

5. DISCUSSION

The excavation carried out at Mauchline provides valuable insights into the prehistoric period of East Ayrshire, particularly the Middle Bronze Age. It also highlights the challenges of producing chronologies for archaeological sites where stratigraphic relationships and material for dating are lacking, or the security of the context of datable material is poor, and the excavators rely on the rather contestable notion of spatial association between features to date them. The Neolithic activity is discussed first, followed by the chronology and then the interpretation of the Bronze Age settlement.

5.1 Neolithic activity

The role of Neolithic pits has long been the subject of discussion, and interpretations of the function of pit deposition have been much debated. They can be seen as evidence of domestic settlement or symbolic structured actions, or neither one nor the other (Brophy & Noble 2012: 63). Neolithic pits were recorded at two sites 400m apart in Monkton, 13.5km west of Mauchline. The evidence of the cluster of pits at one site was interpreted as 'straddling the domestic/ritual interpretation' (Rennie 2015: 27), whereas the evidence of the cluster at the other site was interpreted merely as an indicator of settlement (Dalland 2004: 4).

At Mauchline the poor quality of the pottery sherds from the Neolithic pit precludes any interpretations regarding the symbolic significance of the act of deposition. The environmental assemblage provides more confident evidence of the activities of the Neolithic inhabitants of the site. The intact nature of the assemblage recovered from the deposits is exceptional and, along with the recovery of crab-apple seeds from these fills, provides a valuable and interesting insight into the diet of the people using this landscape in the Neolithic. While hazelnut shells are frequently recovered from sites of prehistoric date in Europe (Bishop 2019), the preservation of both whole hazelnuts and charred kernels is more unusual. As discussed above (see 4.5 'Environmental analysis'), the presence of the latter is suggestive of accidental charring during roasting. This material, along with the crab-apple seeds and sherds of pottery, was subsequently deposited

into a pit and taken as a whole reflect a one-off consumptive event, or alternatively waste from the drying out or roasting of perishable foodstuffs. This event, given the presence of both crab apples and hazelnuts, is likely to have occurred in the autumn.

Given the relative dearth of other Neolithic material, it is probable that this reflects a one-off seasonal event rather than sustained occupation. As mentioned in the pottery analysis above (see 4.4.1 'Prehistoric pottery'), clusters of prehistoric pits can be interpreted as the reuse of specific locations over time (for example Arabaolaza 2019: 34; Spence 2019: 32). The evidence of the pit and the small lithics assemblage from Mauchline demonstrates the presence of humans in the landscape, and the nature of the evidence indicates one-off events, namely flint knapping and food consumption. Similar evidence for such temporary activities in this period comes from other sites excavated in the region such as Hillhouse Farm (Green et al 2021) 5km north of Mauchline, Ayr Academy (Arabaolaza 2019) 15km south-west, Maidenhill (Kilpatrick 2021) 26km north, and Colinhill (Spence 2019) 26km north-east of Mauchline. In each case the Neolithic evidence was part of a palimpsest of activities from multiple periods.

5.2 Middle Bronze Age activity

During the Bronze Age there is evidence for more permanent occupation of the site, in the form of a fenced enclosure, a roundhouse and a souterrain. The curvilinear ditch and the pit-defined enclosure cannot be dated, and whether they are contemporary with the roundhouse or form part of a later or even earlier phase of occupation is unknown. On the basis of the radiocarbon dates obtained from the fills of the post pipes, the roundhouse can be dated to the Middle Bronze Age. The souterrain also appears to date to the Middle Bronze Age on the basis of the radiocarbon dates obtained from the material recovered from the basal fills and the preserved oak post. In addition, the souterrain's location relative to the roundhouse, where access to the chamber was made through an entrance between two posts of the post ring, strongly suggests the roundhouse and souterrain were contemporary. This would make the Mauchline example the oldest scientifically dated souterrain excavated in mainland

Scotland, a claim which will be further explored in the following section (see 5.3.1 'The souterrain'), which reviews the data for each of the settlement components, highlighting their chronology and local comparanda.

5.3 The roundhouse

Located within the north-western half of the fenced enclosure was a post-built roundhouse, comprising a post ring measuring 7.5m in diameter formed of nine post holes spaced approximately 2m apart (Illus 4). There was no evidence of an outer ring groove, outer porch, or internal features as seen in some other excavated roundhouses in Scotland; this may be due to the truncation of the features by modern ploughing. There was also no evidence of any of the post holes having been repaired or replaced, suggesting the roundhouse may only have been occupied for a short period before being abandoned. The presence of post pipes in five of the post holes suggests that at least part of the structure was left in situ following its abandonment. A 12m-wide gap in the south-east of the post ring was observed between post holes C0008 and C0026. The gap could be the result of localised truncation, but it is suggested that, although no clear evidence of an entrance to the roundhouse was identified, an entrance may have been located in this south-eastern section. South-east-facing entrances are widely noted across examples of Middle Bronze Age roundhouses, although there is a high degree of variation in orientations during the period (Pope 2003: 176; Cook & Dunbar 2008: 323).

The simple roundhouse structure, formed of a post ring to support a conical roof, is typical of the Middle Bronze Age, and is one of several known examples from across Scotland (see Pope 2015). Although limited, comparative examples are also known from East Ayrshire, with two Middle Bronze Age roundhouses excavated at Colinhill 26km to the north-east of Mauchline (Spence 2019). One of these, Structure A, was a post ring of seven post holes enclosed within a penannular ditch. The other (Structure B) was a post ring of 11 post holes with a four-post entrance structure. An Iron Age roundhouse with an associated souterrain excavated to the west at Brodick, Isle of Arran, appeared to be post-ring constructed but differed from the

Mauchline example in that it may have had internal post holes (Williamson 2017: 29). A roundhouse dated to between 110 cal BC and cal AD 50 excavated at Monkton, 13km west of Mauchline, comprised a post ring and two separate outer ring grooves designed to support the outer walls of the structure (Rennie 2015). A roundhouse dated to between 37 cal BC and cal AD 120 was excavated in Ayr, South Ayrshire, approximately 16km south-west of Mauchline (Murray 2012). This example comprised segmented outer ring grooves designed to hold the outer walls of the structure with internal post holes. The differences in construction style between these roundhouses and the example excavated in Mauchline reflect both their different chronologies and the variety of roundhouse construction styles seen more commonly in the east and north-east of Scotland (Pope 2015).

The structural life of the Mauchline roundhouse could have lasted for up to 60 years (Pope 2003: 345), but its occupational life may have been significantly less. Archaeological work has highlighted the relatively short lifespans of these buildings (Barber & Crone 2001; Halliday 2007; Pope 2015). Within this model the Mauchline roundhouse may have been occupied seasonally or at least sporadically, with periods of abandonment in between. In this respect the presence of the souterrain is interesting, since it may have been used as storage for items that were neither transferable nor required by the occupiers of the roundhouse during periods of absence.

The two Middle Bronze Age structures at Colinhill (Spence 2019) and the Late Bronze Age roundhouse at Aird Quarry (Cook 2006), 80km south-west of Mauchline, offer comparators. These roundhouses showed greater preservation of features than Mauchline, despite both sites being subject to plough truncation. All contained evidence of the internal division of space, with hearths noted at Colinhill and pits in all. The roundhouse excavated on Brodick, Isle of Arran (which was dated to the 2nd century BC) was arguably more reminiscent of the Mauchline roundhouse but differed in that it could potentially have had internal posts.

The lack of similar roundhouses to Mauchline in East Ayrshire makes it difficult to infer whether there was a specific regional design of roundhouse and how the roundhouse excavated at Mauchline

would tie into such a pattern. Roundhouse form can be dependent on both the resources available to the builders and compliance with an ideal or traditional design (Pope 2015: 166), and interpretations of the finished structure on the basis of heavily truncated remains are limited. More widely, Pope posits a transition from the Early to Middle Bronze Age signified by a decline in upland and coastal settlements (2015: 177–8), and the location of the Mauchline roundhouse 15km west of the coast and 7km from the upland zone does not contradict this.

5.3.1 The souterrain

Closely related to the roundhouse were the remains of a souterrain, which could be contemporary with the roundhouse. Souterrains, typically dated to the Iron Age, are best described as cellars, an enclosed space either partly or completely underground and sealed by a roof, and are commonly associated with above-ground structures such as roundhouses. They are recorded throughout Scotland with a particular concentration in the east and north-east of the country. In south-west Scotland souterrains are rare and nearly all are known from aerial photography only. Two souterrains are located in Garphar, South Ayrshire (NRHE ID [80241](#)) approximately 25km south-west of Mauchline, two possible examples are identified at Ballantrae Bridge (NRHE IDs [142407](#) and [142623](#)) 60km south-west of Mauchline, and one souterrain was observed at Cairn Connell Hill (NRHE ID [81599](#)) 75km south-west of Mauchline. All are broadly typical of the ‘crescent shaped’ design of the souterrain seen at Mauchline (Brophy & Cowley 2005: 61, 66). One souterrain, with an Iron Age date, was excavated in association with a cluster of roundhouses at Cults Loch, Castle Kennedy in Dumfries and Galloway, some 77km south-west of Mauchline (Cavers & Crone 2018). This souterrain had a length of 9m, was 1.7m wide and had a maximum depth of 1.3m (ibid). These dimensions are very similar to those observed at Mauchline, but smaller than, for example, the souterrain at Glen Cloy on the Isle of Arran (NRHE ID [215297](#)), which was also much more complex, comprising separate passages as well as evidence for a stone and timber lining (Williamson 2017). The paucity of souterrains recorded in the south-west of Scotland may suggest that such features were simply not as

common in this area as in the east and north-east of the country. However, it may reflect a bias in the archaeological record, as the notably smaller scale of commercial development in the region results in far fewer opportunities to shed light on the archaeology through developer-funded archaeological projects (Cavers 2008: 13). The excavated examples from Mauchline and Cults Loch, and the examples identified on aerial photography, hint that these features formed an important facet of life in the south-west of the country and could be more numerous than previously thought.

In contrast to these examples, the evidence from Mauchline, in particular the radiocarbon dating, strongly indicates that the souterrain was Middle Bronze Age in date, contrary to the typical Iron Age date for such features. Souterrains throughout the Scottish Islands are generally thought to be a late Iron Age phenomenon (Dunwell & Ralston 2008: 116; ScARF 2012: Sect 5.8; Williamson 2017: 25). That said, the overall chronology of souterrains in themselves is problematic, with few scientifically dated examples (Coleman & Hunter 2002: 79; Anderson & Rees 2006: 56; Dunwell & Ralston 2008: 116). Recent excavations of souterrains, particularly in Angus, where the densest concentration of these structures is found, have provided scientific dating in the form of radiocarbon dates of material from basal fills. For example, material from the souterrains at Dubton Farm (Cameron et al 2002; Ginnever 2017) and Monifieth (Anderson & Rees 2006) all provided AMS dates between early 1st and early 3rd centuries AD. Material from the souterrain excavated at Brodick, the nearest regional comparator to Mauchline, provided a date between late 1st century BC and early 2nd century AD (Williamson 2017: 24).

In light of this, the dates from Mauchline push the origins of souterrains much further back than expected. The radiocarbon dating from the usage layers of the souterrain, as well as the dating of residue on a pottery sherd, provide the strongest evidence for this. While this discovery would be of national significance, it is important to take into account a number of potential caveats. Firstly, it is not impossible that the basal deposits within the souterrain represent a more extensive Middle Bronze Age layer which was truncated by the construction of the souterrain during the Iron Age

period. In such a case, the Bronze Age charcoal and pottery with Bronze Age food residue should be considered residual. A different thought questions the simultaneity of the roundhouse and the souterrain. It could be argued that the souterrain's location relative to the roundhouse is coincidental, and that accessing the Iron Age souterrain led to users treading fragments of alder charcoal, remnants of the Bronze Age roundhouse posts perhaps, into the basal fills of the souterrain. The fragment of pottery where the residue returned a Middle Bronze Age radiocarbon date could also have been an inclusion within the sediment that was eroded by natural processes into the souterrain. Thirdly, the waterlogged post is noted as formed from the heartwood of oak. The combination of oak as a long-lived species and heartwood – by definition older tissue within the tree that can be considered dead while the outer sapwood continues to grow – indicates a significant potential age offset from that given by the radiocarbon date. An Iron Age date for the timber's use in the souterrain can therefore not be discounted.

While these possibilities for a later date are acknowledged, given the absence of evidence for Iron Age activity, both in terms of artefacts and radiocarbon dating, these scenarios and a later date seem unlikely. Absence of evidence does not necessarily mean that no Iron Age activity took place on this site, but the statistical overlap between the dates from the souterrain and the roundhouse on balance favour a Middle Bronze Age date for the use of both features. In addition, the physical connection between the roundhouse and the souterrain is undeniable and highly unlikely to be coincidental. Instead, it more likely signals simultaneous use of both features.

Despite being highly unusual, an early date for a souterrain is not without parallels. A souterrain at Nessbreck, Corrigal, Orkney returned dates spanning the 19th to 18th centuries BC, suggesting that the early Mauchline date may not be an isolated phenomenon (Roberston 2007; Young 2016: appendix 3). Given the limited number of scientifically dated sites, it is clear that there are a number of lacunae in our understanding of the development of souterrains, but nevertheless the data from Mauchline and Nessbreck suggests their origins and development may extend earlier than the Iron Age.

Turning from questions of dating to structure, the Mauchline souterrain comprised a steep-sided cut, lined with a series of paired post holes, likely defining the superstructure of the souterrain. As noted previously, a souterrain in Brodick, Isle of Arran (NRHE ID [215297](#)), provides the closest regional excavated comparison. That souterrain was notably larger and more complex, comprising separate passages as well as evidence for stone and timber lining (Williamson 2017). The presence of paired post holes cut into the base of the Mauchline souterrain was also noted during the excavation of another timber-lined souterrain associated with a roundhouse in Cyderhall, Sutherland, where paired post holes were interpreted as revetments for the walls and support for a timber-framed roof (Pollock 1993: 158). Timber-lined examples were seen at Redcastle, Angus (Alexander 2005) and Dalladies (Watkins 1980b), and stone-lined examples comprising multiple chambers were found at Dubton Farm, Angus (Ginnever 2017) and Shanzie Farm, Perthshire (Coleman & Hunter 2002). The Shanzie Farm souterrain was one of the largest at 35m in length, whereas the souterrains at Dubton Farm (Cameron et al 2002) measured between 7m and 4m long. The Mauchline souterrain was relatively simple in design though larger than the miniature souterrains at Dubton. At Cults Loch, the souterrain was also thought to be timber-lined but no internal post holes were discovered. The lining was assumed from the presence of a 30mm thick black, charcoal-rich sandy silt layer which covered the wall of the feature in the area around the entrance (Cavers & Crone 2018). The positioning of the Cults Loch souterrain also finds parallel with the example from Mauchline, being situated just to the north-west of the entrance into the roundhouse, providing direct access between the souterrain and the annular space between the ring groove and the post ring (Cavers & Crone 2018: 13).

The function of souterrains has been widely debated and interpretations range from defensive structures, a popular antiquarian explanation (Armit 1999: 582), to animal shelters (Wainwright 1963). They are broadly considered in current discourse to have been used for storage, as the cool and dark conditions would have been suitable for storing foodstuffs as well as other items, although it has been argued that there was also a ritual dimension to their

use (Hingley 1992: 29). The storage interpretation seems most appropriate in the case of Mauchline, as the souterrain would have provided a convenient place to store food and other items. The relatively small size of the souterrain perhaps reflects the modest form of the roundhouse. In light of this, it seems unlikely that the souterrain would have been used to store food for a wider community, as was postulated for the substantial souterrain excavated at Newmill, Perthshire (Watkins 1980a: 199), and it is likely to have served a small family group inhabiting the roundhouse.

At some point, the Mauchline souterrain appears to have been abandoned, with the majority of the timber frame and roof dismantled, although at least part of one of the posts was left in situ. In contrast to the deliberately infilled souterrains excavated at Dalladies, Newmill (Watkins 1980a; 1980b) and Redcastle (Alexander 2005), the Mauchline souterrain underwent a period of natural infilling following its abandonment. Although there was evidence of deliberately infilled stones in the southern central portion of the souterrain, this deposit overlay approximately 0.3m of naturally infilled basal deposits, showing that the deposition of the stones took place sometime following the abandonment of the feature. It is possible this relates to later field clearance activities after the settlement was abandoned. Armit (1999) identified a pattern of deliberately deconstructed and backfilled souterrains in the east of Scotland during the later Iron Age, and it is interesting to note that this earlier example of a souterrain from the south-west of the country does not conform to this model.

5.3.2 The fenced enclosure

The fenced enclosure which enclosed both the roundhouse and the souterrain is a notable discovery. Few examples of such a clearly defined fenced enclosure encircling a roundhouse are recorded, particularly in the south-west of Scotland. Tentative fence lines associated with roundhouses were identified outside House 7 and House 9 in Dryburn Bridge, East Lothian (Dunwell 2007: 68–9). The fence line associated with House 7 provides the example closest to that seen at Mauchline. In this example, a foundation slot was present to the south-east of the roundhouse, with a possible entrance

close to the entrance to the roundhouse itself. It is possible that the fence line from House 7 and that at Mauchline fulfilled similar functions. A palisade enclosure around a Late Bronze Age roundhouse was also recorded at Aird Quarry (Cook 2006), 80km south-west of Mauchline.

It is possible that the fenced enclosure was used either as an additional barrier from prevailing winds or, more likely, to contain or exclude livestock, or to display the social status of the inhabitants. The enclosure respects the roundhouse and the souterrain and provides a larger space to the front (south-east) of the roundhouse than to the back. This positioning of the roundhouse relative to the enclosure may have been deliberate – either to provide a large space in which to undertake communal or agricultural activities, or in order to emphasise the space in front of the roundhouse and thus enhance the status of the structure (and its inhabitants). It is noted that there was no evidence in the excavation to indicate that the roundhouse had any significant status. Any of the gaps in the fenced enclosure could be the result of plough truncation or could indicate the presence of entrances to the enclosure. An entrance giving access to the larger space of the forecourt is more likely than an entrance to the rear, and the gaps either side of post hole C0050 are both candidates.

Although the fence lines identified outside House 7 and House 9 in Dryburn Bridge, East Lothian (Dunwell 2007: 68–9) are the closest comparable examples to the Mauchline example, they differed in their date, construction style, and positioning. The fence line associated with House 7 comprised a foundation slot and was present only at the south-east of the roundhouse. The fence line potentially associated with House 9 was formed of a single line of pits present only at the north of the roundhouse.

5.3.3 The curvilinear ditch and pit alignments

The curvilinear ditch and pit alignments at the north-east of the site demonstrate the demarcation of the wider area, perhaps to manage livestock, and are evidence of a variety of methods used to demarcate the land. Isolated curvilinear ditches can be enigmatic features on archaeological sites, with varying interpretations ascribed to them. The curvilinear feature west of House 3 at Dryburn

Bridge, for example, was interpreted as a possible windbreak or shelter (Dunwell 2007: 69). While such an interpretation cannot be ruled out in this case, it is also possible that the ditch was used to define an area, perhaps for livestock management.

The L-shaped pit-defined enclosure at the north-east of the site may have fulfilled a similar function. Interpretations of the function of pit alignments have ranged from the prosaic, such as management of livestock, to more symbolic or ritual in nature (Cameron & Mitchell 2010: 25). The pit alignments excavated at Langside and Castlesteads located north of Dalkeith, for example, spanned a

considerable distance and have been interpreted as symbolic and physical boundaries which demarcated large blocks of land (Cameron & Mitchell 2010: 28). Houses 7 and 8 at Dryburn Bridge, East Lothian, both had potential pit alignments associated with them and were interpreted as possibly demarcating garden plots or boundaries around the roundhouses (Dunwell 2007: 68–9). The Mauchline example seems to fit more closely with the latter interpretation, given the modest extent of the alignment, although its distance 50m north-east of the roundhouse does not necessarily suggest a direct association.