The archaeology at Thainstone represented two main phases of occupation across a relatively small area, with the earliest evidence dating from the Middle Bronze Age followed by a period of Middle Iron Age settlement activity. Similar patterns of activity have also been identified at Boynes Farm, Inverurie (Dalland & Cox 2014), 2km north of Thainstone. The cremation burials, standing stones and stone circles enhance the notion of a largely ritual landscape with evidence of settlement, although not necessarily contemporary. All of the sites are close to the River Don and its tributary, the River Urie, and it is likely that this, along with the favourable landscape, is the reason for so much prehistoric activity in the area.

5.1 Middle to Late Bronze Age

Structure 1, located on a platform dug into a slight slope in the north of Area A, was probably the earliest building, based on the radiocarbon date of charcoal (1415-1260 cal BC; SUERC-93919; Table 1), which was recovered from the internal ring ditch. As there was flat land in the area, it is interesting that the inhabitants chose to cut the structure into a slope by creating a purpose-built ledge, as this would have required substantial effort. The location may have been viewed as a strategic location that would provide some shelter to the building, prolonging its usability. Additionally, there are questions regarding the construction and function of Structure 1, as only a small arc of an inner post ring was visible. It is possible that an outer turf wall may have extended beyond the platform and was later truncated by ploughing. Internally, it appears that the ring ditches were eroded hollows which had been filled with stone to level the floor area and prevent further wear. Alternatively, Structure 1 may have been a small single post-ring structure, possibly not used as a dwelling but as a store or to house animals, and the wear pattern in the interior was caused by the movement and settling of animals. The stone fill of these depressions possibly represented upgrading of the floor area, bringing it back to the original level and preventing further wear. This maintenance may also have signalled a new use for the structure which would have required a level floor. Structure 1

was similar to Roundhouse 24 at Kintore (Cook & Dunbar 2008: 90, Fig 49) in that it was set into a slope and that the ring-ditches were filled with stone. In the Kintore example, the stone was interpreted as a possible work surface and the same may be seen in Structure 1. Platform settlements are a known phenomenon of the Bronze Age (Terry 1995; Pope 2015) and usually located in upland areas with limited flat land, such as at Clyde Windfarm, South Lanarkshire, where multiple structures were built on purpose-built platforms within the Clyde Valley (Cox & Woodley forthcoming). These structures were dated to the 2nd millennium BC and therefore broadly contemporary with Structure 1 at Thainstone. As the dating of Structure 1 was somewhat challenging due to a paucity of datable material, it is possible that Structure 1 was also from the Middle Iron Age and potentially contemporary with Structure 2. If they were broadly contemporary, they would have been visible to each other, or at least the remains of the structures would have been visible in the landscape.

The urned cremation burials also date to the Middle Bronze Age and are quite possibly contemporary with the occupation of Structure 1, based on the radiocarbon-dating of the charcoal from Pit 094 (1400-1220 cal BC; SUERC-93920; Table 1). The four cremation burials may have existed in isolation or may be related to the cairn which was removed from the site prior to 1964. Unfortunately, the precise location of the cairn is unknown, with records suggesting it was adjacent to Camie's Stone. The association between Middle Bronze Age cremations and contemporary and earlier monuments has been explored in the region (Phillips et al 2006). Groups of similar shallow cremation pits seemingly not associated with monuments but close to a roundhouse were seen at Nether Beanshill, Aberdeenshire (Dingwall et al 2019: 149). The urned cremations at Thainstone were approximately 40m to the south-east and further downslope of Structure 1. The association between the cremations and associated settlement and monument features is uncertain, reflecting the complexity of Bronze Age burial practices.

The pit group containing a stone lidded vessel and a grinder at the south of Area A is assumed to be from the Middle Bronze Age, based on the similarity of the vessels with those in the urned

cremation burials. The purpose of the deposition of materials within these pits is not fully understood. It is possible they were domestic waste pits, broadly contemporary with Structure 1 and the urned cremation burials. However, it is also possible that they were symbolically deposited, as suggested by the seemingly deliberate deposition of Vessel 1 and the grinder. It seems reasonably clear that the stone lidded vessel had been deliberately deposited within the pit and that it contained something at the time, protected by the stone lid. A similar pot from Late Bronze Age deposits in Sculptor's Cave, Covesea, held a mutton bone when found, suggesting it had been left with an offering of food (Cruickshanks & Sheridan forthcoming). There were no such finds within the Thainstone pot, but a small quantity of nettle seeds within the pit fill may have derived from brewing the plant for tea or grinding it for pigments. The reason for the apparent selective deposition of the grinder and vessel is unclear, but adds to the ongoing study of the reasons behind such deposits. Becker (2013) has suggested that certain artefact types, which represented certain social identities, were deposited to literally and symbolically transform artefacts and the concepts that they embodied. It is possible that this was the aim here, possibly to claim a legitimacy to a social standing or position in society.

Cremation activities were also identified into the Late Bronze Age as evident in the cremated human bone from Feature 017. It seems unlikely that this material represents in situ cremation burials. It is possible that it represents either pyre rakings containing fragments of uncollected bone, or disturbed and redeposited cremation burials. The burnt stones in Feature 005 could have derived from an area used for funeral pyres; the pottery suggests redeposited cremations and the ashes and charcoal could have been related to either scenario. While the dating of these remains clearly indicates cremation burials in the general area into the Late Bronze Age, it is not clear where these burials were located.

The archaeological record of the north-east of Scotland signifies that a broad range of burial types were occurring during the Bronze Age, such as inhumation, cremations and cist burials (see Greig et al 1989; Hanley & Sheridan 1994; Ralston 1996; Cook 2008; Johnson & Cameron 2012; Suddaby forthcoming). The excavation and

research of the Early Bronze Age cremation site at Skilmafilly, Aberdeenshire (Johnson & Cameron 2012) had evidence of urned and unurned cremations and contained an assortment of grave goods. In comparison, at Silvercrest, Elgin, a cluster of five burials were excavated beside an enclosed cemetery, with both burial types contemporary with each other. Unfortunately, less is known about the development of burial types in the Middle Bronze Age and into the Late Bronze Age, with suggestions that the practice may have been less common in Aberdeenshire (Ashmore 2001: 1-2; Cook 2016: 64). As infrastructure continues to develop in the north-east, particularly around Aberdeenshire, it is hoped that more Middle to Late Bronze Age burial sites will be excavated, further elucidating our understanding of burial sites from these periods.

The unenclosed flat cremation cemetery at Skilmafilly (Johnson & Cameron 2012) is one of a number of known sites across eastern Scotland in the Bronze Age, although few have been recently excavated. Although earlier, Skilmafilly provided evidence of both urned and unurned cremations spread over a wide area, and was comprehensively dated to the period 2040-1500 BC. A variety of grave goods were also found with the cremations at Skilmafilly, which was not the case at Thainstone. A further earlier example is an unenclosed cremation cluster of just five burials excavated beside an enclosed cemetery at Silvercrest, Elgin (Suddaby forthcoming). In this case, the unenclosed cremations appeared to be contemporary with those in the enclosed cemetery, indicating that the two forms were not mutually exclusive. It seems Bronze Age cremations were a complex mixture of funerary rites, which hints at a complex social structure or set of beliefs and societal norms. The wide range of known sites in the Inverurie area seems to reflect this wide-ranging mixture of beliefs and practices.

Following these periods of activity in the Middle and Late Bronze Age at Thainstone, there seems to have been a long hiatus of about a thousand years. This is not necessarily indicative of abandonment. The evidence from Meadowend Farm, Clackmannanshire (Jones et al 2018), where a far wider area was stripped and excavated, shows how a sequence of Bronze Age to Iron Age roundhouses could move around the landscape; it is possible that a similar process was underway at

Thainstone and that other roundhouses may have been present outside the excavation area.

5.2 Middle Iron Age

The Middle Iron Age was characterised by the presence of a large roundhouse (Structure 2) and a souterrain, which appeared to be contemporary. Various possibilities regarding the layout of the structure have been explored, with the most probable being a turf-walled roundhouse with a south-east-facing entrance which was offset from the axis of the internal chamber. Unfortunately, a lack of stratigraphy has resulted in inference of the layout, but it is possible that there may have been two phases to the structure and the features are not all contemporary. Phase 1 may have comprised an outer turf wall with an entrance at the east, which would have been in line with the position of the ring ditches. Internal partitions, or low walls, may have separated the centre of the structure from the area between the internal post ring and the turf wall, with the interior being the hub of domestic living and accounting for the wear patterns in the floor. A second phase may have seen restoration of the structure by re-levelling the floor area, and a repositioning of the entrance at the south-east with the addition of a porch and substantial load-bearing posts. Internally, the C-shaped post-feature may have been a segregated area or furniture, resulting in a reorganisation of the space and forcing anyone entering the structure to immediately turn right.

Post holes near the entrance of Structure 2, which contained packing stones, have provided some insight into the understanding of construction from the builders. Post Hole 108 had a large, angular packing stone in the base and appeared to have fallen in once the post was removed, whereas Post Hole 120 had two packing stones set within the sides and opposing each other. These examples suggest that the timber within Post Hole 108 was deliberately removed, either for reuse elsewhere or for fuel. It may also have been replaced as a repair, with the stone being repurposed as a post-pad to prevent the new timber sinking into the subsoil. The packing in Post Hole 120 may have been to counteract structural forces and twisting of the post under stress (Romankiewicz & Mann 2017: 4). The setting of the packing stones in Post Hole 120 suggests that this was one of the main load-bearing posts for the frame of the roundhouse.

The most coherent dating evidence for the structures in this period comes from the radiocarbondated charcoal from the base of the souterrain (cal AD 25-210; SUERC-93914), the fragment of glass from the entrance porch of Structure 2 and the sherd of samian ware from the deposit in the centre of the building. All point towards occupation and abandonment in the 2nd century AD. This is further supported by the presence of Vessel 7, located in the ring ditch of Structure 2, which is diagnostically Iron Age. Two radiocarbon dates from Structure 2 have been disregarded as intrusive or residual. One Middle Bronze Age date from a piece of charcoal from a post hole in the porch seems likely to relate to Bronze Age cremation activity in the immediate vicinity. A piece of charcoal from the ring ditch was dated to the Early Historic period, later than the accepted dating of roundhouse construction in the area, and thus seems likely to be intrusive. The ring ditch was shallow and appeared to be largely naturally infilled; the charcoal was potentially blown into the feature long after occupation and abandonment. The projected footprint of the external post ring of Structure 2 overlies the north-east terminal of the souterrain, suggesting that there was an entrance into the souterrain from the interior of the roundhouse, which further supports contemporaneity.

Structure 2 was similar to the roundhouse excavated at Thainstone Business Park, c 300m to the east (Murray & Murray 2006), which may have been part of the same settlement. This roundhouse was dated to between the 1st and 3rd century AD (based on radiocarbon dating samples, Murray & Murray 2006: 11) and is thus broadly contemporary with Structure 2 and the adjacent souterrain. However, it should be noted that roundhouses had a lifespan of approximately 30 to 40 years from construction to abandonment, with their function as a dwelling probably less than this time (Crone et al 2019). As a result, the roundhouse at Thainstone Business Park may have been sequential rather than contemporary. Post-built Iron Age structures were common in the north-east of Scotland, with examples at Douglasmuir (Kendrick 1995), Ironshill (Pollock 1997) and Dubton Farm (Ginnever 2017) all in Angus, as well as Dalladies, Kincardineshire (Watkins 1980a). Further similarities between the

two structures at Dubton and that of Structure 2 at Thainstone includes a pit within the entrance porch. At Dubton the digging of the pits was perceived as a deliberate act at the abandonment of the structure, however this does not appear to have been the case at Thainstone, where it was more likely a hollow caused by heavy footfall and repeated sweeping out, similar to a hollowed channel within the porch of Structure 3 at Deer's Den, near Kintore, Aberdeenshire, which is approximately 2km to the south-east of Thainstone (Alexander 2000: 20, 22). The entrance porch of Structure 2 faced south-east, which was the most common orientation as this allowed the optimum amount of light and warmth to reach into the structure (Pope 2003). Other differences were noted in the formation of the curvilinear ring ditches, which were formed from wear in Structure 2 (and Structure 1) rather than being a design feature, as seen at Douglasmuir and Dubton Farm, which suggests that the function of the structures was potentially different or had changed over time.

Souterrains are a common Iron Age structure and have been found across Scotland, with concentrations in the north-east. Most known sites in the Aberdeenshire and Angus areas have only been located through aerial photography (Dunwell & Ralston 2008: 113), although the number of excavated sites is steadily growing. These souterrains generally comprise stone-lined subterranean chambers capped either with stone slabs or timber, such as those from Hurley Hawkin, Angus (Taylor 1983), Ardestie and Carnlugie, Angus (Wainwright 1963) and Newmill, Perthshire (Watkins 1980b). More recent stone-lined examples have been excavated at Shanzie, Perthshire (Coleman & Hunter 2002), Ardownie, Angus (Anderson & Rees 2006) and Hawkhill, Angus (Rees 2009). These features were not exclusively stone-lined, with a recently excavated example of a timber-lined souterrain recorded at Dubton Farm, Angus (Ginnever 2017).

It is likely that the souterrain at Thainstone was originally stone-lined, based on the surviving areas of stone wall. There were also no timber post holes in the base, a feature seen at the timber-lined Dubton Farm souterrain. At Thainstone the souterrain included a shallow gully running around the base of the walls, below the wall lining. This was not wide enough to provide a foundation for the

wall and was, therefore, more likely to represent a drainage feature. No roofing material was observed within the fill of the souterrain. Many stone-lined souterrains have been found to incorporate large stone-slab roofs, but no evidence of this was found at Thainstone. Here, as with the souterrain at Newmill (Watkins 1980b), it is suggested that the structure had a gabled timber-frame roof which would have been covered in thatch. It is possible that flat timbers were placed across the top of the walls and covered in turf, although this would not have been practical; therefore, a gabled roof is the more likely option.

The insertion of a cross-wall close to the west end of the feature is unusual, and no further examples have been found in the literature. It is possible this acted as a partition, potentially to segregate food types such as meat or dairy. The building of the wall was a secondary phase of construction, possibly at the same time as the steps were cut to improve access at the west end, and both may have been to improve the functionality of the souterrain. One of the steps contained fragments of saddle querns, which would probably have been obsolete by the 1st century AD after the introduction of rotary querns. It is likely that these fragments were conveniently available in the vicinity and proved useful for creating a solid footing in the step, though there may also have been a symbolic aspect to their inclusion.

The purpose of souterrains has never been conclusively agreed, and it has been suggested they were cow byres or used for refuge in times of conflict, or even for ritual purposes. The most accepted theory is that they were used for storage (Watkins 1980b; Armit 1999). Watkins (1980b: 198) identified that the main requirements for bulk storage of food stuffs were space, protection from the elements, ventilation and insulation from extremes of temperature. Souterrains certainly provided a great volume of roofed ventilated space where temperatures would remain relatively even throughout the year. The souterrain at Thainstone would have provided good storage space for the occupants of the roundhouse. Souterrains are rarely found in isolation and are usually associated with settlement activity in the form of roundhouses, as evident at Dubton Farm, Angus (Ginnever 2017), Newmill, Perthshire (Watkins 1980b), Cyderhall, Sutherland (Pollock et al 1992) and at Dalladies, Kincardineshire (Watkins 1980a).

No distinct roof material, in the form of timber, turf lines or charcoal, was noted within the fills of the souterrain. Therefore, it seems likely that the roof had been removed prior to abandonment along with the removal of much of the stone walling and then left to naturally infill, similar to the souterrain at Dubton Farm. The fill did contain evidence of wall collapse, but this likely occurred during the removal of the roof, which would have destabilised interior fittings or partitions.

The cannel coal bangle, glass and sherd of samian ware from Structure 2 and the souterrain imply that luxury items were in use there. These items have not been commonly recorded in the area, therefore

it is possible that their presence here indicates a high-status individual or structure.

The presence of a clearly defined charcoal-rich layer in the centre of Structure 2 may be indicative of destruction by fire, whether deliberate or accidental. Evidence of partial or total destruction of roundhouses from various periods has been seen at Garnhill and Wester Hatton (Dingwall et al 2019), Kintore, Aberdeenshire (Cook & Dunbar 2008) and at Birnie, Moray, which had evidence of occupation in the Roman period (Hunter in prep a). Although not common in the archaeological record, destruction of these highly combustible structures must have occurred in the later prehistoric period.