

## 10. DISCUSSION

The evidence from the cist at Knappach Toll may appear at first glance to evoke a straightforward sequence of acts. At some point between 2330–2040 cal BC (95.4% probability) and probably 2280–2140 cal BC (68.2% probability) (SUERC-30852), a community in north-east Scotland conducted some rites on a low ridge south of the River Dee. They dug a large hole and brought slabs from two different geological sources to build a stone box or cist inside it. In the cist they laid the flexed body of an adult, placed so that the head lay to the west. Beside the body, probably behind the head, they set a copper awl, a Beaker and some lightly used flint tools. Then they dragged a large slab over the cist, sealing the contents.

Behind the apparent simplicity of this sequence, however, lay a complex and highly prescribed set of practices. These in turn related to social connections and belief systems that were spreading across eastern Britain during the later 3rd millennium BC, having already developed in Continental Europe.

In its form, location and constituents, the burial at Knappach Toll sits firmly within prevailing contemporary traditions in north-east Scotland. This region, out of three studied by the Beakers and Bodies Project (with the Moray Firth area and East Central Scotland), contains the highest concentration of Beaker burials and accompanying evidence for significant cultural change during the Early Bronze Age (Curtis & Wilkin 2012). The choice of location, along the valley of a major river, is consistent with most other Beaker burials in the North-East (*ibid*: 244). Like this cist, many were placed at the top of natural gravel terraces or knolls and often in small groups (Shepherd 1986: 12–13); the immediate environs of the Knappach Toll burial, which had been planted with well-spaced conifers at the time of writing, could thus contain other, as yet undiscovered cists.

Nearly all of the recorded Beaker burials in north-east Scotland were flat graves like this one, with no evidence for a covering mound (Curtis & Wilkin 2012: 244). The slabs used to form it came from two different geological sources. Most were of fine-grained sedimentary rock, the solid geology beneath the site. The slab that formed the eastern side of the cist, at the feet of the individual, was of

granite with a small, pecked hollow facing inward at its centre. Although its source is unknown, igneous rock forms the solid geology across extensive areas on the opposite side of the Dee, under uplands to the south of the site and upriver around Ballater. This slab may have been taken from a previous context of use, one which had some bearing on its re-use here. The use of chocking stones in the cist's construction has parallels elsewhere in the region, for example at Borrowstone to the north of the Dee, where at least one of a cluster of six cists was built with elaborate chocking stones beneath the capstone (Shepherd 1986: 13). Other, similar inhumation burials in short cists, which also included Beakers and flint implements, were being created along the River Dee around the same time – for example at Balbridie, 1km to the SSE (Canmore ID 36692), and at Park Quarry, 9km downstream (Canmore IDs 74325, 87288). Calibrated radiocarbon dates for human remains from Park Quarry are statistically identical to that from Knappach Toll, at 2280–2130 cal BC (3769±32; OxA-V-2172-14; Sheridan et al 2006) and 2290–2040 cal BC (3768±31; OxA-V-2243-45; Curtis et al 2008), both at 95.4% probability.

Analysis of Beaker burials across north-east Scotland by the Beakers and Bodies Project confirms that they were highly formalised, displaying a remarkable degree of consistency (Curtis & Wilkin 2012: 244–6). The communities that created them employed a uniform symbolic vocabulary, structured by strict grammatical rules that governed how the body was positioned, the objects that were placed with it and the choice of topographic location. Detailed analysis by Shepherd (2012) of 26 Beaker burials in the region also identified clear patterns in body position that correspond to gender. In north-east Scotland, bodies were most often laid in cists on a strict or approximate east/west orientation with lines of sight to the south. Males were consistently placed on their left side with head to the east and facing south (MLES), while females were usually placed on their right side with head to the west, also facing south (FRWS), albeit with some deviation from cardinal points within quadrants (*ibid*: 263).

In the Knappach Toll burial, the skull fragments were found at the western end of the cist, and the Beaker and the worked flints and copper awl fragments were found in the cist's north-west corner, suggesting

they were placed by the head following standard practice. Copper awls are more often found with females (see 8 'The awl' above). Although the single surviving dimorphic trait on the cranial fragments indicated a possible male, the sex was indeterminate (6.1 'Skeletal analysis' above). Together, the evidence suggests that it was the body of a female which was placed in the cist, with her head to the west and very likely on her right side, facing south.

Shepherd's (2012) analysis found that virtually identical rules governed how bodies were positioned in Beaker burials on the East Yorkshire Wolds, creating a picture of 'a shared burial tradition uniting disparate areas of the North Sea coastal Beaker polity' (ibid: 261, 265). She also identified broad correlations between Beaker form and gender. Taller Step 3/4 vessels (with sinuous profile, bands of decoration and sharp bend defining the neck) are more often associated with males and with archers' equipment, while Step 5 vessels (with longer, accentuated necks and broader width to height ratio) are often associated with females (ibid: 268). In this respect the Knappach Toll burial with its Step 4 Beaker does not accord with the general pattern of associations. As Shepherd concludes, however, the many possible combinations of form, decorative scheme and motif used to create Beakers are likely to reflect not strict male–female distinctions but choices that suited individual relationships or histories. While the form of each burial may have identified the wider social identity of the deceased and the burial community, the individual Beaker placed in it may have marked out the person it accompanied (ibid: 273–8).

Given the evidently rule-bound nature of Beaker burials, it is likely that strict rules also prescribed people's roles in the acts that led up to the burial itself (Brück 2004: 318). The objects were probably placed behind the head, in keeping with prevailing practice (Tuckwell 1975: 109). The pieces of flint, over half of which are primary blanks, were struck from nodules that may have been brought to the site and four of them show faint traces of wear from their use, probably as knives (9 'Chipped stone artefacts' above). They may have been made especially for use in rites that culminated in the burial, as has been suggested for flint tools found in other Early Bronze Age burials (see Finlayson 2000: 150; Hunter 2000: 174; Finlayson in Clarke & Hamilton 1999). The

copper awl may have evoked specific associations with decorating the body – for example, with tattoos, clothing or ornaments – as part of Beaker-complex rites (see Hunter & Woodward 2015).

The finely made, elaborately decorated Beaker may have been made especially for this person, perhaps for special use during life and ultimately to accompany her body after death. That Beakers were made specifically and exclusively for burial contexts has been argued both on the basis of ethnohistoric parallels and on the taphonomic grounds that they are regularly found whole and would have easily fractured along their coil-joints under the stress of everyday use (Boast 1995; Shepherd 2012: 276). However, the findings of organic residue analysis suggest that this vessel had held ruminant dairy products over an extended period of time, rather than that the porous fabric was simply sealed with milk (7.2 'Organic residue analysis of the Beaker' above). These findings are consistent with those of a wider study of organic residues in Early Bronze Age pottery, including over 200 Beakers, which identified predominantly ruminant dairy fats in Beakers from various contexts across Britain and concluded that in many cases 'vessels with long-term use-lives were deposited in burials' (Šoberl 2011: 217–18).

These arguments are not necessarily mutually exclusive. The Knappach Toll Beaker may have been made for a particular purpose or person, with complex cultural meanings encoded in its decoration and form, and used over a long period on a regular basis for ceremonies and other special occasions – perhaps for serving and drinking fermented milk (rather than for cooking or boiling, which would have caused damage and fracture) (Šoberl 2011: 91). Such drinks have been (and still are) part of everyday life as well as special occasions around the world, including more locally on the Scottish Isles during the post-medieval period (Fenton 1978; Abdelgadir et al 1998). Finally, this long-used, heavily symbolic, carefully curated pot was placed behind the head of the person for whom it was made, signifying her cultural identity and that of the burial community.

Recent research is changing narratives about the geographical and genetic origins of the communities who made and used Beakers as part of a suite of cultural practices and belief systems. The Beaker People Project (Parker Pearson et al 2016) combined

osteological analysis, stable isotope analysis and Bayesian radiocarbon dating analysis of 285 burials from England, Scotland and Wales and included the Beakers and Bodies Project (Curtis & Wilkin 2012). It found evidence for considerable mobility within Great Britain among communities that practised Beaker burial, particularly in Scotland; across the sample set as a whole, nearly a third of individuals were buried in a different geological region from the one in which they grew up. The authors interpret the findings as indicating multi-directional mobility over generations, probably related to mobile subsistence strategies such as transhumance and hunting (Parker Pearson et al 2016). Modelling of radiocarbon dates suggests Beaker burial practices began in Britain in Wessex in 2475–2360 cal BC (95% probability) and then spread north to the Peak District, Scotland, other regions and finally Yorkshire (ibid).

Evidence for even broader geographical links has emerged through the recent analysis of DNA in 400 individuals across Europe who died in the Neolithic, Chalcolithic and Bronze Age, 226 of them associated with Beaker-complex artefacts. The results indicate that migration from the Eurasian steppe, spreading westward across Europe, played a key role in the spread of Beaker-related practices (Olalde et al 2018). In south and east Britain, the majority of people buried with Beakers and associated artefacts were most closely related to individuals in the Netherlands (ibid: 193). The Knappach Toll Beaker and its closest comparanda (7.1 ‘Report on the Beaker’ above) have clear affinities with pots that were being made and placed with burials in the Netherlands (Clarke 1970), adding a material dimension to the genetic evidence for communication and intermarriage across the North Sea.

Close links between communities along Britain’s eastern seaboard, as highlighted by Shepherd (2012), come into sharp focus through the burial at Knappach Toll. A very similar burial was composed on Doons Law, a glacial mound in Berwickshire, in north-east England. A cist here contained the fragmentary remains of a probable female with her head to the west; fragments of a copper awl, four unused flint flakes and a tool, and an intact Step 4 Beaker lay behind her head (Clarke & Hamilton 1999). She died between 2205 and 1780 cal BC (95.4% probability) or probably between 2130 and 1930 cal BC (68.2%) (AA-29066; ibid).

Among the three closest parallels to the Knappach Toll Beaker, one of the vessels was placed with the burial of a woman laid on her right side and facing south (Shepherd’s (2012) FRWS) at Goodmanham 99, East Yorkshire (see 7.1 ‘Report on the Beaker’ above). The strontium and oxygen isotopes in the Knappach Toll individual’s tooth enamel could indicate she grew up on the basalt-derived soils of north-east Scotland; however, they could also point to her having spent her childhood on chalk geology, like the soils of East Yorkshire (see 6.2 ‘Strontium, oxygen, carbon and nitrogen isotope analysis’ above). Her food was drawn mainly from terrestrial sources, with a high proportion of animal protein and little marine input (ibid). This accords with the findings of the Beaker People Project as a whole, indicating they were farmers rather than fishers (Parker Pearson et al 2016).

Whether the person whose body was placed in the cist was locally bred, had moved to the Dee from eastern England, was descended from Dutch migrants or had some other history, she and her burial community identified with a set of beliefs and practices that differed markedly from the ones that had held sway for earlier generations. Knappach Toll lay in an ancient ceremonial landscape that, up to 2,000 years before, had been dominated by large communal monuments – the timber halls that stood on opposite sides of the river in the late 5th to early 4th millennia cal BC (Ralston 1982; Murray et al 2009). In the late 3rd millennium, the footprints of these halls may have still been discernible on the ground and in the shared memory of local communities, as monumental expressions of social practices and belief systems that valued and demanded communal contributions and participation.

The Beaker-complex burial practices and the value systems that lay behind them seem to have placed more emphasis on the individual body and experience. That a burial community chose to create the cist at Knappach Toll a few hundred metres from the site of one Neolithic timber hall and within view of the site of another seems significant. The placing of the burial in this ancient ceremonial context suggests the community was aware of an earlier belief system and responded to its gravitational pull – perhaps either contesting it or grafting onto it – as happened at other Neolithic monuments in East Yorkshire and at Stonehenge (Parker Pearson et al 2007).