

APPENDIX S4: SUMMARY OF ASSOCIATIONS FOR IRISH AND BRITISH HALBERDS

(Note: In the text that follows Figure, Table, and Appendix numbers prefixed by 'S' refer to this appendix, all other Figure and Table numbers refer to the main paper).

Independent evidence for the chronology of insular halberds comes from two main sources: a handful of associations with other object types and their metal composition. Two radiocarbon dated examples also contribute. No certain imports from the Continent occur in a locally datable context. The internal, insular evidence is, on the other hand, relatively coherent and collectively offers the best assessment of chronology.

Most insular halberds are products of copper-working traditions; of around 170 examples analysed in Ireland and Britain, only 10% have been found to be of alloyed bronze (the proportion varying a little regionally). Taken at face value, this would place most halberds before the metallurgical transition. However, given that halberds seem to have had a separate sphere of circulation from other metalwork and possibly also a separate sphere of production, some consideration needs to be given to the possibility that *copper* halberds continued in production and use after the switch to *bronze* seen in other metalwork types, notably axes and daggers. Nearly all bronze halberds are of specific types –Types Breaghwy and Corrib in Ireland, Types Auchingoul and Eweford in Britain – and, as insular products, these must post-date the acquisition of alloying technology. The question remaining then is whether some other halberd types continued to be made in copper in parallel with these bronze halberds and other bronze types; this might perhaps be feasible if there were parallel metalworking traditions producing different types of halberd, but there is no specific evidence to favour this hypothesis over a broadly sequential one of copper halberds giving way to bronze halberds. Nearly all other objects associated with copper halberds are themselves of copper.

Setting aside obviously later contexts (Late Bronze Age) where the halberds involved must almost certainly have been rediscovered objects (given an interval of over a millennium), virtually all other associations for copper halberds, whether secure or not, are with copper types appropriate to the Chalcolithic period or the transition to the earliest Bronze Age, Period 2. This is the case at Whitespots, Co. Down, Frankford, Co. Offaly, Derrinsallagh (Dereensalagh), Co. Laois (undocumented group), Castell Coch, Glamorgan, and Faversham, Kent (undocumented group) (see Table S1 for references). One exception is the copper halberd from Sluie Moor, Morayshire, recorded as having been found with two bronze axes of classic Migdale type. Unfortunately this is a very early find with little detail recorded, but it might suggest some overlap between copper halberds and early bronze axes (and hence probably early bronze daggers as well). However, since Type Migdale axes are amongst the earliest of bronze types, there is no need to envisage a protracted overlap; indeed, the Sluie association could easily date close to the metallurgical transition in the 22nd century BC.

The Castell Coch hoard is also likely to belong close to the transition. Although both halberds and the associated dagger or knife are of copper, the latter is identified as a type (series 1B 4*) anticipating the emergence of more standardised butt-riveted bronze daggers in Britain (Needham 2012, 12 fig 1.1, no. 28). The long dagger from Faversham, also of copper, has a very different tang shape from that on Castell Coch – a rather modest trapezoid tang projecting between pronounced shoulders. This dagger should be related to the transitional Ferry Fryston type (*ibid.*, no. 23 cf nos 36–7) and might thus, again, be late within the copper dagger sequence.

The axes at Frankford are all of class 2 (lenticular long profiles) but these are probably not particularly chronologically sensitive (within the Chalcolithic). On the other hand, the associated copper knife has a well arched butt with an arc of five rivet notches; this too can be regarded as

one of the 'experimental' hilt fixing arrangements that characterise the transition period (Burgess 1979, 209). According to Day (1892) two objects in the Frankford hoard were of bronze rather than copper (see Table S1), but one is now lost and the other has not been analysed in more recent times. The dagger in the Whitespots hoard is badly damaged and the associated axe (class 2) again not chronologically sensitive within the Chalcolithic. The second blade has been treated as a dagger rather than halberd by various authors (Case 1966, 162–3; Harbison 1969b, 18 no. 116; Brandherm 2004, 283), but they may have been unduly influenced by its relatively short length; as a Chalcolithic object (analysed as unalloyed copper and associated with other copper types) with distinctly thickened and keeled mid-blade and three rivet emplacements, it is intrinsically likely to be a halberd since contemporary daggers and knives lack this feature combination. Other features also support this identification (Table S1).

Overall it appears that the halberds placed in contexts with objects of other kinds are concentrated in date towards the end of the Chalcolithic and into a period of transition to systematic bronze-working: *c.* 2250–2100 BC. This should not be read to imply that all halberds, most of which were deposited on their own, were confined to this range and this is discussed further in the accompanying article.

Just across the Channel and southern North Sea there are two associations offering some dating evidence, though neither halberd involved is of an insular type. The Wageningen hoard, Netherlands (Butler 1963, 16 fig. 1) is perhaps most closely dated by the contained axe, which is best paralleled by British Sub-class 4A axes datable to the later part of the Brithdir assemblage, *c.* 2100–2000 BC. The Glomel group of bronzes from Côtes d'Armor, Brittany, is far more problematic (Briard 1984, 82–3, figs 48 & 49, 216–7). The group comprises as many as 11 dagger blades and an axe in addition to the halberd, but since there are no reported circumstances of discovery, we cannot know whether the metalwork came from one or more contexts. Even if all had come out of a single tomb, the quantity of material might favour that this was an accumulative funerary assemblage (as argued for many of the richer Breton tomb assemblages in Needham 2000). A single dagger of type Trévère is likely to date after 1950 BC, but none of the others need be so late. Although the halberd itself has some similarity to Type Etigny (see Appendix S1), its pronounced shoulders set it apart. The potential late-ness of deposition of these two halberds does not have any specific bearing on the dating of insular halberds. The halberd claimed to be amongst the Saint-Fiacre assemblage (Horn 2014, 315 no. 10.34) is in fact a badly edge-damaged Trévère type dagger (Ashmolean Museum 1926.138).

The two radiocarbon dates closely associated with halberds, one of copper and one of bronze, are discussed in the accompanying article. Suffice it to say that they wholly support the suggested date range based on associations and a much broader suite of indirectly connected radiocarbon evidence. This writer sees the vast majority of insular halberds, if not all, dating to between 2400 and 2050 BC.

Table S1: Associated finds of halberds in Britain and Ireland
The list excludes halberds from later Bronze Age hoards (Stoke Ferry, Norfolk and Islay, Argyllshire).

<i>Context type & certainty</i>	<i>Site</i>	<i>Objects [Cat. Nos]</i>	<i>References & collection</i>	<i>Circumstances & comments</i>
Probable hoard	Tonfannau Quarry, Llangelynin, Gwynedd (Merionethshire) SH 572 032	▪ 2 halberds: - Type Sluie [41] - Type Sluie, 3-rivet variant [42]	Hughes 1932; Ó Ríordáin 1937, 313; Grimes 1951, 185; Britton 1963, 314 NMW 33.209.1–2	Found c. 1931 during quarrying for granite; 'the workmen were removing loose stones at a level above No. 4 gallery, starting on No. 5 gallery in order to open a fresh gallery face, when the halberds were found amongst loose rubble' (Hughes). <i>Comment:</i> the fact that quarrying had only recently begun on the hillslope above the previous quarry face, suggests the halberds had not been deeply buried; it is not known whether the 'loose rubble' was a natural accumulation (e.g. scree) or initial debris from quarrying which had already disturbed the objects.
Hoard	New Park, New Machar, Aberdeenshire NJ 90 15	▪ 3 halberds: - Type Auchingoul [50, 51] - Unclassified fragment [66]	<i>Proceedings of the Anatomical & Anthropologica Society of the University of Aberdeen</i> 1906–8, 115; Reid 1912, 18 nos 249–51, 19 fig; Ó Ríordáin 1937, 203, 311; Britton 1963, 314; Coles 1968–9, 103 <i>Marischal M. 249–51</i>	'Found ... in 1908 while making bridge over ditch on farm. All three lay together between subsoil and layer of moss about two feet thick, from over which, some years before, a bank of moss about eight to ten feet thick had been removed' (Reid). <i>Comment:</i> apparently the hoard would have been under 10 or more ft (3 m) of peat, much of this presumably growth since deposition.
Hoard or Area find	Mains of Auchingoul, Inverkeithny, Moray (Banffshire) NJ 613 485	▪ 7 or 8 halberds: - Type Auchingoul [49] - Type Auchingoul or Sluie, unfinished [46–8] - Unknown (3 or 4)	Edwards 1940–1; Britton 1963, 315; Coles 1968–9, 104 <i>NMS DJ 37–40; 3 or 4 lost</i>	Found 1939 during ploughing in a field about ¼ mile (0.4 km) SE of farmstead at Mains of Auchingoul; unspecified whether all together or scattered.
Hoard (implied)	Llangalbuinloch (probably), Kingarth, Bute, Argyll & Bute NS 07 56	▪ 3 + 2? halberds: - Type Sluie, beaded [37] - Type Sluie, keeled [36] - Type Crossraguel? [29] ?- Type Sluie [31] - Others unknown	<i>Proceedings of the Society of Antiquaries of Scotland</i> 4 (1860–2) 396; Ó Ríordáin 1937, 203, 311; Britton 1963, 315; T. Cowie pers.comm.	'Three bronze broad daggers ... found along with two others at Kingarth, Bute' (PSAS 4); 'The patina is dark rust coloured suggesting they were found in a bog' (Callander 1922–3) <i>Comment:</i> the fourth identified halberd was recovered from the locality in recent years (and is precisely located: Cat. No. 31 in Appendix S2) and may be an additional piece from the original hoard, perhaps one abandoned or not noticed at the time of discovery.

<i>Context type & certainty</i>	<i>Site</i>	<i>Objects [Cat. Nos]</i>	<i>References & collection</i>	<i>Circumstances & comments</i>
Poorly documented association	Backside of Aldie , Craigton, Perthshire & Kinross (Kinross) NT 010 985	<ul style="list-style-type: none"> ▪ 2 halberds: <ul style="list-style-type: none"> - Type Pistill Dewy? [21] - Unclassified fragment [64] ▪ 1 'urn' - unknown type 	Ó Ríordáin 1937, 204, 312; Britton 1963, 315; Coles 1968-9, 106 <i>Kinross M</i>	The only account of discovery appears to be an old associated label: 'No 52. Two bronze spearheads found along with a cinerary urn about 1854 to the west of the old farm – Town, Backside of Aldie.' The 'urn' has sometimes been assumed to be represented by unprovenanced sherds of a Collared Urn in the museum, but it is not explicit from the label that it actually reached the museum, nor whether the vessel was from the same context or just the same site.
Hoard (implied)	Baile-nan-Coille (Balnacoil), Strath Brora, Highland (Sutherland) NC 81 11	<ul style="list-style-type: none"> ▪ 3 halberds: <ul style="list-style-type: none"> - Type Auchingoul [55] - Unclassified fragment [65] ?- Deep hafting-plate, 3-rivet type [15] 	Anon 1881–2, 240; Ó Ríordáin 1937, 203–4, 312; Britton 1963, 315; Coles 1968–9, 108 <i>Dunrobin Castle M (2 of); 1 lost or Glasgow M</i>	'... discovered by a road-contractor during a search for gravel near Baile-nan-Coille ... at the foot of a slope, one foot deep in the gravel under three feet of soil, some of which had doubtless been washed down from above.' (Duns); the third and possibly still lost blade was said by the finder to have been 'the same style as the longer one, but rather longer...' The halberd tentatively regarded as the third is actually shorter.
Hoard	Castell Coch , Tongwynlais, South Glamorgan ST 1295 8274	<ul style="list-style-type: none"> ▪ 2 halberds: <ul style="list-style-type: none"> - Type Sluie or Auchingoul [43 & 24] - Type Lough Gur [2] ▪ 1 knife/dagger 	Needham <i>et al.</i> 1985, A1 <i>NMW 84.83H/1 - 3</i>	Found by Richard Mantle using a metal-detector June 1984; the three objects lay one on top of the other and were roughly co-aligned; they were about 20–25 cm deep, but above the bedrock. The site lies on the edge of a hill overlooking a steep gorge carrying the river Taff.
Poorly documented association (possible hoard or grave group?)	Moor of Sluie , Edinkillie, Moray NJ 006 519	<ul style="list-style-type: none"> ▪ 1 halberd: <ul style="list-style-type: none"> - Type Sluie [30] ▪ 2 flat axes: <ul style="list-style-type: none"> - Type Migdale (classic) 	Wilson 1851, 254; <i>Proceedings of the Society of Antiquaries of Scotland</i> 4 (1860–2), 187; Ó Ríordáin 1937, 202; Piggott & Stewart 1958, GB 30; Britton 1963, 315; Coles 1968–9, 107; Schmidt & Burgess 1981, no. 156; Canmore ID 15872 <i>NMS DJ4, DA32, DA33</i>	'In the month of March, of the same year [1818], a cist was uncovered on the moor, within which lay a bronze spear-head of the primitive type, 11¼ inches [286 mm] in length beside it lay two unusually large bronze celt-axes...' (Wilson) – no description of cist or its immediate environs. <i>Comment:</i> the object group would be wholly exceptional as a funerary accompaniment and no skeletal material was noted; conceivable that 'cist' was a labourer's description of a less formal group of stones, or a covering slab; an axe-halberd hoard would also be unique in Britain, although object types could perhaps have been overlapping in currency. Past doubts expressed about the find (e.g. Ó Ríordáin 1937) are often judgements based on preconceptions, but the primary record is poor.

<i>Context type & certainty</i>	<i>Site</i>	<i>Objects [Cat. Nos]</i>	<i>References & collection</i>	<i>Circumstances & comments</i>
Undocumented group – possible association	Faversham , Kent TQ 02 62	<ul style="list-style-type: none"> ▪ 1 halberd: - Continental 3-rivet style [13] ▪ 1 tanged dagger: - Series 1 type A5 	<p>Ó'Riordáin 1937, 312 no. 2, fig 56.2–3; Case 1954, 19–21, figs 1 & 2, tables 2 & 3; Case 1966, 159 fig. 11.1–2; Gerloff 1975, 28 no. 5, pl. 1</p> <p><i>Ashmolean M 1927:2355-2356</i></p>	No circumstances appear to be recorded, but Case (1954) thought they were likely to have come from the same brick-earth pit. They were acquired by the museum as part of the Sir John Evans collection; Evans had evidently obtained them after the 1870s since they are not mentioned in his classic volume (Evans 1881).
Probable false association	Shropshire (‘Wroxeter’; ‘Wrexham’) SJ 56 08	<ul style="list-style-type: none"> ▪ 1 halberd: - Type Sluie [34] ▪ 1 dagger: - Wohlde type (northern Europe) 	<p>Anon 1854, 414 fig.; Anon 1861, 161, 163 fig.; Evans 1873, 403 pl. ii.5; Anon 1873, 430; Evans 1881, 269–70 fig. 338; Chitty 1928; Ó'Riordáin 1937, 200, 201 fig. 5</p> <p><i>BM 1905,1106.1</i></p>	The halberd had been described on a few occasions before the association with the dagger was claimed (Chitty and Ó'Riordáin); the claim appears to be due to a dealer (Ready) from whom the BM acquired the two pieces; Ready also evidently misunderstood or mis-rendered the provenance Wroxeter as Wrexham. The fact that the knife is of continental Wohlde or related type (Burgess & Gerloff 1981, 20) gives further grounds for doubting the validity of the claimed association as well as the Wrexham provenance. Even the attribution to ‘Wroxeter’ is uncertain; Evans stated ‘it was found in Shropshire, but the exact locality is not known.’
Poorly documented association	Letterkenny , Co Donegal	<ul style="list-style-type: none"> ▪ 1 halberd: - Type Lough Gur [54] ▪ 1 tanged chisel 	<p>Ó'Riordáin 1937, 197 fig. 2, 198; Harbison 1969a, 42 no. 226, pl. 15; Harbison 1969b, 54</p> <p><i>Ashmolean M 1927:2831 Salisbury M, Brackstone collection 520</i></p>	The only evidence for an association is an old note accompanying the chisel: ‘520. Chisel or arrowhead found with the scythe 519 at Letterkenny, Co. Donegal. June 1852’; the halberd in the Evans collection (Ashmolean M) does appear to have derived from the Brackstone collection, but there is a discrepancy in recorded dates, the Ashmolean’s accession record putting it in the Brackstone collection in 1849 (Ó'Riordáin). Harbison was doubtful of the association. <i>Comment:</i> the tanged chisel is of a simple type, yet one rarely seen in datable Early Bronze Age contexts; it is a type not yet documented from any secure context pre-dating the early 2nd millennium BC.
Hoard	Hillswood , Kilconnell, Co Galway	<ul style="list-style-type: none"> ▪ 7 halberds; - Type Lough Gur [38–41] - Type Hill of Allen [102–104] 	<p>Hemans 1847–50; Ó'Riordáin 1937, 199, figs 49–50 nos 99–105; Harbison 1969a, 39–40 nos 155–6, 42 nos 217–21, pls 9, 14 & 15; Harbison 1969b, 51–2</p>	Found 1850 during construction work on the Midland Great Western Railway; the 7 halberds were found ‘about two and a half feet [c. 76 cm] under the surface of a shallow bog ... stuck in a bunch in the ground, with the points down.’ (Hemans).

<i>NMI W.240-6</i>				
<i>Context type & certainty</i>	<i>Site</i>	<i>Objects [Cat. Nos]</i>	<i>References & collection</i>	<i>Circumstances & comments</i>
Poorly documented association	Cotton Moss , Cotton, Co Down	<ul style="list-style-type: none"> ▪ 3 halberds: - Type Lough Gur [42-43] - Type Hill of Allen [105] 	<p>Ó'Ríordáin 1937, 199, fig. 46 nos 53-5; Harbison 1969a, 42 nos 205-7, pl. 13; Harbison 1969b, 47</p>	<p>Found around the middle of the 19th century in the 'moss' in Cotton Townland.</p> <p><i>Comment:</i> the objects had remained in the possession of the farmer's family until 1920.</p>
<i>NMI 1929:1498-1500</i>				
Hoard	Frankford , near Birr, Co Offaly	<ul style="list-style-type: none"> ▪ 1 halberd: - Type Corlurgan [130] ▪ 1 knife: - early butt-riveted type ▪ 4 flat axes: - Class 2, Type Frankford (cf 2C) ▪ 1 flat axe butt fragment 	<p>Day 1892, 94; Coffey 1901, 276-7, fig. 55, pl. xxxiii; Coffey 1913, 7-8 figs 1 & 2; Ó'Ríordáin 1937, 196-8 fig. 1; Case 1966, 152-4 fig. 8.5-9; Harbison 1969b, 49; Harbison 1969a, 42 no. 214</p> <p><i>Ulster M</i> 192:1937, 212:1937, 480:1937, 504:1937</p> <p><i>County Louth Archaeol. Society Museum L.33q</i></p> <p><i>Lost (2 axes)</i></p>	<p>'The following were found at a depth of 30 feet [9.1 m] in peat by a farmer who was cutting turf. All were got together and remained in the man's possession until a friend in Birr purchased them for me.' (Day)</p> <p><i>Comment:</i> Ó'Ríordáin was rather dubious about the association, or whether all 7 objects belonged; however, Coffey was clear on the contents of the hoard which he must have studied while still in Robert Day's possession. Day stated that one axe fragment (his no. 5, now lost) was of bronze and the halberd blade of 'alloy', but it is not clear how these compositions were established and neither is confirmed; he described two axes, the knife and the halberd rivets as of copper.</p>
Hoard	Whitespots , Co Down	<ul style="list-style-type: none"> ▪ 1 halberd: - Miscellaneous squat type [167] ▪ 1 flat dagger/knife: - Series 1, ungrouped ▪ 1 flat axe: - Class 2, Type Whitespots (cf 2B) 	<p><i>Archaeological Survey of County Down</i> 1966, 23, 25 fig. 15.4-6, 29, 65; Case 1966, 162-3 fig. 13.8-10; Harbison 1969a, 7 no. 6, 18 no. 116, pls 1 & 6; Harbison 1969b, 58</p> <p><i>NMI P.1949:1-3</i></p>	<p>Found together in a rocky crevasse in the Golden Vale.</p> <p><i>Comment:</i> Harbison treated the thick-blade implement as a 'miscellaneous' dagger, while Case also erred towards a dagger rather than a halberd, noting a curved hilt-line in support. However, the <i>Archaeological Survey of County Down</i> regarded it as a halberd. Study by the present author found no firm indication of hilt- or haft-line; the thick, broad midrib, as well as the thick rivets (to judge from the holes) are wholly unknown on contemporary daggers and are instead absolutely typical of halberds; similarly typical are the off-perpendicular alignment of the blade relative to a line drawn between the basal rivets, and the narrow furrows outlining the edges.</p>

<i>Context type & certainty</i>	<i>Site</i>	<i>Objects [Cat. Nos]</i>	<i>References & collection</i>	<i>Circumstances & comments</i>
Undocumented group – possible association	Dereensalagh (Derrinsallagh), Co Laios	<ul style="list-style-type: none"> ▪ 2 halberds: <ul style="list-style-type: none"> - Type Derrinsallagh [14] - Type Lough Gur? [89] ▪ 1 flat axe: <ul style="list-style-type: none"> - Class 1, Type Cappeen (cf 1A) 	<p>Harbison 1969a, 39 no. 152, 45 no. 290, pls 8 & 22; Harbison 1969b, 12 no. 67, pl 3; Needham 1996, 126 table 1</p> <p><i>BM 1854,0714.183, 1854,0714.215–16</i></p>	<p>There is no record of discovery, but the three objects all had the same provenance, were acquired from a single collection (Cooke), are acceptable as contemporary types and have similar patination; together these points are suggestive of them having been associated. Both halberds and the axe have Cooke collection adhesive labels stating ‘found at Dereensalagh, King’s Co’.</p>