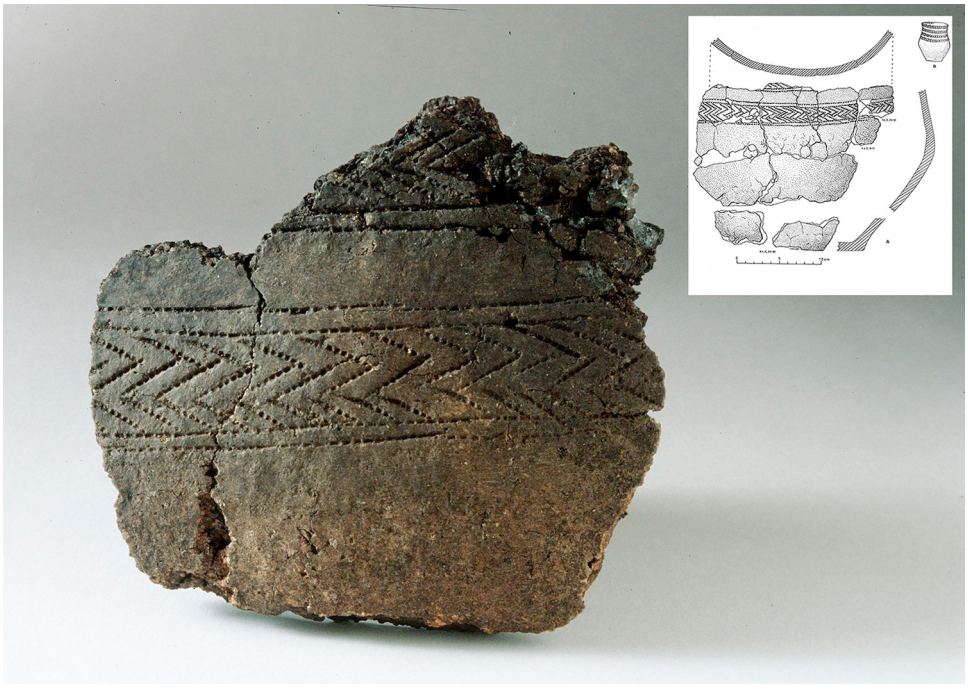


Figure 3: The Bell Beaker sherd (S9648) and drawing of the reconstructed Bell Beaker found at Slettabø (Pl.54 in Skjølsvold, 1977, p. 364). Re-published with permission from Museum of Archaeology, University of Stavanger.

Figure 4: Bell Beaker barbed and tanged arrowhead, and bifacial arrowheads with concave base found along the Norwegian west coast. Top right: From site Fosnaneset 1a at Karmøy, Rogaland County; photo AM, UiS; bottom: from site 134 Jensavikjo, Bømlo, Vestland, photo: Museum of Archaeology, University of Stavanger. Drawing by T. Strenger; top left: points from Slettabø, Rogaland County, pl.12 in Skjølsvold, 1977, p. 322. Re-published with permission from Museum of Archaeology, University of Stavanger.

The understanding of local lithic technological and typological development is thus still coarse-grained. Most such finds are generally typologically dated to 'Late Neolithic/Early Bronze Age' (a timespan of up to c. 1250 years) as a whole, making a discussion of nuances in developments very challenging.

There is also a great variation in depositional contexts of imported flint tools such as flint daggers and axes, versus more expedient and flake tools for everyday living, as well as in the date ranges of these objects.[3] However, in some instances, items are found together. For instance, a fragment of a type IC dagger

3 In Norway, there is no flint naturally in the bedrock. One may find flint nodules on the beaches, the so-called beach flint deposited during the last Ice Age. This flint is suitable for blade and flake productions, but most large tools like daggers, sickles, spoon-shaped scrapers, or axes (i.e., those requiring high-quality flint) are imported from Denmark or south Sweden. Appreciation of high-quality flint can also be seen in hoard deposits, where finished tools are deposited together with large flint flakes of the same good quality.

with parallel retouch scars, normally regarded as an imported high-status artefact linked with Bell Beaker groups, was found at the open-air hunting camp site Nøklegård I in south-eastern Norway dated to 1910–1745 BC, that is, several centuries after the alleged transition to the Late Neolithic at 2350 BC. This indicates a long period of use for allegedly chronologically diagnostic objects (Jaksland & Kræmer, 2012, p. 222). Moreover, at Nøklegård I, a new 'type' of bifacially knapped tool, named the Nøklegård type, unique to Norway, was found. Microwear analyses indicate that these were composite tools used for working antler and bone (Knutsson & Knutsson, 2012, p. 294). Later, these artefacts were recognised at other open-air sites (one dated between 1932 and 1622 BC, e.g., Sørskog, Lempiäinen-Avci, & Lechterbeck, 2017, p. 32). None of these have traces directly relating them to agricultural practices, but are located in coastal areas showing forest reduction that is thought to improve conditions for grazing livestock (cf. Jaksland & Kræmer, 2012; Mansrud et al., 2022; Sørskog et al., 2017; Zinsli & Ramstad, 2018). Even Bell Beaker tanged and barbed arrowheads are found in a variety of landscape zones, both by the coast and in the wooded hinterland, and are not limited to agriculturally favourable regions. The characteristic points and imported daggers were hence potentially incorporated into a wide variety of tasks (e.g., traditional subsistence) rather than in themselves necessarily heralding the quick appearance of a new, coherent agricultural way of life.

Turning to two-aisled houses dated to the Late Neolithic-Early Bronze Age, we can list 16 excavated sites with one or more houses in south-western Norway (Prøsch-Danielsen et al., 2018; Soltvedt, 2020), while there are 13 sites with one or more houses on the western and north-western coast[4] (Diinhof, 2013, p. 59; Olsen, 2013, p. 134). In south-eastern Norway, there are approximately nine sites with one or more houses (Damlien et al., 2021; Solheim, in prep.). No longhouses similar to those known in South Scandinavia are dated prior to 2300 BC, and even then it seems to take a few hundred years, at least until 2000 BC, for house building to become a generally established practice (Soltvedt, 2020; Solheim, in prep; Sand-Eriksen & Mjærum, 2023). In addition, even where cereals have been found in association with longhouses, such as in northern Jæren (Prøsch-Danielsen et al., 2018; Soltvedt, 2020), exploitation of marine resources like seals may have continued alongside (e.g., Lindell et al., 2018, p. 27). Indeed, open-air sites with light shelters, pit houses, or no structural features exist in different landscape zones (coast, inland, and montane regions), together with the utilisation of rock shelters (e.g., Årskog & Åstveit, 2014; Jaksland & Kræmer, 2012; Mansrud et al., 2022; Prescott 2020; Reitan et al., 2018; Sørskog et al., 2017; Waraas & Åstveit, 2005; Zinsli & Ramstad, 2018). Open-air sites and rock shelters remain frequently used site types throughout the Neolithic and well into the Bronze Age. This indicates a flexible settlement practice and a wide-ranging resource exploitation, i.e., a mixture of agricultural and traditional hunting, gathering, and fishing activities.

The grave mound Mjeltehaugen on Giske Island, on the coast of central Norway is a frequently portrayed key site too, argued to demonstrate the introduction of Bell Beaker mortuary practices (e.g., Prescott et al., 2018; Sand-Eriksen, 2015). Decorated stone slabs formed one or more chambers, but the surrounding cairn was partly destroyed in the latter half of the 19th century, before the slabs were salvaged, and the rest was excavated in the first half of the 20th century. Because of its fragmented state, there are disagreements as to the original form of the grave chamber(s) and their date. A triangular motif, interpreted as one half of a dagger 'of Italian type', is used to argue for a date around 2350 BC (Melheim & Ling, 2017; Melheim & Sand-Eriksen, 2020, p. 89; Prescott et al., 2018; Sand-Eriksen, 2015). This would make the mound a unique construction in Scandinavia, its nearest parallel being found around 2,000 km away in the Alps. Furthermore, similarities between the boat figures on the Mjeltehaugen slabs and rock art sites along the west coast (see images in Goldhahn, 2006, p. 298) are also sometimes taken to indicate a date either to around 2350 BC (Melheim & Ling, 2017, pp. 73–74) or alternatively the Early Bronze Age (Linge, 2005; Østmo, 2002). The rock art sites with boat images themselves are only dated typologically (by comparing ship images to those on Bronze Age metalwork, e.g., Kaul, 1998) or by using the height above sea level. The latter provides a maximum age for the rock surfaces the image is carved on to have risen from the sea. The boat image in Mjeltehaugen is thought to represent the earliest boat type in the 'Bronze Age' rock art tradition, and boat

4 In the current Vestland and Møre og Romsdal counties, most found around Sunnmøre.

images also seem to be related to the shores. However, dating based on height above sea level may be problematic as a similar image was carved on the top of a rock painting thought to be Early Neolithic based on height (Nyland, 2011). In sum, the dating of the Mjeltehaugen slabs by these means remains open to several interpretations.

The practices of decorating stone slabs and interring the burial chamber in a mound have no local predecessors or immediate followers in Norway. Figurative decoration is not widespread in the southern Scandinavian Bell Beaker context either (Iversen, 2019, p. 150). However, in south-west Norway and on the coast of central Norway, there is an established Early Bronze Age practice of decorating the inside of cists (Askvik, 1983, p. 33; Syvertsen, 2003). Early boat images could either have northern parallels (Engedal, 2007; Gjerde, 2017) or be linked to Bell Beaker maritime culture (Melheim & Ling, 2017; Østmo, 2005; Prescott et al., 2018). Depending on one's preferred analogy, Mjeltehaugen could hence date to 2300 BC or 1700 BC and could show either northern or southern impulses, supporting very different narratives.

Scientifically excavated Late Neolithic graves are in any case rare, and the known examples are very different from Mjeltehaugen (e.g., catalogue in Austvoll 2018). A recently recorded one is the unmarked burial of a 2- to 4-year-old child recovered on Aukra island, directly dated to 1975–1880 BC (Åstveit, 2008, p. 273). Other potential Bell Beaker burials were uncovered in older excavations. At Hitra on the coast of central Norway (Marstrander, 1954, p. 66), skeletal remains were found close to two objects, one flat oval/figure-of-eight-shaped object with two centrally placed holes, frequently interpreted as a wrist guard but actually more akin to an elongated button or belt buckle; and one atypical flint dagger/spearhead (Marstrander, 1954, p. 66; Scheen, 1979) (Figure 5). Neither of these artefacts corresponds closely to classical Bell Beaker types. Another grave often related to migrating Bell Beaker people is a mound at Vanse, on the coast of Agder. It is said to have contained an early metal item, but the context remains unclear as it was never scientifically excavated either (Melheim, 2012, p. 76). In south-eastern Norway, cist burials which sometimes contain daggers and arrows date to around 2000 BC (Østmo, Høeg, & Holck, 2011).

In sum, the narrative of an extensive and swift take-over by Bell Beaker groups relies on a restricted set of sites and artefact types which, on closer inspection, are imprecisely dated, do not occur in clear 'package'-like associations, have ambiguous roots and connections and/or remain relatively isolated and

Figure 5: The artefacts found in the proposed Bell Beaker grave on the island of Hitra, often referred to as a type I dagger (T11792a, ca.12 cm long) and wrist guard (T11792b, ca. 4 cm long) (Photo: A. Larsen, Vitenskapsmuseet, NTNU; CC BY-SA 4.0).

atypical. It rather seems that the much later and clearer material signature of the Bronze Age has acted as a kind of conceptual 'filler' and led to the lumping together of chronologically and spatially disparate evidence into an overly coherent picture. This tendency of using the Bronze Age as a conceptual filler for the Neolithic has also led to the prioritisation of only some of the many geographical links that can in fact be identified in the material. There still does appear to be a watershed moment around 2350 BC involving the introduction of bifacial knapping technology and the appearance of the first two-aisled houses, for which no convincing local predecessors exist. This is coupled with larger numbers of domesticated cereals and could indicate the arrival of migrants with new technologies. The significance of these changes has often been underplayed by the proponents of model 2. However, for the first few centuries, these novelties appear in a scattered, island-like pattern, not a spatially continuous, blanket-like one.

2.4 Multiple Lines of Communication and Multiple Origin Points — Not All Change Comes From the South

Communication lines from South Scandinavia to south-eastern and western Norway dominate the discussion of developments in the third millennium BC (e.g., Nielsen et al., 2019; Prescott & Glørstad, 2015; Prescott et al., 2018; Prescott, 2012; Prøsch-Danielsen et al., 2018). Potential lines of communication north–south and west–east are less explored. The reason for this may be that in both models, hunter-gatherer societies are seen as 'closed' or 'cold', either because, as in model 2, movement to obtain exotic goods would be limited to 'Big Men' and specific task groups (Bergsvik, 2012; Olsen, 2012) or because, as claimed in model 1, they were characterised by an almost 'oppressive' egalitarianism inimical to change (e.g. Prescott, 2012, p. 123) – actually a terminological paradox. However, contact and movement of people and goods are marked by the varying frequency, directions, and composition of objects and other materials (archaeological, botanical, and zoological) as observed in the different regions (as illustrated in Figure 6). This variation and mixing of external impulses with local traditions started already in the fourth millennium BC and created the background conditions for creative synergies.

Pottery, for example, is considered a 'Neolithic indicator' in south-eastern Norway. It is relatively sparse and arguably locally made, although in the Early Neolithic, it is directly or indirectly linked to contact with migrating groups of the South Scandinavian Funnel Beaker societies (Glørstad & Solheim, 2015; Hallgren, 2012). Yet subsequently, and over the course of the Middle Neolithic, a variety of styles also spread to the west coast, including pottery with pitted decoration, cord-impressed, and cord-stamped styles (Åstveit, 1999; Glørstad, 1996; Hallgren, 2008, 2012; Mansrud & Berg-Hansen, 2021; Nielsen, 2021; Olsen, 1992; Østmo, 2008, 2010; Skjølsvold, 1977; Solberg, 2015). Especially given the lack of detailed *chaîne opératoire* studies, it remains difficult to trace directions of influence, and even more so origin points. Alongside the Funnel Beaker culture, one must consider contact with Pitted Ware groups in central Sweden (via Trøndelag), or indeed local innovations. In any case, pottery between c. 3300 and 2800 BC in southern Norway is associated with hunting-gathering-fishing groups (e.g., Åstveit, 1999; Olsen, 1992; Østmo, 2008, 2012; Solberg, 2015). It does not appear to have functioned as a boundary-marking artefact, separating clearly delimited style zones, but rather traces a broad field of interaction. Similar styles of pottery, rather than bona fide Bell Beakers, are then also associated with Late Neolithic dates at sites like Hesthag C6 (Reitan, 2017, p. 19).

The use of ground slate tools is a technology introduced from the north and north-east, where it partly overlaps the pottery tradition of eastern Finnmark in the Late Mesolithic (Damm et al., 2019; Skandfer, 2009). Slate technology was introduced in western Norway c. 4000 BC, probably arriving via central Sweden, and gained a solid foothold in central and western Norway in the Middle Neolithic (Figure 7). Slate tools are found in south-eastern Norway too, even in contexts associated with Late Funnel Beaker groups. For example, a slate arrowhead was recovered in one of the only five megalithic structures interpreted as dolmens in the Oslofjord area (Østmo, 1983, 1984). The dolmens are dated to around 3000 BC. The

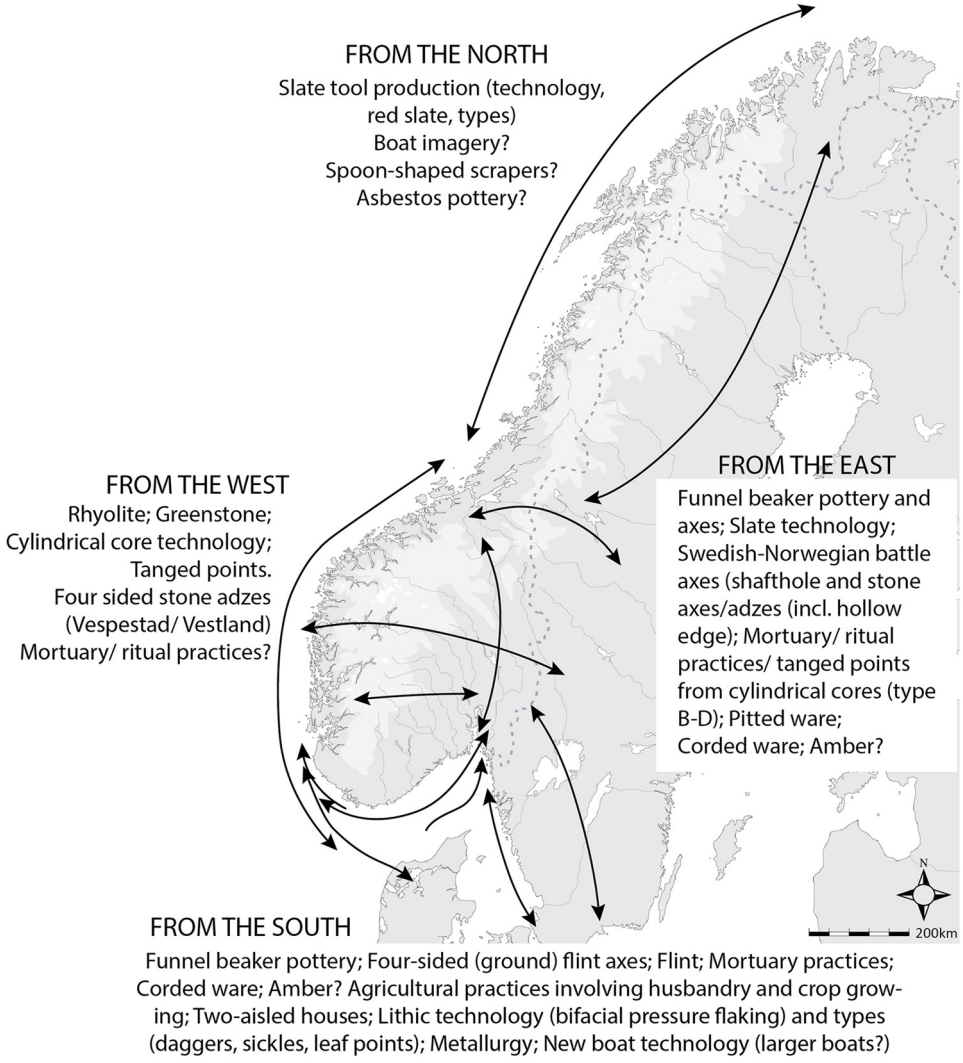


Figure 6: A number of elements, objects, types, and technologies move across Norway, starting already around 4000 BC. The direction and frequency of distribution in the different regions vary, and whether they move through migration or trade is up for discussion. The map is inspired by Gjessing (1945, p. 333). Rather than showing precise origin points and single lines of movement, the multiplicity of arrows is meant to emphasise that connections likely went both ways and that often we do not know precise transmission routes (illustration: A. J. Nyland).

Figure 7: An example of a slate point (B11416), found at the site of Straume, Nordhordland, western Norway and dated to the end of the fourth/start of the third millennium (photo: A. J. Nyland).

slate arrowhead was discovered together with an amber bead, tanged flint A-points, and a polished flint axe (Østmo, 1984, p. 74f). These connections parallel earlier Middle Neolithic networks through which cylindrical core technology had previously spread north and east from western Norway (Solheim, 2012).

Amber is also an interesting material in this context, because it was collected along the Baltic shores of Denmark, northern Germany, or even further to the east and subsequently travelled widely throughout Mesolithic and Neolithic networks (Axelsson, Strinnholm, & Ramstad, 2016). Lense-shaped amber buttons with a V-shaped hole in one side have been found in Middle Neolithic contexts at Auve in south-eastern Norway (Østmo, 2008). Similar amber buttons from Aukra island were found in contexts dated between 3400 and 2900 BC (Åstveit, 2008). Another 40 similar buttons were discovered in a pit at Skatestraumen, western Norway. Although at first assigned to the Early Bronze Age Period I–II (Lødøen, 1993), they were later dated to the Middle Neolithic A–B (T. Lødøen, personal communication, 12 June 2022). Along the central parts of the Norwegian west coast, amber pendants, including half-moon shaped, were deposited during the Late Neolithic (as well as imitations in bone) (Henriksen, 2014; Kleiva, 1996; Mandt, 1991). The half-moon shape has no known parallel in either the south or the north. On the coast of Arctic Norway, amber beads and pendants are dated to the fourth millennium BC (Damm & Skandfer, 2022; Ramstad, 2006).

In sum, it is evident that multiple long-distance connections existed long before the alleged arrival of Bell Beaker groups and that they continued after 2350 BC. These connections cut across societies with different economic orientations and comprised both potential prestige items like amber beads and some carefully fashioned slate tools (Damm & Skandfer, 2022), technological innovations like pottery, and relatively everyday items like the majority of slate knives.

The dynamics and dialectics of the social world are driven by reflexive practices and are part of continual explorations of the boundaries of the familiar (Schutz, 1970, pp. 74–75, 320). When encountering something unfamiliar, one's everyday world, the world-taken-for-granted, is challenged (De Certeau, 1984; Schutz, 1970). The chosen strategy to deal with this is then decisive for subsequent developments and material expression. This premise means that the search for 'packages' or selected indicators of the presence of a specific society is problematic, as the encounter between old and new will inevitably lead to processes of hybridisation and synergy, with resulting changes on both sides and a tendency to regionalisation. This makes it difficult to define clear chronological thresholds based on material indicators and is what so often makes transition processes blurry in both space and time.

2.5 What Constitutes Agriculture?

The search for the earliest traces of agriculture – and debate around when an activity can be classified as 'agriculture' – has been especially prominent in Norwegian Neolithic research. The Late Neolithic transition around 2350 BC goes hand in hand with considerable landscape opening and multiproxy evidence like continuous cereal pollen curves, charred cereal grains, cultivation layers, and the presence of domesticated animals at a markedly larger scale (e.g., Bergsvik et al., 2020; Reitan et al., 2018). Proponents of model 2 have argued that this step-change is the result of a long, drawn-out process, in which hunter-gatherers themselves progressively began to experiment with cereal growing and animal husbandry as part of actively managing the landscape around them, without coming to rely on domesticated species as their main food source.[5] This is largely based on palynological evidence for landscape opening and low levels of *cerealia*-type pollen and on the changing distribution of axes in different landscape zones over time (Bergsvik et al., 2020). It has been characterised by terms such as 'low-level farming' (Bergsvik et al., 2020) or by describing people as 'hesitant hunters' (Hjelle et al., 2006). For proponents of model 2, therefore, only a

5 Very few bones of domestic animals dated to the Neolithic have survived. The oldest is a bone from a cow dated to 3340–2890 BC in Rogaland, south-west Norway (Høgestøl and Prøsch-Danielsen 2006) (see also Figure 8). It is the identified pollen and macro-fossils that dominate in our article review and hence are elaborated on.

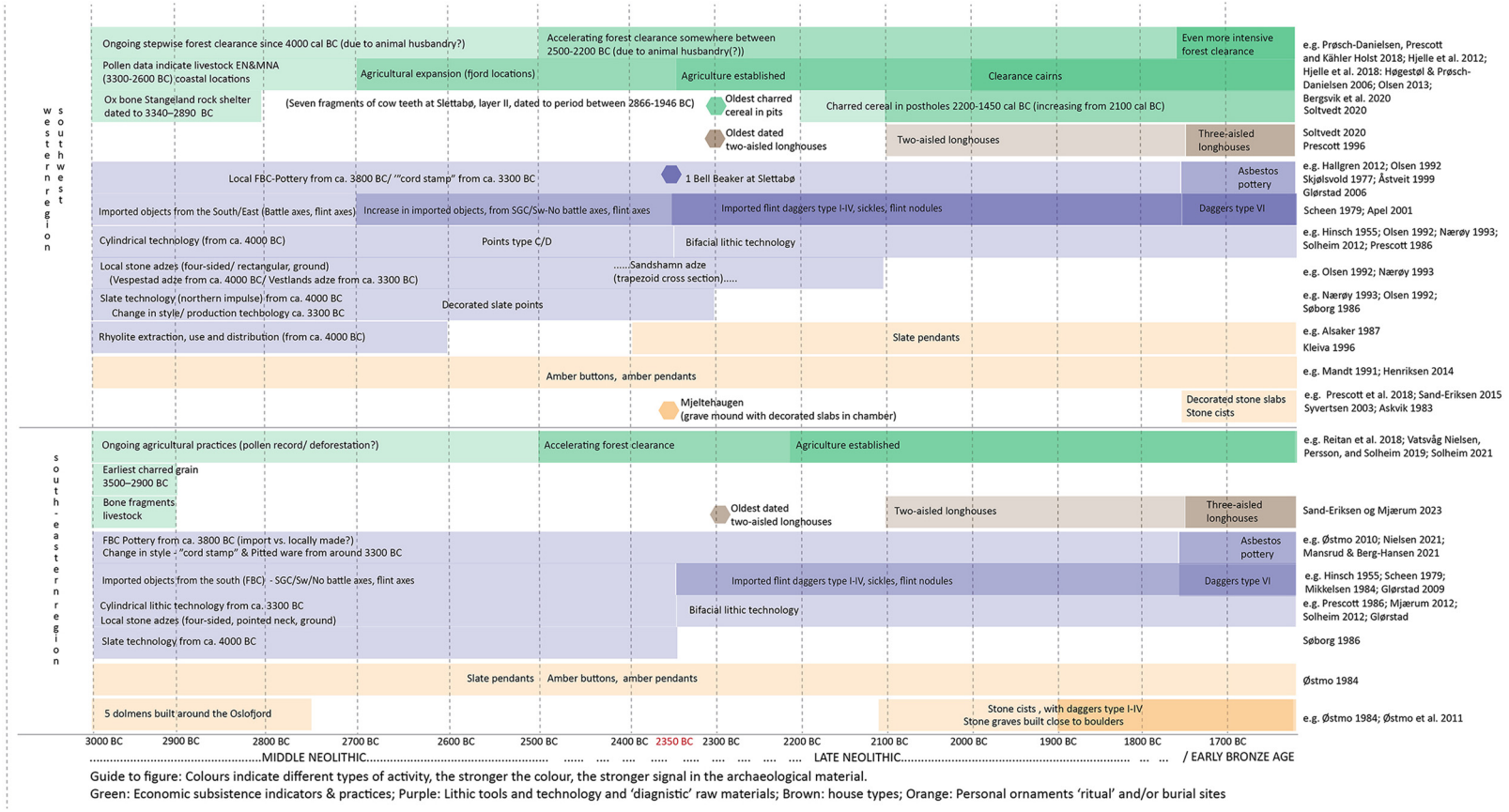


Figure 8: A regionalised picture of change showing the, sometimes, slow character of long-term processes, intermixed with some islands of change/tipping points or key sites. Date ranges for the different elements are collated from sources referred to in Table S1 and throughout the text, some of which are listed to the right in the figure (illustration: A. J. Nyland).

limited number of actual migrants (if any) were needed to bring knowledge of these practices to Norway, while landscape management to an extent 'pre-adapted' hunter-gatherers for the final transition to agriculture. Proponents of model 1, on the other hand, tend to reject the palynological evidence point-blank due to alleged taphonomic problems, 'variable contextual quality, accuracy of the dates, chronological synchronisation with archaeological data and lack of analogical consistency' (Prescott, 2020, p. 382).

The main problem seems to be the either–or nature of the argument (challenged more broadly by e.g. Bogaard et al., 2021; Denham & Donohue, 2022). Agriculture was *either* practiced by Middle Neolithic hunter-gatherers, but this then excludes a different kind of agriculture being brought in later (model 2) *or* it was a practice exclusive to Late Neolithic migrants, in which case it cannot possibly have existed beforehand (model 1). Here, we argue that the two models can actually be fruitfully combined. Woodland management practices by fisher-hunter-gatherers seem likely on the evidence presented so far, but there is no clear trend towards intensification over time. Rather, they fall into a broad range of, for want of a better term, 'in-between societies', who variably engage with a range of species without necessarily committing to a trajectory towards full-scale cereal growing and animal husbandry (see, e.g., Denham & Donohue, 2022; Smith, 2001).

What happens in the Late Neolithic is then quite dissimilar in character and scope, and connecting this to the influx of a new population with different economic practices and views of the landscape is a plausible hypothesis. This scenario is also indicated by the fact that in south-western Norway, perhaps the key region for early agriculture in the country, grains are primarily found in association with two-aisled houses (Soltvedt, 2020, p. 33), suggesting a distinctly different form of dwelling in the world with no clear relation to local predecessors. What we contest, however, is that this transformation immediately caused 'the' transition to agriculture in Norway, complete with imposing ready-made social structures and ideological change on a yielding substrate. Rather, evidence for crop growing related to household activities became more common only after 2200 BC and truly widespread and intensified only after 1900 BC (Soltvedt, 2020). Also, the topographic landscapes of Norway are quite different from those in Jutland. Even today, only 3.5% of the total area of Norway is suitable for crop growing. Hence, any putative migrating groups would have needed to rely on local know-how of topography, climate, vegetation, or geology, regarding the best strategies for farming in potentially challenging settings, as well as for learning to exploit wild resources which were different from their areas of origin (Nyland, 2020). Hence, the character, and perhaps meaning, of cultivation may have differed between the Middle and the Late Neolithic, and there is scope for a process of two-way adaptation and learning.

In sum, there is material evidence of people coming into contact with each other across south (and north) Norway throughout the fourth, third, and second millennia BC (Figure 8). There are multiple changes in lithic raw material use, procurement and quarrying, tool types, settlement practices, landscape, and resource use. In addition, on closer inspection the 'Bell Beaker package' appears to be less neatly tied together than is often implied, with key innovations staggered out over a considerable time depth. While one can identify a kind of tipping point with the appearance of post-built longhouses and agriculture around 2200 BC (rather than the often advertised '2350 BC threshold'), this is hardly a bolt out of the blue and builds on a long history of connections. It is likely that some migration was involved in this process, but there is also a lot of continuity in other aspects of life. In addition, as detailed earlier, not all elements of the classic continental Bell Beaker package are even present, and those that are, undergo considerable regional adaptations. This transition narrative could hence be among the most exciting on offer, but to extend it, further new models must now be debated.

3 Asking New Questions: What did the Transition to the Late Neolithic Look Like?

So far, we have remained relatively close to the details of the Norwegian evidence, pointing out its ambiguities and limitations. In this final section, we examine some of the recurrent, but often implicit

assumptions that inform both transition models as represented in our literature review (Table S1). These concern the nature of the social groups involved, the main actors of the transition, and the way complex processes like 'migration' are consistently black-boxed. We also make some admittedly selective suggestions of how these black boxes could be prised open, but first and foremost our aim is to encourage researchers to experiment with a wider range of models.

3.1 What Does a 'Migration' Actually Imply?

How migration is understood is a central part of the discussion. In model 1, migration happens quickly and dramatically, replacing the hunting-gathering-fishing-based lifeways of the Middle Neolithic and its ambiguous evidence for agriculture, with a clear-cut transition to farming life (e.g., Prescott & Glørstad, 2015; Prescott et al., 2018). The most common idea is that small groups of high-status people, termed 'entrepreneurs', and implicitly gendered male, arrived on the west coast of Norway to prospect for metal, or to exploit other local raw materials and forest products. These would be obtained through a mixture of strategies involving 'terror', violence, and new luxury goods (Glørstad 2012b, pp. 94–95; Prescott & Glørstad 2015, p. 85). Only later would larger groups of a more socially diverse composition follow the initial settlers (Prescott, 2009, p. 208; Nielsen et al., 2019, p. 82). For those favouring model 2, the impact of migration is at best incidental. As mentioned, few marriage partners (sex not defined) may have arrived from abroad but were apparently not in themselves capable of bringing about social change (e.g., Bergsvik, 2012, p. 101). In both cases, the migration event itself has remained relatively undertheorised, with authors generally limiting themselves to briefly mentioning well-known types of migration ('leap-frog' or 'Wave of Advance'; see Table S1) without further discussion. However, this needs further critical engagement.

The parallels to historically attested situations of colonial conflicts in the early modern period are unmistakable particularly in model 1 (Nyland, 2020), where it is assumed that sufficiently powerful and driven individuals succeeded in transplanting their culture wholesale from one part of Europe to another. This is questionable. Even historical colonial contexts, where the balance of power was eventually very unfavourably weighted, did initially (as long as the numbers of migrants were rather low) require some accommodation on the side of the colonists, and early entradas, exploration voyages, and settlement ventures were very much dependent on the goodwill of the resident population (e.g., Beck, 2013, pp. 1–7; Cayton & Teute, 1998). It seems inappropriate to use the eventual outcome of a centuries-long process from early modern history as a template for understanding the initial stages of an encounter in a prehistoric setting, where the technological and economic cards would in any case have been more even.

To deconstruct the black box of the migration process to the Norwegian west coast, one could begin by expanding the range of possible models under consideration. The entrepreneurial model seems to rely on a modern capitalist analogy of relatively isolated social actors commanding considerable resources as the main agents. Yet even in situations in which migration functions as prestige-seeking behaviour, for instance where junior members of high-status groups established new settlements to circumvent their lower position in a birth-order hierarchy (as in Bellwood's, 2013, p. 197, founder rank expansion model for Remote Oceania), the process required communal investment. In particular, where settlement was a desired outcome, it was necessary to accumulate considerable surplus of livestock and seedcorn, as well as any raw materials or objects necessary for ritual and social reproduction (e.g., Strien, 2017). The journey itself, as a risky endeavour, could have been hedged about with ritual prescriptions, necessitating feasts, specialist skills, and resources, as did the building of seaworthy vessels (e.g., Thomas, 2021, p. 153). Where return voyaging and continuous contact were possible, the prospective entrepreneurs would therefore not have arrived as free agents of enterprise, but as already enmeshed in a network of obligations. These networks are likely to have extended to the indigenous population, whose tolerance was necessary to establish farms and whose know–how could have helped to identify resource patches in an unfamiliar landscape. It is also possible to imagine a scenario in which initial settlers were the survivors of conflicts or crises at home, or the outcasts of political upheavals, in which case their departure could have been rather

more ad-hoc, their resource base reduced, and their motivation to blend with the local population increased (as variously attested ethnographically and ethnohistorically, see, e.g., Clark et al., 2019; Kennett & Winterhalder, 2008; Kopytoff, 1987).

In addition, the composition of the migrant groups themselves is open to question. Was it individual households that migrated, including members of all ages and both sexes? Or were migrant groups composed of several households, settlements, or corporate groups who first came together during migration, for instance due to social discontent or simply to follow charismatic individuals to a better future, as for example suggested for the rapid colonisation of New Zealand (Walter, Buckley, Jacomb, & Matisoo-Smith, 2017)? Alternatively, new identity groups can also coalesce as a response to outside pressures, as attested in colonial situations in the United States (e.g., Cipolla, 2013; Voss, 2008). In either case, the migration itself could be seen as a foundational event that established a new social formation in the first place (see also Hu, 2013; Voss, 2015). In this process, material culture and other traditions could be blended together in new constellations which did not precisely copy any one source area at home.

After arrival in a new location, especially one that was already settled, further transformative processes likely took place, involving both the adaptation of practices, tools, and techniques that were particularly suited to new environments, and those that were important in a new social setting with different kinds of people. In this context, it is important to stress that migrant material culture is inherently trans-local – it no longer exactly copies that of the source area, although some practices may persist, but is not identical to that in the destination area either (e.g., Burmeister, 2017). Negotiating this balance takes place in both outside contexts of interaction with 'others' and internal contexts of daily life in the new location (Burmeister, forthcoming), requires a certain length of time, and has no predetermined outcome.

In the west Norwegian case, it thus seems little surprising that the material culture 'package' of any Bell Beaker-affiliated migrants was in fact no package at all. Drawn from a context of considerable cultural syncretism in northern Jutland, composite groups from several micro-regions or settlements could have banded together to establish new settlements in areas to which they most likely had some existing contact and where they could expect a not too hostile welcome. Coalescing as a new group may have required the jettisoning of some of the objects and practices that were particularly salient at home, while other new ones were acquired at the destination. Overall, the process could have been drawn-out, messy, and unpredictable, with considerable experimentation along the way, and coalescence into one or more new units only after some time. This scenario fits the west Norwegian evidence better than the straightforward transplantation of a notional Bell Beaker horizon already hard to trace in Jutland. However, it also means that the impact of migration can no longer be denied as categorically as is sometimes the case in model 2. If *both* migrants and locals were acting in a context of flux, negotiation, and accommodation, then the fact that a new practice or object did not look exactly alike in its source area does not mean that only indigenous people could have been active in its adoption.

There are several ways in which this debate could be taken forward. One is to broaden the models of migration that are currently being discussed and to make this an explicit focus for further research. But equally importantly, it will be necessary to avoid either/or answers. Migration was most likely never entirely absent, nor was it the whole explanation. Over the millennia, its intensity, scale, and dynamics would have shifted. Similarly, it is unhelpful to classify the individuals involved in these historical processes into mutually exclusive categories, falling either side of a perceived boundary.

3.2 Groups and Boundaries

Another issue that deserves closer scrutiny is the question of boundaries between groups, which in the discussion summarised above are often implicitly seen as *ethnic* boundaries (although they also intersect with socio-economic status, see below). There has been some discussion of what such boundaries could entail and how they might be recognised archaeologically in the Mesolithic and Early Neolithic hunting and gathering societies of western Norway (notably Bergsvik, 2002a, 2003, 2005, 2006), where, it is argued, the

possibility for interaction across group boundaries became increasingly restricted and monopolised by 'Big Men' (Bergsvik, 2002a, 2012; Olsen, 2012). For later phases, ethnicity is rarely tackled explicitly. Rather, as evident from Table S1, most writers fall back on culture designations, and thereby almost inevitably end up treating the bearers of specific material items as part of emotionally salient and coherent social formations most akin to ethnic groups.

Ethnicity in archaeology is contentious, in particular regarding the relative importance of primordial approaches – which stress the belief in a common descent in time immemorial, and thus a strong emotional attachment to one's ethnic group – versus situational ones of the kind advocated by Barth (1969), which rather foreground the active and strategic choice of ethnic identities as politically and economically motivated means of group action (e.g., Bergsvik, 2006; Burmeister, 2000; Hu, 2013; Jones, 1997; Voss, 2008, 2015). While both aspects likely play a role, the mutability and permeability of ethnic boundaries will vary according to which aspect is foregrounded and could amongst others depend on the degree to which different groups compete for similar resources, on marriage and kinship systems, and on a host of other factors. Ethnicity thus goes beyond a simple division between 'all incomers' and 'all locals', and whether it was a salient dividing line needs to be investigated in detail, rather than assumed.

The reason that a rather static notion of ethnicity has prevailed so far in debates on Late Neolithic western Norway no doubt lies in the tenacious roots of the culture concept which, while criticised many times (e.g., Burmeister, 2000; Furholt, 2019; Hodder, 1982; Jones, 1997, pp. 1–50; Veit, 1989), still appears to offer a convenient shortcut for deriving identities from material culture patterns. Following Stovel (2013), who discusses similar issues in Andean archaeology, this view of ethnicity foregrounds its unreflected dimension, akin to Bourdieu's habitus, and assumes that ethnicity is best identified in passively replicated daily routines, thereby foregrounding differences in domestic architecture, economic choices, and so on. However, for Stovel (2013), these differences are not synonymous with ethnic identity as an actively defined dimension negotiated in direct interaction with others. In such a setting, only specific items or practices are chosen as important, and these can cross-cut economic or other divisions (e.g., Robb & Miracle, 2007).

Even where separate group identities are maintained along subsistence lines, these can be permeable. For example, the Pueblo-dwelling Tiwa and the nomadic Apache of the pre- and post-contact Southwestern United States were organised along similar moiety systems, visited each other's festivals, had accommodated the other group in their creation stories, regularly intermarried and carried out very similar rituals. Although the Apache were relative latecomers to the region, it was thus possible for whole households and larger groups to temporarily or permanently move across this ethnic divide in response to a variety of situations (Fowles & Eiselt, 2019). For African small-scale social systems, Kopytoff (1987) has charted a process whereby marginalised groups from different origin communities establish temporary settlement sites in the interstices between territories, forming a kind of internal frontier. If successful in attracting new followers, these originally "ethnically 'ambiguous'" (Kopytoff, 1987, p. 7) collections of people can expand in their own right, using the idiom of kinship to establish a common narrative of descent. The internal African frontier is thus populated by collectivities of various durations which constantly fission and recombine, creating a socially fluid situation – but in a context in which economic choices and material culture are widely shared.

In the west Norwegian Late Neolithic, whether ethnic boundaries can be identified and where they lay is thus far from given. In addition to simply mapping the arrival of artefactual or economic novelties, an in-depth investigation of this question would require a clearer identification of which items may have functioned as exclusive identity markers, and which were rather boundary objects which, while initially interpreted or used differently, created points of connection between groups (Wenger, 1998, p. 107). This may be visible in the ways in which things were bound up in practices more so than in their simple presence or absence and is likely to have changed over time. For instance, both hunting and gathering groups and any continental migrants strongly relied on maritime connections, albeit in different ways. The appearance of new kinds of boat depictions at existing rock art sites could therefore have created a kind of common ground and helped make the unfamiliar familiar (Gjerde, 2017; Nyland, 2011). We must also contend with a potentially dynamic situation, in which some people established temporary groupings or moved between groups. Similarly, in how far raw material distribution can be used as an indicator of boundaries can be

debated; in many cases, pragmatic traditions of raw material exploitation seem more important than delineating exclusive territories (e.g., Nyland, 2016, 2020).

Correspondingly, we cannot start from the assumption that static boundaries between groups existed and that they encompassed all areas of life equally. To re-introduce a much-needed sense of dynamism, one could, for instance, apply Bradley Parker's (2006) conceptualisation of (in his case colonial US) frontiers as broad interaction zones in which different boundaries – geographical, cultural and demographic, economic, and political – can be situated, but need not coincide spatially (see also Cayton & Teute, 1998). In addition, each boundary can fall at different points on a gradient between static and closed, somewhat more porous, or mostly fluid and open (Parker 2006). How interaction between groups on either side of such frontiers pan out, and who is involved, is hence very much dependent on the particular context of interaction. Yet so far, in both models 1 and 2, interaction spheres have been conceived as restricted to a very limited set of people.

3.3 'Dynamics and Change are Associated Only with Elites and Big Men': Actors of Transition

In both models, there has been a tendency to discuss the Late Neolithic transition process at the scale of culture groups, or at most vaguely defined 'societies' and 'communities'. It is relatively rare that actual social actors are mentioned (Table S1). Where this is the case, however, the Late Neolithic transition is generally connected to the activities of elites, frequently described using stock terms derived from social anthropology (chief, Big Man, etc.), which are not defined further in the texts and often used interchangeably. Proponents of model 2 often work on the premise that hunter-gatherer societies were increasingly stratified. This is based on analogies with the American Northwest Coast, where resource-rich marine environments enabled large surpluses, in turn allowing communities to become sedentary for at least part of the year. The results were territoriality and a highly stratified society with chiefs and slaves (e.g., Ames, 1995). Because the distribution of lithic raw materials in western Norway can be interpreted as showing territorial boundaries, and as the level of sedentism increased in the Middle Neolithic B, a degree of hierarchy similar to the American Northwest Coast is sometimes postulated as part of model 2 (Bergsvik, 2002b). While the existence of slaves is not discussed, Big Men are thought to maintain a position of power by monopolising access to exotic resources for increasingly closed and isolated communities. The transition to agriculture is then a means for disgruntled younger generations and pretenders to undermine this power base (see also Prescott, 2012, p. 123).

The problem here is two-fold. On the one hand, there are few independent corroborating pieces of evidence for a strongly hierarchical society at this time. For example, the monumental wooden longhouses of the American Northwest Coast are absent in Norwegian hunter-gatherer societies, as are indications for large-scale feasts and the destruction of valuables as described for the potlatch. Neither are there burials with rich grave good inventories – at least these latter could be expected to survive, even if bones themselves are rarely preserved. The second problem is the selective use of analogy. Along the Pacific coast of North America, and among societies with access to predictable marine resources, one finds highly divergent degrees of hierarchy. For example, the hunter-fisher-gatherers of the Californian coast are far less stratified than their northern counterparts (Graeber & Wengrow, 2021, pp. 181–186). Evidently, the capacity for surplus production does not *inevitably* lead to the establishment of a strongly hierarchical system. It is also possible that people may have oscillated between multiple modes of existence, being, for instance, organised in small groups with flat hierarchies for part of the year, and temporarily submitting to a more regulated structure whilst living in seasonal aggregations, but with strict limits on the amount of control that could actually be exerted (e.g., Graeber & Wengrow, 2021, pp. 112–119).

For those favouring model 1, elites (defined as individual 'entrepreneurs' with strong social ties to southern Bronze Age society; Prescott 2012, p. 123) are more directly involved as the drivers – rather than the victims – of transition. In several papers, 'oppressively egalitarian' hunting and gathering societies are contrasted with the 'entrepreneurs' of the Bell Beaker culture, daring characters actively scouting for new

resources at the margins of the known world. Their allure was hard to resist, embodying an unfamiliar dynamism – although it is sometimes also mooted that some force may have been involved in this conversion effort (Glørstad, 2012b, p. 95). After the initial scouting phase, the picture quickly becomes one of migrant domination, and a more strongly hierarchical society that already prefigures the Bronze Age is imposed (as already critiqued in Nyland, 2020).

This account not only reproduces many of the stereotypes criticised in postcolonial writings but also suffers from problems like those of model 2. Especially from the early centuries of the Late Neolithic in western Norway (as opposed to the Early Bronze Age), there are no definitively dated dagger or archer graves of the kind associated with the Bell Beaker culture elsewhere in northern Europe, and existing grave assemblages are generally modest (Austvoll, 2018, appendix 2). Instead, there are finds of human bones in contexts not associated with high-status graves. For example, fragmented human bones have been retrieved from postholes of two-aisled houses (Rønne, 2003; Valum, 2009), unmarked pits (Åstveit, 2008), or rock shelters (Haug, 2012; Henriksen, 2014). In addition, with the exception of bifacial arrowheads, most larger tools supposedly connected to socially elevated positions, such as flint daggers or flint and shaft-hole axes, are stray finds or from hoards. This does not allow linking them to specific (male, warrior) individuals, and how ownership of such items was negotiated remains fundamentally unknown. This differs from the situation in south-eastern Norway, where, as mentioned, the occasional cist burials with daggers and arrows appear from around 2000 BC (Østmo et al., 2011).

In both models, therefore, power is conceived in a very one-dimensional way. As Lund, Furholt, and Austvoll (2022) argue, the fallback position is that power is held by specific individuals (generally male) who can coerce others with threats of violence or dupe others into inadvertently supporting their schemes. This underestimates the variety of social formations that are documented, the potential for resistance, the collective basis of power, and the many negotiations surrounding governance that take place in all societies. There are, for example, differences in whether social positions gained in one context, such as warfare, can be easily transferred to another and institutionalised, variations in how easy it is to inherit social positions, or in how far it is acceptable to flaunt, rather than redistribute one's wealth, and in what sort of levelling mechanisms are in place (e.g., Beck, 2006; Drennan, Peterson, & Fox, 2010; Risch, 2018; Rosenberg & Rocek, 2019; Wiessner, 2002). This is an issue that urgently needs to be more widely discussed on the basis of more clearly defined concepts and a wider range of models. That developments to hierarchisation were resisted is also indicated by the investigation of long-term trends in European prehistory, where we see an oscillation between more and less hierarchical states, rather than a smooth trajectory from less to more hierarchical (e.g., Jeunesse, 2017; Whittle, 2018, pp. 153–208). Despite all this, in an archaeological setting, it often seems that very little evidence is required to argue for a narrow form of individual-based hierarchy – some stray finds are enough. Yet it is unlikely that transition events like that under discussion here could ever be understood by reference to a shadowy 'elite' alone.

In the west Norwegian context, other kinds of actors have almost never been considered. In continental Europe, it is argued that the appearance of Corded Ware and Bell Beaker societies also implied a radical rethinking of gender roles towards a more 'Bronze Age' binary pattern, for example, reflected in burial positions and orientations (Robb & Harris, 2018). Elsewhere, there has been discussion on post-marital residence patterns (e.g., Knipper et al., 2017) and debate surrounding the strictness of these new norms (e.g., Frieman, Teather, & Morgan, 2019). Although the exchange of marriage partners is occasionally mentioned as relevant in Norway as well, by proponents of both models (e.g., Bergsvik, 2012, p. 101; Bergsvik et al., 2020, pp. 354–355; Prescott, 2009, p. 207), it has never been addressed in detail how the negotiation of gender roles was implicated in the transformation of one kind of society into another. One could take a cue from the North American Creole towns of the late 18th and early 19th century, where the successful redefinition of gendered tasks in mixed-ethnic marriages was one of the main ways in which new social formations were worked out, ensuring their stability (Murphy, 1998). For Norway, the lack of human remains may be one of the reasons this aspect has remained underdeveloped, but given the country's strong tradition of gender archaeology, further research on this point could help to break down the very abstract discussion of 'the transition' and create a focus on processes at the smaller scale, where integration, conflict, and negotiation actually happened, involving all kinds of different people.

4 Final Remarks: Blurring the Picture

Throughout this article, we have scrutinised the archaeological material supporting the two dominating models of change as either driven by migrants (model 1) or as primarily driven by local indigenous societies involving 'Big Men' (model 2). For all their differences, these two approaches share some problems, the main one being the either/or nature of the arguments. Having taken a closer look at centrally applied concepts, such as migration, boundaries, and actors of transition, we have shown that each model relies on deeply embedded expectations of what 'Neolithic' means in terms of which agricultural or other artefacts should be represented, and that these lead to the contradictory valorisation of the same sets of evidence. This is a problem that needs to be addressed from both a theoretical and a practical perspective.

An implicit understanding of the term Neolithic is that "something revolutionary happened, [...] economic, social, ideological, [cognitive], even while simultaneously arguing that the process of neolithization was a protracted and multi- or polycentric one" (Finlayson, 2013, p. 135). The west Norwegian case sees variation and mixing of external/local impulses starting already in the fourth millennium BC, creating the background conditions for creative synergies in the third millennium BC, where the material indicates continued cultural diversity and regionalisation, with islands of short-term innovative flashes. Rather than one revolutionary transition, there were many small-scale sequences of mutual accommodation. In this setting, allegedly defining artefacts (such as Bell Beakers or new burial rites) were never consistently introduced and identifying one clear origin point (generally suggested to lie in northern Jutland) is not possible. Other novelties appeared in a staggered pattern: flint daggers potentially first around 2350 BC, substantial houses, and the establishment or acceleration of agriculture over a century later (Figure 8).

Partly, these interpretative inconsistencies come down to a lack of data and scientifically excavated contexts, something that could be addressed in future research projects. For instance, there are few detailed studies of, amongst others, the *chaîne opératoire* sequences of pottery production that could shed further light on likely directions of influence and contact networks beyond the simple presence/absence of 'diagnostic' types. Perhaps most importantly, the current chronological framework in southern Norway is still mainly built on Danish chronology (Vandkilde, 1996), and the dates of South Scandinavian 'type' artefacts which were introduced from there. There is little independent C14 data to back this up. Where there are C14 dated contexts, these often suggest a later date of introduction or indicate usage over a longer period than in the origin region. Using this scheme encourages a relative neglect of other directions of influence and exchange which may have played a role in the Late Neolithic transition too.

Yet we also need an influx of fresh theories, and there is scope for a clearer appreciation of the modalities of migration and encounter. So far, there is a tendency to refer to well-known types of migration (such as leap-frog, or Wave of Advance) to model the mechanics of the process (Table S1). Much less energy has been spent on attendant social interactions, which would surely have differed as well. In addition, how longer-distance migrations fitted in with more routine aspects of mobility, which could also cover long distances, remains to be addressed.

In addition, there is the question of what 'the earliest' example of anything represents versus when the artefacts and practices become common (Frieman, 2021, pp. 61–78; Furholt, 2010). In Norway, you have a saying that "One swallow does not make a summer". Consequently, single imported tools or technologies can make for poor chronological markers or signs of revolutions. With the increased accessibility of C14 dates, perhaps it is time to transfer the ideas of a neutral time grid proposed in the 1980s for the Mesolithic (see Bjerck, 1986, 2008) also to the Neolithic. This might be a better background for interpreting developments and processes without being side-tracked by period thresholds developed for regions far away across the sea.

This also opens the question of consistent terminology, raised at the beginning of this article. While it would be tempting to suggest a new and improved periodisation, given the weight of research history and common use we are unlikely to ever get rid of established terms like 'Neolithic' or 'Mesolithic'. Rather than adding to the confusion with yet another layer of terms, therefore, we would simply advocate two main strategies. The first is to use absolute dates whenever possible and to invest some serious resources into creating a more reliable absolute dating system for southern Norway as a whole; steps in this direction are

already being taken (e.g., Sand-Eriksen & Mjærum, 2023; Soltvedt, 2020; Solheim, in prep). The second is to be more consistently aware of the artificial nature of the terminological subdivisions currently in use. The more thresholds we draw as solid lines in our charts, the more we create the need to explain the tipping points, and the more we lose sight of the messiness of life as actually lived.

Yet trying to impose clear labels onto a spatially and chronologically patchy situation is in our opinion the main reason why the discussion in Norway has become polarised. The Late Neolithic transition in Norway comprises several hundred years of coexistence, introduction of novelties, negotiation, and syncretism. This is too long a time to be labelled a 'transition' between two pre-defined stages, unless one entertains an evolutionary mindset. Instead, it is a mode of life of its own, in which new traditions emerge, and which had no predetermined outcome. We thus need awareness as to what is meant by 'traditions', and how and why these change. How much pressure must be applied or experienced for any new practices to have been accepted and institutionalised? In order to move forward, we hope future research will be transparent in the kind of evidence used and its representativity, the reliability of dating frameworks, and the implications of our terminologies. However, the crucial step remains to acknowledge that there is no predetermined mould, to embrace uncertainty and ambiguity in the data, and to allow that change in the past was messy, blurry, and unruly.

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