11. DISCUSSION

The Blackford excavations have provided an insight into prehistoric settlement, architecture, ritual and socio-economic patterns produced over a millennium of occupation, principally from the MBA to the EIA. The most striking component of this prehistoric evidence is the range of circular structures. Fifteen such structures were recognised, with the possibility of up to four others that were too truncated to be securely assigned. Structures such as these are usually assumed to be houses, although their function may not be immediately obvious from the material remains. It is probable that a multitude of domestic and industrial activities took place within these houses, including cooking, weaving and other crafts. It is also possible that the structures housed the family's animals.

11.1 Chronology and overview

11.1.1 Mesolithic and Neolithic

The earliest radiocarbon dates returned from the excavations were Late Mesolithic, derived from hazelnut shells found within a spread of burnt material in Area E, which is interpreted as a burnt mound. Burnt mounds are usually associated with the Bronze Age although a putative Mesolithic example was excavated on the route of the M74 at Kirkhill Farm (NRHE No. NY19SW 59), Dumfries and Galloway (Pollard 1993), where Mesolithic flint tools were found within its matrix: however, it should be kept in mind that there are many mechanisms by which flint, and indeed burnt hazelnut shells, could become incorporated into the matrix of a later burnt mound.

The spread of burnt material may have derived from food processing and cooking. It is possible that the hazelnut shells may have been burnt elsewhere and are a residual element not directly associated with this feature. However, there is no record of Mesolithic activity within the environs of Blackford in the RCAHMS database, HER or literature, and with the exception of these dates no evidence of Mesolithic activity within the Blackford excavations. The parsimonious interpretation is that the nutshells were burnt during food processing activities in the Late Mesolithic and discarded along with the other burnt material within the burnt spread.

Early prehistoric activity appears again in Area X with Early Neolithic pottery deposited in a partially filled pit, either by natural means or deliberately.

11.1.2 Early Bronze Age (EBA)

There is a break in evidence for human activity until the EBA, when the deposition of Beaker pottery occurred in a pit in Area X. The pottery was found in association with cereal grains dated to 2466–2236 cal BC. No structures were found within this area; circular structures make their first appearance at Blackford during the MBA. The first evidence of cremation burials, dated to the EBA, was also discovered in Area X. Unstratified EBA pottery was also found during the site preparation phases in Areas A and C.

11.1.3 Middle Bronze Age (MBA)

The MBA is the most represented period at Blackford, with more of the radiocarbon dates falling within this period than any other. The period is characterised by the construction of groups of circular structures with internal ring ditches, some of which, such as those in Areas C and E, were enclosed within a palisade. The enclosing of the houses may have been a response to threats of violence, the weather, separation of livestock from the houses, or an exhibition of status. Another notable feature is the south-east orientation of the entrances. Naked barley was being processed, a crop found on other prehistoric sites because of its suitability to the Scottish climate. We also see the introduction of emmer wheat. Craft specialisation is represented by the manufacture of cannel coal jewellery.

11.1.4 Late Bronze Age (LBA)

Material from two circular structures (Areas F and D) was dated to the LBA. These structures in the main differ from the MBA structures with the loss of the ring ditch, although Structures 2B and 6B in Area B had putative ring ditches. The tradition of a south-east-facing entrance continued and the appearance of the first four-post structure was seen in Area F. A cremation in an urn burial and another

possible cremation deposit were discovered (see Section 11.4 for further discussion).

11.1.5 Early Iron Age (EIA)

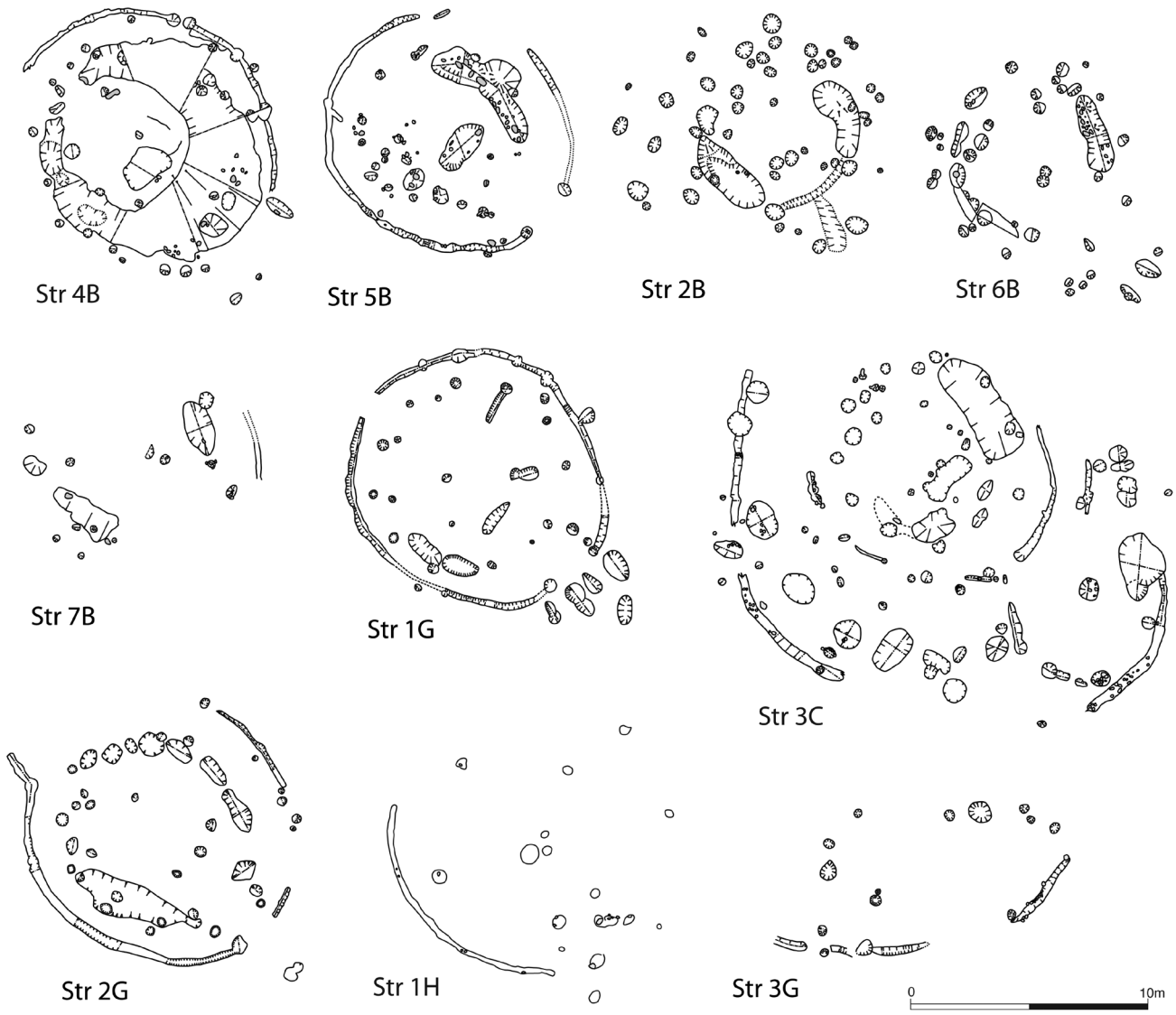
The EIA (defined in this report as the period 700–100 BC, the 'Long Iron Age' model of Parker Pearson & Sharples 1999) is represented by a large palisaded enclosure (Area A) within which were two large (13–14m diameter) post-built structures. There was evidence of the reappearance of the ring ditch as a component within the structures, and the introduction of a large pit constructed concentric to and outside the post ring of one of the houses. The presence of burnt animal faeces mixed in with other organic material was interpreted as being derived from animal bedding or possibly cakes of dried fuel. The internal pits were thought to be the result of animal wear, which was also apparent in the large external pit of Structure 1A.

11.2 The structures

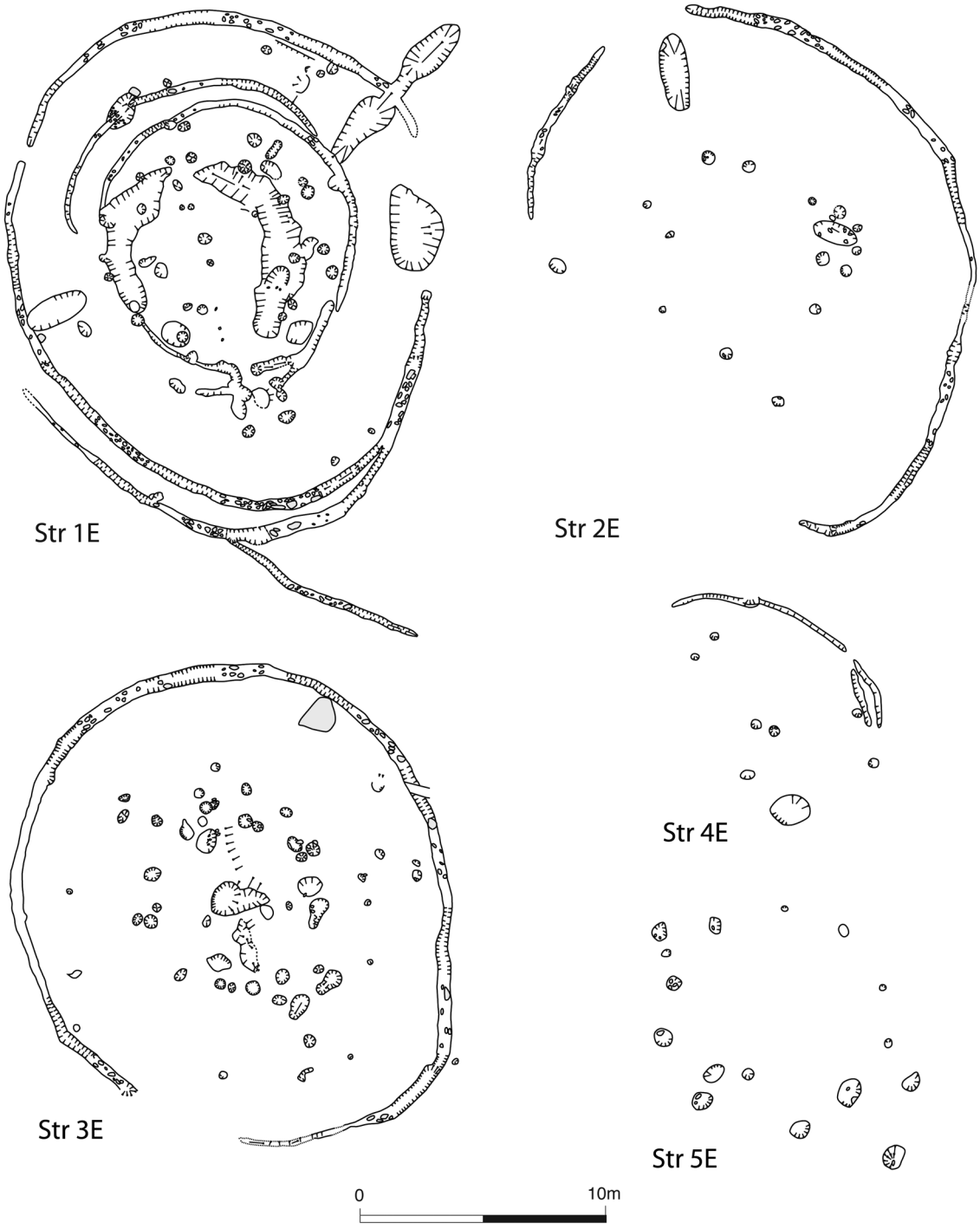
There are a number of architectural components of the structures, the presence of which appear to show both diachronic and spatial changes (Illus 58–60).

11.2.1 Structural elements of the houses: ring grooves, post rings and porches

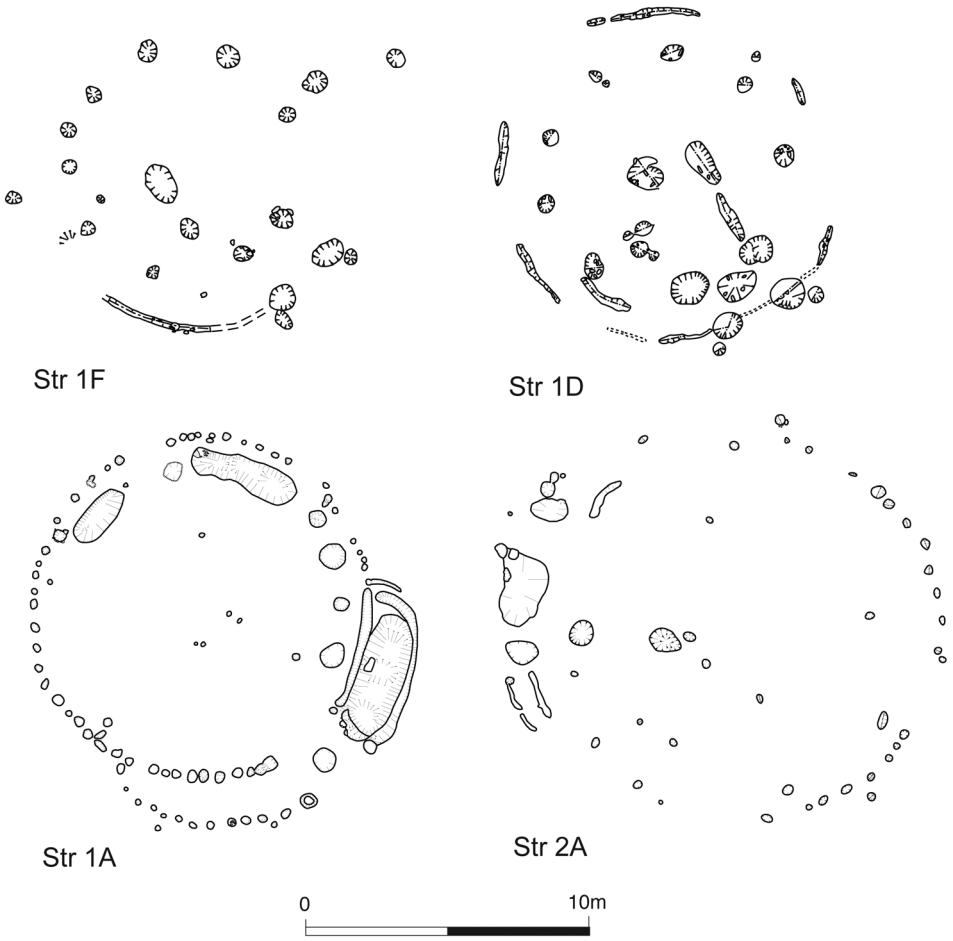
The first ring grooves occurred in the MBA, but they were not found or had not survived within



Illus 58 Plan of houses in Areas B, C, G and H



Illus 59 Plan of houses in Area E



Illus 60 Plan of houses in Areas F, D and A

all the structures of this period, being absent from Structures 2B, 6B, 3E and 5E. The ring groove continued in use until the construction of the EIA structures in Area A. The outer walls in these houses may have been fixed directly to the posts of the post ring, or the wall may have been earth-fastened using small stakes, the stake holes of which have been truncated. Alternatively, the houses had turf walls, requiring no foundations. The contiguous posts in the post ring of Structure 1A may even have served as the outer skin of the building.

Post rings within houses were present as either single or multiple rings, but the array of pits within some structures confused the interpretation. The house diameters, ranging from 6.6m to 11m, with the exception of those in Area A which measured 12m and 14m, were small enough for a single ring of upright posts to support the roof, and therefore the double post rings are more likely to have represented phases of rebuilding.

It could be argued that the houses in Area A with their *c* 14m diameters may have needed a double post ring to support the roof, however, there was no evidence of this in Structure 1A and little in Structure 2A, with the exception of an arc of pits in the north-east quadrant of the house and a possible post-pad in the north. The closely spaced nature of the posts may have provided enough support for the roof without the need for an extra ring of posts.

Likely porch structures were identified in only two of the houses, the MBA Structure 1E and, more tentatively, the EIA Structure 1A. The two porches were different in their composition. Structure 1E, the most likely candidate for a porch on the whole site, consisted of terminal posts within the outer ring groove, with three sets of opposing posts external to the ring groove; it was 'square' in shape. There

was also a central pit, which may have been the foundation for a central support, but this would have considerably restricted movement through the entrance. Alternatively, the pit may have had symbolic meaning as it was situated at the threshold of the structure, assuming the pit was contemporary with the porch. The posts forming the porch were similar in size to the other posts in the structure's post ring, suggesting that they could have held posts of equivalent height/girth to the rest of the post ring, resulting in a porch of significant proportions.

The entrance in the EIA Structure 1A appears to have been defined by four opposing posts, two of which were incorporated into the post ring with an external corresponding pair, one within the posts of the south annex and the other similarly aligned and adjacent to the external pit. If the annex and pit were roofed, as is the interpretation here, then the 'porch', annex and pit should be considered as a single entity, an extension to the structure. It remains possible, however, that these posts were not supporting a porch but were instead the posts marking the ends of a passage through a turf/earth wall which no longer survives, with the outer 'porch' posts defining the position of the now lost external wall line, as the posts are not substantially different in size from the remaining small post holes in the post ring.

Although not full porches in the traditional sense, the LBA Structures 1F and 1D had double offset post holes which might potentially represent an external frame around their doorways, offering some additional strength to the break in the circle, but may again simply mark the location of the passage through the wall, especially as the outer posts of the porches are aligned with the outer ring grooves.

It has been suggested that the porch is not a structural feature of roundhouses (Avery & Close-Brooks 1969; Hill 1984) and it has been shown that porches may be later additions, as was demonstrated at Bannockburn Fort CS1 (Rideout 1996). An alternative explanation may be that the entrance and porch were used as statements of status (eg Chadwick Hawkes 1994: 66). Pope, however, offers a pragmatic solution, suggesting that the large posts forming porches were used during construction to compensate for the gap created by the entrance, the larger posts providing a dead-weight counterthrust to the live thrust of the roof; that they compensate for stress and damage as people or animals move through the entrance, and that to increase headroom of the doorway, taller and hence wider posts were needed (Pope 2003: 186).

11.2.2 Ring ditches

Ring ditches predominantly occur in the MBA structures, early examples being Structures 5B and 1E, although in the latter the ring ditch belonged to the last phase of reconstruction of the building. Ring ditches within the MBA structures predominantly survived on one or both sides of the structures, with the exception of Structure 4B, where the surviving feature formed a penannular ring. The incomplete nature of the other ring ditches may be due to truncation, but potentially it suggests that the areas of ring ditch opposite the entrances were less deep and therefore (where these can be considered erosion features) less well-worn.

Ring ditches are not apparent in the LBA structures, represented by circular Structures 1D, 1F and 1H. However, by the EIA, and with the construction of Structure 1A, features which might be considered comparable with ring ditches recur. This time the pits interpreted as vestigial ring ditches occur on the north and north-west of the structure and in Structure 2A similar pits survived on the west side of the structure. A further change can be seen with the large external pit on the east side of Structure 1A, which may have served a similar function to the internal ring ditches of the earlier structures. As these features lower the floor height on the peripheries of their associated structures, Kendrick (1982) has suggested that they were deliberately excavated in order to increase the headroom at the wall and may be seen as an early version of the souterrain, and as such may best be considered as storage facilities (Kendrick 1995). The only structure at Blackford where it could be argued that the ring ditch may have effectively increased headroom was in Structure 4B, where the ring ditch survived to a depth of *c* 0.4m, although the depth of truncation is unknown.

Seven of the possible ring ditches at Blackford (Structures 2B, 3C, 5B, 6B, 2G, 1A and 2A) were little more than shallow scoops, but even given the likelihood of truncation, it seems unlikely they were deliberately excavated features. Apart from being

shallow, their edges were ill-defined. The pits on the northern and western floorspace of Structure 1A were also conjoined, pre-excavation, by a thin deposit of material that formed the upper surviving fill of both. A similar observation was made for the pits on the western side of Structure 2A, and again within Structure 1G where the two pits on the southern perimeter of the floorspace appeared, pre-excavation, to be a single feature (Illus 35). These features stood in stark contrast to the ring ditch features within Structures 4B and 1E. The ring ditches of Structures 4B and 1E were more substantial and had clearly defined boundaries, and were thought to have been the result of excavation rather than wear.

It has been suggested that shallower ring ditches may be the result of heavy wear created by cattle that were overwintered within houses (Jobey & Tait 1966; Reynolds 1982), although as Harding (2001: 38) has suggested, ring ditches may have had multiple functions.

The cattle byre argument is based on the functional imperative that cattle need to be overwintered (Andersen 1999 cited in Webley 2008: 62). Soil micromorphology from the fill of internal Pit 462 in Structure 1A demonstrated the presence of animal faecal matter possibly derived from animal bedding, which would support the argument for stalling animals within houses. However, Zimmerman has questioned the functional necessity of overwintering cattle within houses, pointing out that there are alternative methods (Zimmerman 1999, cited in Webley 2008).

The circular structures at Blackford appear to have had one entrance only, meaning that if animals were stalled within houses they would have been brought into the house via the same entrance as the human occupants, suggestive of a close relationship between the humans and their animal charges. However, a degree of separation between livestock and humans is still evident in the roundhouses: the ring ditch and the internal floor space occupy different levels, and it is possible that partition walls may have been used to fence off the ring ditches. The difference in height from the base of the ring ditch and the floorspace within Structure 4B was *c* 0.4m, but likely to have been deeper before horizontal truncation. Undoubtedly, if the ring ditches were designed for (or simply the result of) stalling animals, then the depth of the ditch would increase with time as the ditch was constantly mucked out. It has also been suggested that stalling the animals at a lower floor level would have helped with drainage by preventing the animal waste from seeping into the domestic floorspace (Hedeager 1992, cited in Webley 2008: 63).

In the western ring ditch in Structure 1E a large cache of grain was identified, which appears to have been burnt in situ (see Section 4.9), lending support to the storage interpretation. Recovered from the fill of this ring ditch was a charred piece of probable timber planking. Although this timber may have derived from a number of sources, it is plausible that it derived from a putative floor laid over the ring ditch, effectively utilising the ring ditch as a cellar-like structure.

It would appear that there is no decisive answer to the function of ring ditches at Blackford but the stalling of animals and the storage of materials, eg grain, are two possible uses, while more simply some of them may derive from the wear patterns of the building's occupiers over time.

11.2.3 Other internal features

Every structure contained a number of pits or post holes which were not integral to the superstructure. In some cases, large pits which followed the line of the wall or the post ring have been interpreted as truncated elements of the ring ditch. Other features such as post holes might represent the remains of internal partitions, although none shows any distinctive patterning which might indicate how these structures were divided up. A few might be the remains of a windbreak across the entrance, for example in Structure 2G and possibly 2B.

Large pits which were approximately central to the structures were present in MBA Structures 4B, 5B, 3C, 3E and LBA Structures 1D and 1F. These have been interpreted as hearths or cooking pits. All contained some form of burnt material, although generally not in large quantities, and only the pits in Structures 3E and 1F showed evidence for in-situ burning. It is possible that at least some cooking activities took place outside or within other structures, for example roasting or smoking meat or using water-filled troughs and heated stones.

11.2.4 Entrance orientation

Where entrances can be reconstructed, with the exception of Structure 2A, they face south-east. In the case of Structure 2A the north-west entrance appears to correspond with the entrance through the palisade.

This south-east orientation has been considered by many to reflect a cosmological concern with the sun (eg Fitzpatrick 1994; Oswald 1997; Giles & Parker Pearson 1999; Parker Pearson 1999; Parker Pearson & Sharples 1999), principally the opposition between night and day, leading to a structured use of the internal space with dichotomies of day/activity–night/sleeping. Indeed, the very act of orientating the entrance specifically towards the sunrise is by definition cosmological. However, as Pope has argued, the south-east orientation could be based on pragmatic considerations such as protection from the westerly prevailing winds in Britain, and the need for light and warmth from the rising sun (Pope 2007: 173). Whether the orientation is best explained in terms of a belief system, or is best described as a practical solution to a windowless or dimly lit structure, to avoid shadow cast by the surrounding palisade fence, or orientated towards other structures or topographical features in the landscape, is perhaps more a reflection of our own choice of interpretation.

The entrances in the palisades were not in every case orientated the same as the entrances into houses. In the case of Structure 1E, breaks in the palisade occurred to the west and east, although the one to the west may have been the result of truncation, and in Structure 3E the palisade entrance was orientated to the south-west. The palisade in Area A had two entrances, one to the south-east mirroring the south-east entrance of Structure 1A, and one to the north-west mirroring the orientation of the Structure 2A entrance. The entrances appear to occupy positions orientated from the north-west through to the east and south-west and it seems unlikely that they were necessarily orientated towards the sunrise. The orientations of palisade entrances appear to have been based on different considerations from those of house entrances. It was not possible to test the sunwise model of artefact deposition at Blackford, as the artefact assemblage was small and firm conclusions therefore could not be drawn.

It is possible that pragmatism can be imbued with ritual, and that reflections on cosmology are innate

Illus 61 View from Area A towards the SE and the SM Cecilmont Fort

within humans, such as the treatment of the dead and a belief in the afterlife. There is no reason to suppose that these were not considerations that the prehistoric inhabitants at Blackford also made.

11.2.5 Palisades

Enclosed structures are an early feature at Blackford, first appearing in the MBA. However, palisades were not universal MBA features, with the structures in Areas B and G being unenclosed. The palisade recurs in the EIA, with the structures in Area A being enclosed by a single large elliptical palisade.

Palisades or enclosures could have been multi-purpose. They offered protection from the elements and intruders, and may have been a statement of prestige. The MBA enclosed structures were Structures 3C, 1E, 2E, 3E, 4E and possibly 3G. If any of these homesteads were contemporaneous then it could be argued that enclosing them represented an uneasy dialectic between the households. Structures 5E, 3E, 1E, 3C, 6B and 1H all have dates that fall within the range of 1605–825 BC, and three of these (3E, 1E, 3C) were enclosed (see Table 23).

The EIA saw a return to enclosures, but this time two structures were enclosed in Area A, and the enclosure size and restricted access suggest that the purpose of this palisade had a defensive element. It may also have signified wealth and status; its size and position atop a knoll would have commanded views across the landscape (Illus 61).

11.2.6 Chronological sequence, typology and longevity

The chronological sequence of ring ditch structures in Scotland has recently been extended, with the excavations at Kintore (Cook & Dunbar 2008) returning MBA dates and those at Ironshill (Pollock 1997) and Culhawk Hill (Rees 1998), both in Angus, dated to the later first millennium BC. The ring ditch structures at Blackford fit well with this chronology.

The MBA structures at Blackford are characterised by roundhouses with ring ditches, some with elements of ring grooves, similar to those found at Kintore (Cook & Dunbar 2008: 321). The general classification is a ring ditch structure with posts or ring grooves around the exterior of the ring ditch, with or without a four-post entrance, although the presence of ring grooves appears to be a more common feature at Blackford. One exception is Structure 3E, which was a post ring house without ring ditches or ring grooves. However, the dating of Structure 3E was problematic as there was little consistency within the dates with the overall range, suggesting periods of activity from the MBA to LBA (1514–844 BC). Alternatively, given the generally shallow nature of the Area E ring grooves (0.15m or less), it is possible that any ring groove in Structure 3E could have been lost through truncation. Entrance orientation at Blackford is fairly consistent, where it can be discerned, with all but one of the MBA entrances facing the south-east.

The LBA structures at Blackford, Structures 1D and 1F, are similar to Cook & Dunbar's Type 4 classification: post ring with four-post entrance structures springing from the post ring (2008: 89); however, the four-post entrances of Structures 1D and 1F were reduced in size compared to those at Kintore, and at Blackford these structures have evidence of a ring groove.

The EIA circular structures within the Area A palisaded enclosure at Blackford are defined by close-set post-built walls, with evidence of possible ring ditches. In Structure 1A Pits 462 and 385 were interpreted as the truncated remains of a ring ditch on the north-west side of the structure. The Structure 1A entrance is based on a four-post arrangement: two on the alignment of the post ring and two aligned and incorporated into the annex, with the addition of a central support. However, the presence of an external pit and the annex, probably roofed, make Structure 1A an idiosyncratic structure within the Blackford houses, and the house is as yet unparalleled in Scottish archaeology.

A notable architectural element at Blackford was the presence of enclosed structures, the earliest being Structure 3C and possibly Structure 3E. Evidence of other probable MBA enclosures can be seen in Area E, Structures 2E and 4E, and in Area G, Structure 1G. Structures within enclosures disappeared during the LBA and re-emerged with the construction of the large palisade in Area A.

Whether the circular structures in Areas B and C were contemporaneous is difficult to ascertain as there were very few instances of stratigraphical relationships between features. In one instance it

can be seen that the ring groove of Structure 2B truncated a curvilinear feature associated with a possible earlier structure, Structure 7B. Otherwise the structures spatially respected each other.

It is generally agreed that the lifespan of a house is partly dependent upon the durability of the material from which it is constructed, the maintenance regime employed, and episodes of total rebuilding on the same plot. In the case of Blackford, the material used in construction was wood, probably oak and hazel (see Section 11.5.3). Experimental evidence has shown that reconstructed wooden-built longhouses will last no more than one or two generations, such as the Viking Age house at Trelleborg, Denmark, which showed severe decay after 30 years (Webley 2008: 39). Experimental work conducted on the lifetime of a post buried in the ground demonstrated that this was proportional to the diameter of the post, with a post of oak heartwood taking 15–25 years to decay for every 5.1cm of diameter (Webley 2008: 39). However, this is subject to variations in the soil, and the material used, such as the less durable sapwood (Purslow 1962). The post holes of the circular structures were generally very truncated, making it difficult to determine their original diameters. The post holes within the palisade survived to a greater depth. The average diameter of these features was 0.24m. Based on these calculations, these palisade posts would have lasted between 67 and 112 years, although the structures would have lost structural integrity before this.

There was evidence of what might be termed 'maintenance' being undertaken on the Blackford houses, expressed as paired post holes presumed to represent post replacements, eg within Structure 1F. There was also evidence of houses being rebuilt, such as Structure 1E, which would have necessitated the dismantling of the previous house if it was still fully or partially upstanding, in order for the new house to be built on the same spot. It cannot be determined whether these new-builds represent a new house built by the same family, or by new occupants.

The 19 structures at Blackford represent activity over a maximum radiocarbon-dated period of 1,609 years (UBA-13311 Area C to UBA-13416 Area A), thus if each structure represents a direct replacement of an earlier one, they lasted on average 84.5 years each. However, the upper date range obtained from Area C was from a non-structural pit and was probably intrusive. The upper end of the date range may therefore lie closer to *c* 1400 cal BC, based on the majority of the MBA dates, thus each structure would represent 61 years, assuming continuity without any overlap. This indicates that it was possible to have had near-constant occupation on the site represented by one or two homesteads only. As there is much overlap in the radiocarbon dates returned from the structures, particularly within the MBA, it cannot simply be assumed that each structure represents a single family lineage rebuilding a new structure with each passing generation.

However, Halliday (2007) suggests that in fact many roundhouse structures are single-phase and are only occupied for a generation, or even as little as 10 years or less, as our definition of sedentary farming may not be applicable to what could have been a much more mobile population in later prehistory, and this pattern of dynamic short-lived settlement can be seen in the better dated wetland environment (Barber et al 2007). It remains possible that what has been interpreted as maintenance and replacement of individual posts may in fact be superimposition of new structures onto old, either concentrically or eccentrically, making some of the more complex-looking floor plans interpreted as long-lasting structures perhaps instead be a sequence of simple roundhouses superimposed over one another and occupied for relatively short periods of time.

11.2.7 Summary

The MBA circular structures are characterised by segmented ring ditches running internally concentric with an outer post ring, and inner post rings have also been identified in all but two of the MBA circular structures (Structures 3C and possibly 5B). Ring grooves are also present in all but two of the circular structures, Structures 2B and 6B. The ring ditches generally occurred on the east and west sides of the structures, with the exception of those in Area G, which occurred on the south side. The ring groove and post ring continued in use through the LBA but the ring ditch was dropped, as was the enclosing palisade. The ring groove was lost during the EIA but we see the re-emergence of the ring ditch, albeit on a different orientation: to the north and

Table 23 Summary of structural features of houses and dating

Str.	Ring ditch	Ring groove	Post ring	Palisade	Porch	Max. diam.	Entrance orientation	^{14}C date ranges BC
5E			Single			7	SE?	1605–894
3E			Multi-phase	Present	Poss	7	SE?	1516–844
5B	Present	Present	Single			11	SE	1503–1313
1E	Present	Present	Multi-phase	Present	Present	12	SE	1494–1056
3C	Present	Present	Single	Present		10		1426–1133
6B	Present		Multi-phase?			8		1428–1308
4B	Present	Present	Multi-phase?			12	NW	1394–1210
1G		Present	Multi-phase			11	SE	1389–1128
1D		Present	Single		Frame	11.5	SE	1374–782
2B	Present		Multi-phase			9	SE	1370–1269
1H		Present	Single?			*c* 11		1010–825
2G	Present	Present	Single	Present		11	SE	1259–821
1F		Present	Single		Frame	11.5	SE	898–542
1A	Possible		Single	Present	Present	14	SE	742–397
2A	Possible		Single?	Present		13	NW & SE?	726–399

west. Elsewhere ring ditches have also been reported continuing late into the first millennium BC (Pollock 1997; Rees 1998; Cook & Dunbar 2008). There is very little demonstrable variation in orientation of the house entrances, which were predominantly to the south-east, the exception being Structure 2A with a north-west entrance. The alignment of house entrance orientations and enclosure orientations shows variability. In Structure 1E the entrance was orientated to the south-east but the entrance through the palisade was orientated to the east, while in Area A the house entrances were both orientated to their respective and opposed entrances in the palisade, to the north-west and south-east. Therefore it cannot be assumed that house entrances were consistently orientated towards enclosure entrances. Table 23 provides a summary of structural features and dates.

11.3 Finds summaries, distribution and taphonomy

11.3.1 Pottery

Melanie Johnson

Handmade prehistoric pottery amounting to 1,091 sherds, weighing 21.650kg in total, from a minimum of 267 individual vessels, was recovered from across the excavation areas. The assemblage is quantified in Table 24 and a full catalogue has been prepared for the site archive.

The assemblage is made up of heavily gritted coarse pottery, quite thick-walled, and the vessels are generally either barrel- or bucket-shaped, with upright or inturning rims, sometimes with an internal bevel or expanded to either side, or more often with a flat or round top. This type of pottery has for many years been referred to as Flat-rimmed Ware (Coles & Taylor 1970) and is a rather ill-defined ware present throughout Scotland during the second and first millennia. Little typological work has been undertaken on assemblages from this period across the country, so it is still unclear whether there are regional or chronological distinctions to be made, and the skewed distribution of sherds, so obvious at Blackford, is a puzzle that still requires some explanation.

Distribution

Areas B and C contained the largest amount of pottery of all the areas, with just under half of the overall assemblage by weight from here. Even

Table 24 Summary of pottery assemblage distribution

Area	No. sherds	Wt (g)	No. vessels	Ave. sherd Wt (g)	Sherd thickness		% with Sooting
					Mode (mm)	Range (mm)	
A	3	11	3	3.7	–	5–10	33
B and C	509	10,604	133	20.8	10	5–21	56
D	30	171	9	5.7	8	7–10	22
E	299	7,670	79	25.7	12	6–20	47
F	19	171	12	9	10	4–17	33
G	36	648	7	18	10	10–14	18
H	92	1,627	15	17.7	8	7–15	47
X	99	584	6	5.9	8	6–9	33
Unstratified	4	164	3				
Total	1,091	21,650	267				

within this area, though, the assemblage is unevenly distributed, with 90% of this area's pottery coming from just two of the buildings, with a particularly high proportion coming from a few contexts associated with Structure 2B. While a lot of pottery was found in the eastern ring ditch in Structure 2B, this was not the case in Structure 3C, where only a single sherd was found in the ring ditch and pottery was otherwise recovered from pits and post holes. Although a much smaller assemblage, most pottery from Structure 4B also came from the ring ditch. Only a few sherds were recovered from Structures 5B and 6B; there is no obvious distinction in the form or function of these buildings to explain why they are so artefact-poor in comparison.

Within Area D, the sherds from Structure 1D came from the entrance area, possibly suggesting that sherds became caught up in the fills of these pits/post holes during the sweeping out of the building through the door. The only other sherds from this area came from a pit to the south-east, possibly suggesting that this cluster of features were rubbish pits used by the occupants of the building, placed conveniently to the outside of the building's entrance but at sufficient distance to avoid any problems with hygiene.

Area G, although a small assemblage, had some interesting patterns, such as the deposition of base sherds from a single vessel in Post Hole 012 of Structure 1G and rim and body sherds from a single vessel in Post Hole 125 of Structure 2G, both of which fell within the south-west quadrant of the building and formed part of the post ring. The remaining sherds from these buildings can be considered to be residual sherds which had worked their way into post holes and other structural elements of the buildings during their occupation.

The assemblages from Areas A and D are too small to add much meaning to overall discussions of differences between areas, but are intrinsically interesting in posing the question of why some areas were practically aceramic in comparison with others. Area A was later in date than the other groups of structures excavated, being EIA, and there is perhaps a tendency identifiable in the material culture of the late second and first millennia BC in the north-east towards a reduction in the quantities of pottery and other artefacts recovered from domestic sites; for example, at Ironshill (Pollock 1997) and Douglasmuir (Kendrick 1995), both in Angus, and Wardend of Durris in Aberdeenshire (Russell-White 1995).

Forms and dating

Areas B and C included, apart from the usual rounded, bevelled and flat-topped rims from upright and slightly necked vessels, some very thick rims, vessels with external ridges and some more unusual

forms such as rims expanded to either side. The ridges along the exterior were produced either by running a finger along the exterior to form a groove, or pinching up the wet clay to form a ridge.

Excavations at Kintore revealed two MBA roundhouses (RH25, RH26) which had pottery associated with them (MacSween 2008). Unfortunately, none of the vessels are illustrated but the descriptions indicate that the pottery from this period was dominated by internally bevelled rims. Decoration is scarce, with only two examples of possible decoration. The Kintore assemblage has examples of ridges, grooves or cordons below the rim on the exterior, a trait that is absent from Blackford. RH26 contained three vessels which were considered to have been near-complete in-situ pots.

Other ring ditch houses at Deer's Den, Kintore, Aberdeenshire (Alexander 2000) have been dated to the Middle and Late Bronze Age (spanning 1600–700 BC). Later prehistoric pottery was found associated with two of the ring ditch houses and comprised bucket- and barrel-shaped vessels with flat bases and closed mouths, the rims including plain flat rims and short everted rims with internal bevels. One of the vessels was substantially complete and had a ridge/pronounced shoulder; it was recovered from a pit within the ring ditch of Structure 3. This house has a spread of radiocarbon dates, ranging from 1890–1030 BC.

The ridged ornamentation on the exterior of some vessels is a small component of the assemblage. It has parallels with other assemblages from this period, for example at Lairg (MacSween & Dixon 1998). External ridging was present on some vessels, with incision sometimes present between the ridges; another vessel had fingernail impressions between the ridges and another had impressed twisted cord. Vessels had internally bevelled, flat, rounded and expanded rims. This assemblage is dated to 1800–1200 BC.

A small quantity of earlier material has been recognised within the assemblages from Area A and the Watching Brief Area X. This material is Neolithic and Early Bronze Age in date and includes probable Early Neolithic Carinated Bowl, possible later Neolithic Impressed Ware, Beaker and Food Vessel. The pits containing Beaker and Early Neolithic pottery in the Watching Brief Area appear to be earlier features.

11.3.2 Other finds

Sue Anderson

Very few manufactured objects other than pottery were recovered during the excavations. The small quantities of artefacts recovered from the site could reflect the paucity of artefacts used/deposited during the structure's occupation; the poor survival of the occupation assemblage, particularly if wooden and other organic materials were used extensively; a very clean house which was regularly swept; or a combination of all of the above.

Twenty-one lithic artefacts were collected from three areas of the site, of which 14 were flint, although fragments of sandstone and chert with signs of working were also identified. The only tools identified within this small assemblage were a burnt scraper and two utilised flakes from Area B, and a blade from Area E.

The seven coarse stone objects included three perforated weights from Area B/C, two of which were found in Structure 3C and may be related to textile working. Two tools – a hammerstone and an anvil – were recovered from Structures 5B and 2B respectively, and a third – a whetstone – from Area E, Structure 1E. A sandstone block with natural grooves from Structure 3C was thought to be related to metalworking activity (see Clarke, Section 4.8.3 above). Unusually for a prehistoric site in Scotland, no quernstones were recovered.

Three objects of probable cannel coal were found, all items of dress or personal adornment. They were recovered from three separate areas of the site. A bangle fragment came from a pit close to the cremation burial in Area H, but is intrinsically undateable. An unfinished bead came from a post hole within Structure 3E, potentially dropped during the manufacturing process and rolling into the space created by a partially eroded post base. The 'napkin ring' fastener fragment from Structure 2B was only a small part of the original object and could have been broken off a more complete piece which was retained for use. Fragments of shale also recovered from this house have been noted as evidence for the exploitation and trade of this raw material (see Hunter, Section 4.8.4 above).

Very small quantities of vitrified material were recovered from four areas, but only the fragments from an isolated pit in the Area A palisaded enclosure

were thought to be related to ferrous metalworking. The largest single quantity of material from the site was just over 50g of fuel ash slag from a post hole within Structure 1F.

11.4 Treatment of the dead

During the EBA in Britain both inhumation and cremation burials were practised, although inhumation was the more common form of mortuary practice (Brück 2009: 1). After 2000 BC cremation began to be the most popular form of burial practice (Needham 1996: 131) and by the beginning of the MBA cremation burial had become the norm (Ellison 1980). This difference in the treatment of the dead is thought by some authors to reflect differences in social status of those being buried. Rowlands (1980: 51) has suggested that cremation was the act of destroying the body and the integrity of the individual, while inhumation preserves both the body and personal identity of the deceased. The overlap in these two mortuary patterns has allowed archaeologists to draw social distinctions between those that were interred and those that were cremated, with the cremation burials often taken to represent lower-status individuals (Bradley 1984: 84; Braithwaite 1984: 104–5; Mount 1995: 107–8). It has been noted that cremated individuals were often buried as satellite burials in the sides of barrows, whose central burial was an interment (Burgess 1980: 297–9; Bradley 1984: 84), and further that by the MBA the practice of furnishing graves with grave goods was diminishing, MBA cremations being buried with nothing except the funerary urn that the human remains were put in (Ellison 1980). At Blackford the burial practice appears to be dominated by the cremation rite.

The very truncated cremation burials at Blackford were identified in Trench 1 of the evaluation, in Area H and possibly in Watching Brief Area X. Two were certainly the remains of adult humans, the third being possibly human but too abraded for definitive identification. All three are likely to be broadly contemporary with occupation represented by the circular structures.

Over the whole of the Blackford prehistoric landscape there are only six burials: three probable cremations from these excavations of MBA/LBA date, two Bronze Age cinerary urns (NN90NW 14 and NN81SE 3) and one cist burial (NN81SE 4). There are at least three reasons that may account for the relative paucity of cremations: more exist but they have not been found; the remains have been truncated by modern agricultural practices; or the dead were treated in a manner that leaves no archaeological signature, such as inhumation in unmarked grave pits, since the acidic nature of Scottish soils does not favour the preservation of unburnt bone.

Although the prehistoric population is usually considered to be lower than today, the six prehistoric burials are clearly not representative of the Bronze and Iron Age populations, so where are the dead of these past communities? There are at least three reasons that may explain the paucity in the burial record at Blackford. First, many burials have probably been destroyed. Since the end of the Iron Age up to the Industrial Revolution, continued use of the land for farming, particularly ploughing, will have destroyed buried remains, including graves. During the 19th century, and likely as a result of new and more intensive agricultural practices and land improvement, more of the landscape at Blackford was being disturbed, resulting in the discovery of two buried cinerary urns and a cist burial under a cairn. It can only be speculated how many more were discovered and not reported, or simply unknowingly destroyed during agricultural developments. There was some limited evidence for modern farming activity across the excavation area, including two horseshoes, the size of which indicated they were used on heavy horses, and the remains of a partial flagstone floor with associated post-medieval artefacts, but no evidence for foundation trenches for walls suggestive of a building. This floor could be the remains of a threshing floor or cereal drying floor.

Second, there are likely to be burials that have not been found. Cremation burials can occur either singly or as a group in a cemetery or 'urnfield'. It is possible that more single burials lie undetected, particularly as most of the known burials were found away from the main areas of settlement. Third, it is possible that many of the isolated pits at Blackford originally contained cremation burials with or without cinerary urns, the contents of which have been destroyed through truncation by ploughing and weathering, and by the acidic soils, which is

one of the major reasons why inhumation burials are not a common feature in the Scottish archaeological record generally.

If, as has been suggested by some authors (see above), cremation reflects the 'lower' social status of the individual then presumably we have not found the chiefs or leaders, and those that have been found are from the lower caste members of the community, buried simply without grave goods in possibly unmarked graves. Certainly, no evidence of cairns or other grave markers was found during these excavations.

11.5 Environment and economy

11.5.1 Calcined bone

Sue Anderson

In general the animal bone recovered was calcined and very fragmented. Most of it was not identifiable to species. This level of preservation of butchered and cooked animal bone is not unexpected for prehistoric sites based on acidic soils, but unfortunately reveals little about the nature of animal, bird and fish exploitation practised by the prehistoric inhabitants of this landscape. Much of the bone from structures was recovered from features where swept rubbish might be expected to be deposited, and in this it is similar to the deposition of other finds within these roundhouses.

11.5.2 Charred plant remains

Mhairi Hastie

Out of 746 samples analysed, 277 samples contained carbonised plant remains. The concentration varied considerably across the excavated areas. Much of the plant material was in a poor condition and very abraded. This indicates that much of the material had undergone some movement prior to being buried. In most cases the plant debris is unlikely to relate to the function, or use, of the features from which they were recovered. Nevertheless, several high concentrations of cereal grain potentially associated with in-situ burning were noted, particularly from Structure 4E.

The most abundant element recovered was carbonised cereal grains. Cereal chaff was present only in samples from Area E. Occasional weed seeds (wild taxa) were recovered from samples spread across the excavated areas, but never in increased numbers. Other potential economic species, including flax seeds, hazelnut shell, and fruit pips were also recovered, although these were never present in large quantities.

The general lack of cereal chaff and other crop-processing by-products, such as straw fragments (culm nodes) and large quantities of weed seeds, indicates that relatively clean grain has become charred throughout the occupation of the site. However, evidence from Area E, where small quantities of chaff were recovered and a small proportion of fused grain was noted still with rachis fragments attached, may indicate that some of the grain was still in spikelets or ears of corn when burnt. Similar plant assemblages have been noted at other Scottish prehistoric roundhouse sites, most notably from recent excavations at Kintore, Aberdeenshire (Cook & Dunbar 2008).

In all but one area of the site the most common cereal recovered was naked barley (*Hordeum* var. *nudum*). Naked barley was a main cultivar in Scotland from the Neolithic period until the Late Bronze Age when it was replaced by the hulled variety (*Hordeum* var. *vulgare*). Its presence here would be in keeping with the Bronze Age date for the site. Where preservation allowed, both straight (symmetrical) and twisted (asymmetrical) grains were recovered with a ratio of 1:4, suggesting that both the 2-row and 6-row varieties were being grown. Naked barley would have been easy to process as the grain, having no husk, may be eaten with no preparation other than boiling (Johnson 1844).

The grains and occasional chaff fragments of wheat were also recovered, the bulk of which were consistent with emmer wheat. Both spelt and bread/club wheat were also present, although not in large quantities, and this suggests that only small amounts of both were grown, possibly for specific purposes. For instance, bread wheat has better rising properties than spelt or emmer and may have been grown specifically for use in bread making, while spelt is more frost resistant than the other wheat species and more tolerant of poor soil conditions, thus it may have been grown in more marginal or poor ground areas. Both emmer and spelt would have been suitable for cultivation in the upland areas in which the settlement is situated. The emergence of

spelt as the main wheat cultivar during the Iron Age period is thought to be a consequence of its short growing season and its ability to grow in cold, damp weather, making it better adapted to the wetter climates of later prehistory (Baker 1985).

It is interesting that one area, Area D, produced a small assemblage of hulled barley. This variety of barley has been a major staple in Scotland since the Late Bronze Age, when it replaced the naked variety. Although not present in very large quantities, the recovery of hulled barley from this area fits with the Late Bronze Age or Iron Age date for these features.

Grains of both oat (*Avena* sp.) and possible rye (*Secale cereale*) were also identified from the samples, but neither was found in high concentrations. Both have been recovered from early prehistoric Scottish sites and are thought to be remnants of weed seeds, for instance wild oat (*Avena fatua*) growing in the barley crops. None of the oat grain recovered from the site was sufficiently preserved to allow identification between the wild and cultivated species, although the identified grains were small, suggesting the wild species. Given the very small numbers of grains present it would seem most likely that these were also remnants of arable weeds.

Small amounts of the barley grain were noted to have elongated embryo ends, indicating that the grains had started to germinate. There was no specific concentration of these; instead they were mixed with other non-germinating grains.

Cereal chaff was rarely recovered, only being identified from samples taken from Area E. Both barley rachis fragments and wheat glume bases and spikelet forks were present. The presence of chaff in some samples may be a sign of the charring of a partially cleaned crop that was being stored or processed, although increased numbers of chaff in one sample (<945>) from Area E could potentially suggest that the grain recovered from this structure was on the ear when charred.

Weed seeds were relatively sparse. The weed seeds present are typically found on Scottish prehistoric sites, and can be split into two distinct groups: seeds of arable fields and disturbed ground, and seeds more distinctive of wet or waterlogged areas. Many of the weed seeds would have found their way to the site along with harvested crops, typical weeds of cultivation including corn cockle (*Agrostemma githago*), fat hen (*Chenopodium album*) and heath grass (*Dathonia* sp.), while others such as dock (*Rumex* sp.) and nipplewort (*Lapsana communis*), which can grow in areas of disturbed ground, may have been growing around the site. More wet-loving species, such sedge (*Carex* sp.) and club-rush (*Scripus* sp.) could have been present in damp areas of the cultivated fields, or transported to the site via turfs for building or use as fuel, in bedding/flooring material, or even with animal fodder.

Although most commonly interpreted as seeds of cultivation, certain species of wild taxa, such as fat hen and chickweed for instance, could have also been collected as an additional source of food, and may have been harvested as specific vegetable crops, along with the cereals. The leaves of fat hen can be cooked and eaten like spinach (Langer & Hill 1991). Unfortunately, the quantity of weed seeds recovered from this site is not sufficient to distinguish between arable weed seeds or wild taxa collected as food; in most cases this distinction can only be gleaned from information provided from human faecal material or stomach contents.

Three other species recovered from the site are likely to have had a significant economic function: flax (*Linum usitatissum*), hazel (*Corylus avellana*) and apple (*Malus* sp.). Hazelnut shell was recovered from most of the excavated areas. Hazel wood was a common component of the charcoal assemblages recovered from the site (see Cressey, Section 11.5.3 below), and the nuts would have been a readily available local source of food. The presence, albeit of only two, apple pips from Area H also indicates that other fruits were available in local woods. The presence of both hazelnut shell and apple pips indicates that wild food resources were being exploited.

Flax seeds were recovered from three samples taken from Structure 1E. Flax is known in Scotland from the Neolithic onwards, and was probably exploited for both oil and the production of linen.

Small quantities of charred rhizomes were present with the cereal grains and other plant material. These underground stems are commonly recovered from prehistoric sites and are typically interpreted as the remnants of turfs used for fuel or use as roofing material. Soil micromorphology analysis of sediments from across the site (Section 4.9.4) indicated that many of the soils recovered from pit and ring ditch fills consisted of mineral-based

turf ash, mixed with smaller quantities of wood. Whether this is a result of burnt roofing material or turf used as fuel is not clear, but turf could have been collected for specific purposes. For instance Miller et al (2000) suggested that the presence of rhizomes along with cereal grain indicates the use of turfs to dampen down hearths prior to their being used for corn-drying purposes.

Although not of plant origin, it is interesting to note that the burnt remains of a small animal dropping, probably of goat or sheep, were recovered from the fill of Post Hole 005 in Structure 1F.

11.5.3 Charcoal

Michael Cressey

Charcoal condition

The bulk of the hazel charcoal is represented by both pristine and amorphous fragments, and most was originally derived from roundwood. The oak charcoal could have been derived from both branchwood and mature trunks. Oak wood when burnt tends to split along its multi-seriate rays forming plate-like fragments. These were numerous within the oak assemblage and strongly suggest that mature oak, possibly split from mature branchwood, was used in construction. This appears to be the case in Area G, where oak dominates the assemblage (92%), which strongly suggests that the bulk of this species is derived from structural timber rather than fuel wood.

Seventy-two individual fragments, representing 7% of the total assemblage analysed, were BLOI. Ten individual fragments were found to be vitrified due to excessive amounts of heat caused by deliberate firing (common in furnace fuels) or accidental burning. Much of the >4mm charcoal is fairly amorphous, suggesting a greater proportion has been affected by the free-draining nature of the site. Constant saturation invariably makes charcoal more friable and susceptible to taphonomic decay. The author has found this to be the case in sand- and pebble-rich soils elsewhere in Scottish charcoal assemblages.

Species composition

The results allow a better understanding of the nature and distribution of woodland cover near Blackford in the Bronze and Iron Ages.

The five individual species that are recorded within the charcoal assemblage are all native to north-east Scotland throughout the prehistoric period. Hazel, oak and birch thrive on base-poor soils that are relatively well drained. Soil types might include brown earths and podsols which are formed over sandy gravels and upland soils typical of the study area. Willow prefers periodically saturated soils, typical of flood plains and riverbank environments. Alder is a tree that thrives with its roots in water and is a typical river or streamside tree.

All five species would have been exploited for a variety of uses and all would be useful as a fuel, providing they were gathered as deadwood. Due to its stronger structural integrity, oak would have been favoured in house construction. Hazel is well known for its use in hurdle manufacture (Rackham 1977; Brunning 2000) and would also have been widely exploited for wattle work. Hazel, if left to grow uninfluenced, can achieve fairly well statured trunk-wood (Wilkinson 1975) and it will self-coppice, providing an abundance of irregular-sized branches.

Table 25 shows the relative abundance of charcoal from specific archaeological features within Areas A–H. These results confirm that collectively the post

Table 25 Frequency, combined weight and distribution of the >4mm fraction charcoal from different types of feature

Genus/Species	Pits	Post holes	Ring ditches	Palisade	Miscellaneous features
Alnus glutinosa		1 (0.2)			
Betula sp.	44 (62.2)	23 (8.6)	1 (0.5)		
Corylus avellana	231 (134.6)	52 (1.1)	28 (8.9)	1 (1.7)	16 (16.8)
Quercus sp.	262 (170)	298 (93.1)	27 (14.4)	43 (8.7)	
Salix		6 (8.7)			

holes have an inherently larger volume of charcoal derived from oak wood than any other species. Other species present within these features are likely to be derived from 'background' charcoal that would have been present around the sites as a result of burning fuel and discarded refuse.

The data in Table 25 also confirm that pits contained a slightly higher burden of oak charcoal. Some of the pits, although ideal repositories for domestic waste, may have had a structural role and it is not surprising that this species attains higher frequencies and weight.

Based on the limitations of the data, charcoal derived from oak appears more abundant in pits and post holes. In her study on roundhouse morphologies, Pope (2003) mentions that oak is the most popular wood type in prehistoric construction, representing one in three identifications. A strong wood with durable heartwood, oak was the main structural timber in Scotland until the 17th century, when it was replaced by Scandinavian imports to make up the shortfall (Crone & Mills 2002; Crone & Watson 2002). This wood would have also been favoured for its resistance to decay. Anecdotal evidence suggests that this resistance may have been further enhanced by charring the points of the timber uprights prior to insertion into the ground, to prolong the life of the upright timber for a much longer period, but little reliable research has been conducted on this matter. If the buildings were demolished at ground level this action might lead to a larger frequency of oak charcoal within the post hole assemblage.

Hazel and birch are the next most popular woods, followed by alder and willow, although the latter two are normally low in frequency. Although absent in this assemblage, Scots pine (*Pinus sylvestris*) would have been present within the local upland landscape but is normally very low in frequency due to the high combustibility caused by its highly flammable resin content (Gale & Cutler 2000: 91). It is likely that this species was sought for its qualities as a starter fuel rather than its structural quality.

Hazel charcoal is generally well represented within Scottish prehistory and accounts for a large proportion of the charcoal within the sampled assemblage. Although there is no direct evidence within this assemblage to suggest woodland management, this species is synonymous with hurdle manufacture, used in house construction and pit linings, etc. Although it is poor for providing timber (*sensu stricto*), its fast-growing qualities allow it to produce regular stems of uniform diameter after only a few years following clear-felling of the parent tree. Of the roundhouse structures with central post wood identifications, examined by Pope (2003) from Highland Scotland, six included birch and five contained alder.

The upland soils within the study area are acidic by nature and towards the later prehistoric period these certainly supported oak, birch and hazel woodland (Tipping 1994). There is no evidence within the charcoal assemblage to suggest that the local hazel wood was managed, but in any case this species would have supplied material for a number of uses, including hurdle panels in house-building and, importantly, fuel wood. The charcoal assemblage that has been analysed from the excavations represents only a small volume of wood that would have been burnt over the lifespan of the site. It is difficult to quantify such amounts but it must have been in the order of tons per year. The precise quantity of wood procured for structural use alone must certainly have accounted for large amounts of mature wood. The impact that this had on the local woodland composition can only be a matter for conjecture, but it is likely to have been huge unless some form of formal woodland management was carried out. The presence of willow and alder shows that both dryland and wetland woodland has been exploited, but the charcoal recovered from these species accounts for only a fraction of the assemblage.

Conclusion

A spatial approach has been used in an attempt to establish the distribution of charcoal wood recovered from the individual areas of the site. The assemblage has provided an insight into the types of wood exploited at the site over its lifetime. Although taphonomic processes (weathering) have acted on the charcoal, sufficient good non-amorphous charcoal was recovered to assess the relative size and stature of the material exploited. Oak and hazel charcoal dominate the assemblage, with much lower amounts of willow and alder. Area G is dominated by oak (92%) and the bulk of this has to be attributed to structural post wood which, judging by the anatomy

of this particular species, was mature and probably originated from trunk or maiden wood in contrast to the smaller diameter branchwood commonly observed in the hazel assemblage. The quantity of charcoal present within the assemblage represents only a fraction that would have been exploited for fuel. All the species present within the assemblage are native and commonly recorded in later prehistoric charcoal assemblages.

11.5.4 Discussion of the environmental evidence
Chris O'Connell

The palaeoenvironmental evidence suggests that during the MBA a mixed subsistence economy was practised. Cereal grains were recovered from contexts across all areas of excavation and the phalanx of a sheep recovered from Area H. Although animal bone was recovered from EIA contexts, it could not be identified by species, however it is likely that at least some of it represents domesticates, and hence a mixed farming economy is also proposed for the EIA.

There are three models of cultivation regimes that can be applied to early prehistoric Scotland: shifting cultivation, where plots of land are temporarily and intensively cultivated until the land loses its fertility and a new plot is cleared of forest and shrub cover and cultivated; permanent cultivation, where an extensive plot of land is repeatedly cultivated over generations, and manuring to replace lost nutrients in the soil is often employed; and garden cultivation, an intensive regime whereby farmers undertake small-scale crop and animal husbandry, which require higher inputs of human labour per unit area. Garden cultivation can be made more efficient by row-sowing rather than broadcasting seeds, as it produces higher seed-yield ratios (Bogaard 2004: 41), but it is hard to determine the difference in the archaeology.

These three models have implications for the organisation of prehistoric communities and the archaeological signatures they leave behind. One possible aspect of permanent, as opposed to shifting, cultivation may have been investment in constructing land boundaries. Land boundaries may offer some protection to both crops and animals from the elements, but their presence may also indicate land ownership or land rights, indicative of permanent systems of cultivation by more than one homestead in a single area. Although there was little evidence for enclosed field systems at Blackford, two linear features – one in Area H and one in Area D – may, however, qualify as relict boundaries. The one in Area H was interpreted as a possible hedge line because of its sinuous and irregular nature. The use of hedges as a means of stock control has been suggested by Barber & Brown (1984: 186). The MBA weed seed assemblage recovered from Pit 018 Area A contained nipplewort, a shade-loving plant that grows under trees or hedgerows. Its presence, however, can be taken as evidence for either a system of permanent cultivation in fields enclosed by hedges, or a shifting cultivation when a few stands of trees have been left post woodland clearance. Similarly, the lack of field boundaries or enclosed spaces at Blackford could be taken as evidence of either a shifting pattern of cultivation, small but intensively cultivated garden plots, or a low population level where land rights were not an issue. However, as always, truncation will have played its part and any putative field systems may have been eroded or ploughed away.

Seeds of domesticated flax were recovered from Area E, and this species requires intensive cultivation with high labour input, and was likely to have been grown in small garden plots.

11.6 Site abandonment

Site abandonment may be a planned or unplanned event and there are a number of reasons why sites become abandoned. Natural catastrophes such as storms, fires accidental or otherwise, disease or failing land productivity are just some of the possibilities. Warfare or feuds may also play a part in the abandonment process, although evidence for these at Blackford is lacking and would be difficult to identify with certainty. However, there is no evidence that the houses were abandoned due to detectable catastrophic events such as destruction by fire, as a result of warfare, crop failure or disease.

Cook & Dunbar (2008) applied LaMotta & Schiffer's model of house abandonment processes based on ethnoarchaeological studies (1999: 19–29) to the prehistoric structures at Kintore, and this can be used at Blackford, albeit on a much reduced scale due to the paucity of the artefact assemblage.

During a planned abandonment, bulky or broken artefacts are left behind, while an unplanned abandonment will be characterised by the presence of prestige goods within the structure. At Blackford what may be considered prestige goods, the cannel coal napkin ring and the shale raw material, were found in Structure 2B. Similarly, in Structure 1G the burnt cache of grain may also be seen as a high-value commodity. A tentative case for unplanned abandonment could be made for these two structures, but the context of abandonment could not be established. The artefact assemblages from the other houses were too limited to apply the model, but as a general point the almost complete absence of an Iron Age assemblage mirrors the findings of Cook & Dunbar (2008: 344).

However, abandonment implies a permanent leaving-behind of the structures and land and a moving-out and away by the inhabitants, where the reality may be rooted more in shifting patterns of settlement over time across a defined landscape (Barber et al 2007; Halliday 2007), where individual structures are occupied then abandoned, perhaps once the structure falls into a state of disrepair and can no longer be maintained, or land returns to pasture over a long cycle, or the location becomes unsanitary or the inhabitants die with no heirs to take over, with new houses then springing up nearby and the old locations potentially eventually being reoccupied. In this way, settlements shift around the landscape over time as populations grow and contract.

11.7 Conclusions

The excavations at Blackford have given us an insight into the lives of the inhabitants of the Blackford area during the first and second millennia BC. The excavations have revealed evidence for building techniques, architectural preferences, economy and the treatment of the dead. More problematic for archaeologists is the understanding of life on a generational timescale.

A view of prehistoric home life, largely based on 20th-century ideals of domesticity, was that there existed a dichotomy of women/domestic and men/industrial and further that the household unit equates with the 'family' who engage in or with domestic activities that include food preparation and consumption and child rearing. Ethnographic studies have demonstrated that those that engage in domestic activities do not necessarily equate with the residence unit of the household (Brück & Goodman 1999; Yanagisako 1979). Moore (1988) has highlighted the fact that in many societies, cooperation between women of different households in undertaking domestic activities is not unusual. Further, the composition of the household unit may include individuals who simultaneously belong to other residence units (Yanagisako 1979) and that this arrangement can be fluid rather than static and changes through the 'domestic cycle' (Goody 1958). The domestic sphere is hence historically and culturally contingent (Brück & Goodman 1999) and the household is not an undifferentiated unit of production and consumption, but rather the intra-household relationships are dynamic and fluctuating (Allison 1999; Hendon 1996; Tringham 1991). This dynamic between the resident unit and domestic activities has implications for archaeologists in the way they address the material remains. It cannot be assumed that domestic activities within prehistoric houses were undertaken only by the immediate family unit and that the archaeological signatures left by these activities are reflections of familial activities. It also cannot be assumed that there were prescribed domestic activities that were undertaken by a specific gender. The large palisade in Area A may qualify as a communally built structure, because of its size and the resources needed to build it. However, whether this commune was willing, perhaps as part of an exchange of labour for provisions, or had an unwilling component such as slaves, cannot be ascertained from the physical remains. Nor can it be assumed that the material remains within a house were a product of that household. For instance, although pottery was recovered from many of the houses there was no direct evidence for pottery production anywhere across the excavations, nor was there evidence of the raw material, clay, needed for its production. Conversely, evidence for both the raw materials and manufacture of shale jewellery was recovered from Structure 2B, but whether this structure was solely a craft workshop could not be ascertained from the evidence. Structure 2B showed no structural elements that differed considerably from the other MBA structures or which might be suggestive of a specialised building.

With this social fluidity in mind, how should the structures at Blackford be viewed? Were each of the houses inhabited by a nuclear family? The answer to that may largely depend on how many structures stood and were occupied at one time. Extended families and the social fluidity of households as seen in the ethnographic record would necessarily need more than one structure/house to realise this fluidity. A single house standing alone could be a candidate for a self-contained nuclear family, depending of course on how far away the neighbours were. The two LBA houses in Areas D and F appear to be stand-alone structures and are separated by *c* 1km. Although this distance does not prohibit inter-household relations, it may have limited the ease of access and transport of materials and goods between the houses, thus the kind of fluidity described in the ethnographic literature presented above may have been curtailed. In the MBA at Blackford the structures in Area B are candidates for communal living, as the radiocarbon dates are broadly contemporary, the architecture similarly so, and the structures on the whole do not stratigraphically intersect. A similar argument could be made for the EIA structures in Area A. The close proximity of these structures would be ergonomically more efficient in moving goods, material, food and people between the structures, and could facilitate the day-to-day social fluidity as described above.

Although we cannot know for certain the relationships of those that occupied these structures, it is probable that the houses at Blackford were visual foci in the landscape, in much the same way as houses in the landscape are today, and because they were dwelling places, or homesteads, they were probably also foci of social and political relations, at least on a familial level. There was both diversity and conformity expressed in the material remains at Blackford. Although the architecture and chronology of the structures is broadly similar to trends in the Bronze and Iron Ages at other excavated sites (eg Kintore, see Cook & Dunbar 2008), there were new variations in style and possibly use within those at Blackford. There are differences in building styles, such as the use of ring grooves, orientation of entrances, size of buildings, and in the number, type and distribution of artefacts within the structures.

The excavations at Blackford revealed a prehistoric landscape that was largely discontinuous from the Mesolithic to Iron Age, but reached its zenith of occupation during the MBA. The Neolithic pottery found during the course of the excavations probably belonged to the earliest farming communities who tried to make a living at Blackford, although no traces of any settlement of this date were identified in the excavations. As the population of Scotland grew, so did the farming communities. New technological innovations, notably metallurgy, and expanding communities were the hallmark of the second millennium BC. Although the community may have been small, it was viable and lasted for a millennium. Old and established interactions with other communities at a regional scale would have continued and new ones formed, through marriage alliances, trade and procurement (as exemplified by the oil shale from this site), and warfare. Many of these aspects would have directly impinged upon the members of the community, requiring labour perhaps to build the defences we see in the Iron Age community in Area A, enclosing themselves within a palisade, the construction of forts, and the necessity for weaponry. Others, such as long-term political trajectories and climatic change, may have gone unnoticed within a generation, but nevertheless required communities to adapt to survive.