Serial learners: interactions between Funnel Beaker West and Corded Ware communities in the Netherlands during the third millennium BCE from the perspective of ceramic technology

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Here to Stay: Indigenous Communities in the 3rd Millennium BCE

This chapter highlights two crucial findings from this study about Funnel Beaker West and Vlaardingen. Together, these outcomes warrant a revision of current views on the Middle and Late Neolithic. The first outcome is the co-existence of indigenous and migrating communities during the third millennium BCE (Section 12.1). The second outcome is the knowledge exchange between Vlaardingen and Funnel Beaker West potters (Section 12.2). A summary is available in Section 12.3.

12.1 Reports of Funnel Beaker Wests' Death Are Greatly Exaggerated

The results of this study shed new light on a puzzling outcome of archaeogenetic studies: the resurgence of early farmer and hunter-gatherer genetic profiles during the Bronze Age. Several centuries after the arrival of migrants with steppe ancestry and the resulting population turnover at the start of the third millennium BCE, the genetic profiles of indigenous groups re-appear in the archaeological record from an unknown source (Haak *et al.* 2015; Mittnik *et al.* 2018). This study shows this unknown source might well consist of indigenous populations which are hidden in plain sight during the third millennium BCE.

Archaeologists who study European Prehistory tend to implicitly or explicitly adhere to a culture-historical narrative structure which sees the past as a continuous rise and fall of cultures. In particular for the third millennium BCE, this narrative structure has led them to reject the evidence for overlaps between indigenous and migrating groups and to construe neat successions (see Section 2.2). The findings from this study show no such neat transition occurred: the typical funerary rituals and technical knowledge of indigenous communities continued to be practiced in the first half of the third millennium BCE.

The archaeological record yields various cremation burials with (in terms of typology) Funnel Beaker West vessels. The radiocarbon dates of these cremated human remains fall between ca. 3000-2675 BCE (see Section 2.4). As such, these cremation burials are generally contemporaneous with Corded Ware burials in the Netherlands (see section 2.4). A Bayesian chronological model of the radiocarbon evidence supports this interpretation: there is an overlap of 150-500 years between Funnel Beaker West

and Corded Ware during the first half of the third millennium BCE (see Section 2.3; 2.4; cf. Beckerman 2012; Furholt 2003 pp. 98–9). There are two arguments, separate from the typology, to connect these burials to Funnel Beaker West groups who lived in the Netherlands prior to the third millennium BCE.

Firstly, the ceramics in these burials follow the same paste recipe and the same production process as ceramics from Funnel Beaker West megaliths and early flat graves. The clay pastes show the same preferences for silty, calcareous clays and a combination of mineral and organic tempers, as well as a preference for wet homogenisation processes seen in earlier Funnel Beaker West vessels (see Ch. 9). In addition, the production process itself consists of similar sequences of roughing-out, preforming, finishing, decorative, and surface treatment techniques (see Ch. 10), as well as the same procedures, tools, and modalities of techniques (see Ch. 9), as Funnel Beaker West vessels found in megalith inventories and early flat graves which generally pre-date ca. 2925 BCE. This degree of similarity, down to the knowledge about what materials and tools to use, about which gestures to apply and when, almost certainly implies these potters learned by being involved in the ceramic production process of these older vessels (Gosselain 1992 p. 582, 2000 pp. 192–3; Roux 2019a p. 311; Thebe and Sadr 2017 pp. 85–6; Wallaert 2012 p. 29).

The specific *chaînes opératoires* of the vessels in late flat graves do differ from those in early flat graves and megalith inventories. In specific, they are more standardised with regard to the choices potters made during decoration and surface treatment (see Ch. 9; 10). However, the first indications of this standardised production process already appear in early flat graves (see Ch. 9; 10). Late flat graves are best seen as a continuation of this trend (see Ch. 10). Whosoever produced these vessels not only learned their craft from the potters who fashioned Funnel Beaker West vessels prior to ca. 3000 BCE, but continued along the same lines.

Secondly, the same conclusion applies to the funerary practices of these cremation burials. These funerary practices are based on those seen in Funnel Beaker West early flat graves. These early flat graves most often contain inhumation burials but on occasion feature burnt wooden structures which have been set ablaze during the funeral (cf. Bouma and Van der Velde 2022 pp. 50–2) or cremation burials (see Section 2.4 on Uddelermeer). In addition, the mourners who built these early flat graves selected specific vessel types as grave goods from the broader spectrum of vessel types found in megaliths. In particular, amphora-like vessels and bowls became common grave goods (see Section 2.4).

The cremation burials which post-date ca. 3000 BCE are a continuation of these two trends and partially overlap with them (see Fig. 2.9). Cremation of the deceased becomes the norm (cf. Bakker 1992 p. 93), and large, complex bowls feature almost exclusively as grave goods (see Section 2.4). Moreover, these cremation burials appear in the same flat grave cemeteries and megaliths as the earlier Funnel Beaker West burials (Bakker 1992 p. 93; e.g. Bouma and Van der Velde 2022 pp. 63–4). Learning about funerary rites again requires people to have been part of burials in which these practices were performed, to take that knowledge with them, and put it into practice at a later stage (cf. Bourgeois and Kroon 2017). Therefore, the fact that communities of mourners used and built on the funerary practices seen in Funnel Beaker West early flat graves, indicates their involvement with these communities.

Crucially, the patterns described above are not an isolated phenomenon in the Netherlands. The same funerary ritual and similar choices for ceramic grave goods appear

in Northwest Germany (Kossian 2000) and in Central Germany (Wetzel 1979). There are no complete specific *chaînes opératoires* from ceramics in these areas, but the potters did follow the same paste recipes while making vessels (cf. Struckmeyer 2017, 2018, 2019). These similar practices across the North European Plain imply people in this area came together, learned (directly or indirectly) from each other, and took that knowledge with them to apply it at a later stage (see above). Archaeologists recognise this network as Funnel Beaker in the fourth millennium BCE, but tend to follow the culture-historical notion that Funnel Beaker West should decline before the rise of Corded Ware. In fact, this network, the practices, and the practitioners continue to exist during first half of the third millennium BCE, alongside Corded Ware.

Funnel Beaker West is not the only indigenous group to show such signs of continuity in the third millennium BCE. Similar interpretations have been proposed for groups across Europe (cf. Furholt 2003, 2021): Globular Amphora (Włodarczak 2017 pp. 286, 300–1), Salzmünde and Bernburg (Müller 2001 p. 252), Vlaardingen (Beckerman 2015 p. 214; Kroon *et al.* 2019), Pitted Ware (Holmqvist *et al.* 2018; Larsson 2009 pp. 260–1), and Funnel Beaker North (Iversen 2014, 2015, 2020). Across Europe, the arrival of migrating communities is not a moment of discontinuity but the point at which migrating and indigenous communities started to co-exist. The co-existence of indigenous and migrating communities is the rule, not the exception.

This conclusion solves the mysterious resurgence of early farmer and hunter-gatherer genetic profiles after the third millennium BCE. The individuals in Corded Ware burials are not representative of the entire European population during the third millennium BCE but co-exist with indigenous populations. Archaeologists either erroneously attribute the remains of these indigenous groups to earlier periods and/or cannot sample their skeletal remains for genetics due to their habit of cremating the dead. Both factors mean these indigenous groups are hidden in plain sight. The puzzling 'resurgence' of indigenous groups is simply the moment the distinction between co-habiting migrating and indigenous communities collapses in the funerary sphere.

12.2 Learning Prevails

Funnel Beaker West communities co-exist with Vlaardingen communities in the Netherlands for nearly a millennium (see Section 2.1, 2.3). Yet, these two entities are thought to interact little, or, if interaction occurs, Vlaardingen groups are thought to copy and acquire materials from 'superior' Neolithic Funnel Beaker West groups (cf. Bakker 1982 pp. 95–6; Drenth 2019 p. 832; Louwe Kooijmans 1983 pp. 58–60). The results from this study show this image is incorrect: potters are exchanging knowledge across this culture-historical boundary, and this knowledge exchange shapes ceramic technology in Funnel Beaker West and Vlaardingen vessels.

The notion that Vlaardingen and Funnel Beaker West form two 'closed systems' follows from the culture-historical contrast drawn between them (see Section 2.1). On the one hand, Funnel Beaker West communities would descend from Scandinavian migrants, lead an agricultural life, live in the uplands, build megalithic tombs, and have a broad range of ceramics. Vlaardingen communities on the other hand would descend from local Mesolithic populations, be hunter-gatherers who also practice some agriculture, live in the wetlands, and have different and less diverse ceramics (cf. Louwe Kooijmans 2018; Van Gijn and Bakker 2005). Within this framework, the evidence for interaction is limited to the

appearance of Vlaardingen-style vessels at Funnel Beaker West settlements (Beckerman and Raemaekers 2009 p. 79), and vice versa (cf. Amkreutz 2013 p. 342; Drenth 2019). However, neither group is seen to adopt traits (e.g. monumentality, ceramic style) from the other, hence the notion of two 'closed systems' without significant interaction (Bakker 1982; Louwe Kooijmans 1983). My study of ceramic technology provides a more nuanced, bottom-up view of the boundary between these archaeological cultures.

The comparisons of Funnel Beaker West and Vlaardingen specific *chaînes opératoires* point to two diachronic trends. Firstly, the Wasserstein distances from Funnel Beaker West subsets to Funnel Beaker North increase over time. The Wasserstein distance between Funnel Beaker West vessels and Funnel Beaker North is shortest for vessels which pre-date ca. 2925 BCE, in particular vessels from megalith inventories (see Fig. 10.2A-B; Tab. 10.3). However, this distance increases considerably for vessels from late flat graves, which were produced after ca. 3000 BCE (see Fig. 10.2C; Tab. 10.3). In sum, the potters who made Funnel Beaker West vessels initially followed procedures and techniques closer to those of potters in Southern Scandinavia, but gradually adopted a distinct production process.

The second trend is that the ceramic production process of Funnel Beaker West and Vlaardingen potters becomes more similar over time. The specific *chaînes opératoires* from Funnel Beaker West vessels which pre-date ca. 2925 BCE, again especially those in megalith inventories, have relatively high Wasserstein distances to Vlaardingen vessels (see Fig. 10.2A-B; Tab. 10.3). However, the specific *chaînes opératoires* found in late flat graves, and to a lesser extent early flat graves, feature a shorter Wasserstein distance to Vlaardingen vessels (see Fig. 10.2B-C; Tab. 10.3). This change in Wasserstein distances is because both Funnel Beaker West and Vlaardingen potters adopt the standardised specific *chaînes opératoires* with sparse decoration and frequent application of burnishing (see Ch. 9; 10; Appendix F).

The chances are vanishingly small that potters in Vlaardingen and Funnel Beaker West potters independently invented and adopted this standardised production process out of all the possible ways they could fashion vessels. The convergence in ceramic technology more likely results from potters in both communities sharing experiences and learning from each other. For example, by seeing each other work, or by examining the finished vessels we find at settlements (cf. Gosselain 2018). Those direct and/or indirect interactions contributed to their notions about how to make ceramics, resulting in more similar specific *chaînes opératoires*.

In sum, the potters who made Funnel Beaker West vessels prior to ca. 2925 BCE, and in particular those who produced the vessels in megaliths, may have held technical knowledge and followed practices which were more similar to those of Funnel Beaker North potters, but distinct from those of potters in Vlaardingen communities. This underlines the connections drawn between Funnel Beaker West and North on the basis of funerary and depositional practices, as well as agricultural subsistence (cf. Louwe Kooijmans 2018; *contra* Ten Anscher 2012). An archaeogenetic study would be necessary to definitively prove that Funnel Beaker West communities migrated from Southern Scandinavia, but such a scenario does seem likely in light of the above-mentioned differences in practices. More important however, is the fact that these distinctions did not obstruct interactions. The potters in these communities learned from each other, leading to the adoption of a standardised production process with sparse decoration and intensive burnishing (see Ch. 9; 10). This production process is distinct from that in Funnel Beaker North vessels (see

Ch. 10). As such, the interactions between Funnel Beaker West and Vlaardingen potters may well be a contributing factor to the regionalisation of Funnel Beaker groups (see Section 2.1; Furholt 2014b).

The adoption of the standardised production process with extensive burnishing and sparse decoration among indigenous Middle Neolithic communities in the Netherlands is crucial for understanding their interaction with migrating groups (see Ch. 13). However, the outcomes also underline that learning processes can cut right across such distinctions and shape human choices (see Section 3.1). The fact that we find the large, complex bowls which are typical for late flat graves together with Corded Ware vessels on Vlaardingen settlements (e.g. Hazerswoude-Rijndijk N11 Diependaele and Drenth 2010; cf. Fokkens *et al.* 2016) hints at the prevalence, and complexity of learning in the past.

12.3 Revising the Neolithic of Northwest Europe

Two findings from this study on ceramic technology are highlighted above, as well as their impact on our understanding of indigenous communities in the Dutch Middle and Late Neolithic.

Firstly, Funnel Beaker West communities did not abruptly disappear around 2800 BCE. A Bayesian chronological model of the radiocarbon evidence shows Funnel Beaker West and Corded Ware communities co-existed for several centuries during the first half of the third millennium BCE. Moreover, the funerary practices in late flat graves from this period clearly show that the people who conducted these burials and fashioned these vessels learned, through direct involvement, from the Funnel Beaker West communities who lived in the Netherlands during the fourth millennium BCE. The fact that these practices occur across the North German Plain in the third millennium BCE, and that similar observations can be made for various other indigenous groups, including Vlaardingen, indicates indigenous communities throughout Europe did not disappear with the advent of migrating groups at the start of the third millennium BCE. Instead, migrating and indigenous co-existed throughout Europe during the first half of the third millennium BCE. These indigenous communities may well be the source populations for the resurgence of hunter gatherer and early farmer genetic profiles in Bronze Age Europe.

Secondly, Funnel Beaker West and Vlaardingen communities were not closed systems with minimal interaction. These communities may come from different regional backgrounds and differ in many respects of their everyday life, but potters did exchange knowledge across this boundary. This knowledge exchange shapes the specific *chaînes opératoires* associated with both groups. In particular, Funnel Beaker West potters over time diverge from a ceramic production process similar to that in ancestral Funnel Beaker North communities, and, together with Vlaardingen potters, adopt a production process with intensive burnishing and sparse decoration. The adoption of this standardised production process among all indigenous potters in the Netherlands plays a crucial role in the next chapter, which delves into the interactions between migrating and indigenous groups during the third millennium BCE.