

# Peelhill Farm: a possible Late Bronze Age weapon sacrifice in Lanarkshire

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## ABSTRACT

*The hoard of bronze weapons found in 1961 at Peelhill Farm in South Lanarkshire remains one of the most remarkable assemblages of Late Bronze Age metalwork from Scotland, its importance reflected in the detailed account of the find published by John Coles and Jack Scott in 1963. In the present paper, the contents, location and significance of the discovery are reassessed in the light of more recent approaches to research on hoards. In particular, the renewed investigation provides fresh insights into the use and treatment of the artefacts prior to their deposition, while the local topography may have influenced the choice of location to a greater degree than previously assumed. Radiocarbon dates indicate a likely date in the 9th century BC. Taken together, Peelhill Farm and the related find of metalwork from Duddingston Loch, Edinburgh, comprise the northernmost representatives of a group of weapon-dominated hoards mainly recorded in southern Britain. In view of the bias towards martial equipment in their composition, it is argued that the evidence of unrepaired impact marks, and deliberate damage by bending, breaking and burning, all assume greater significance than hitherto recognised. Coupled with the intentional placement of the artefacts into a boggy setting, the deposition at Peelhill Farm is interpreted as a weapon sacrifice after a warlike event rather than as a 'scrap hoard' as once thought.*

## INTRODUCTION

The hoard from Peelhill Farm in the parish of Avondale, South Lanarkshire, is one of the largest Bronze Age metalwork assemblages known from Scotland (for location see Illus 1). After

its fortuitous discovery in February 1961 the findspot was investigated and a comprehensive report was subsequently published by John Coles and Jack Scott (1963). Sixty years later, the present paper aims to provide a fresh discussion of the composition, dating, landscape setting and

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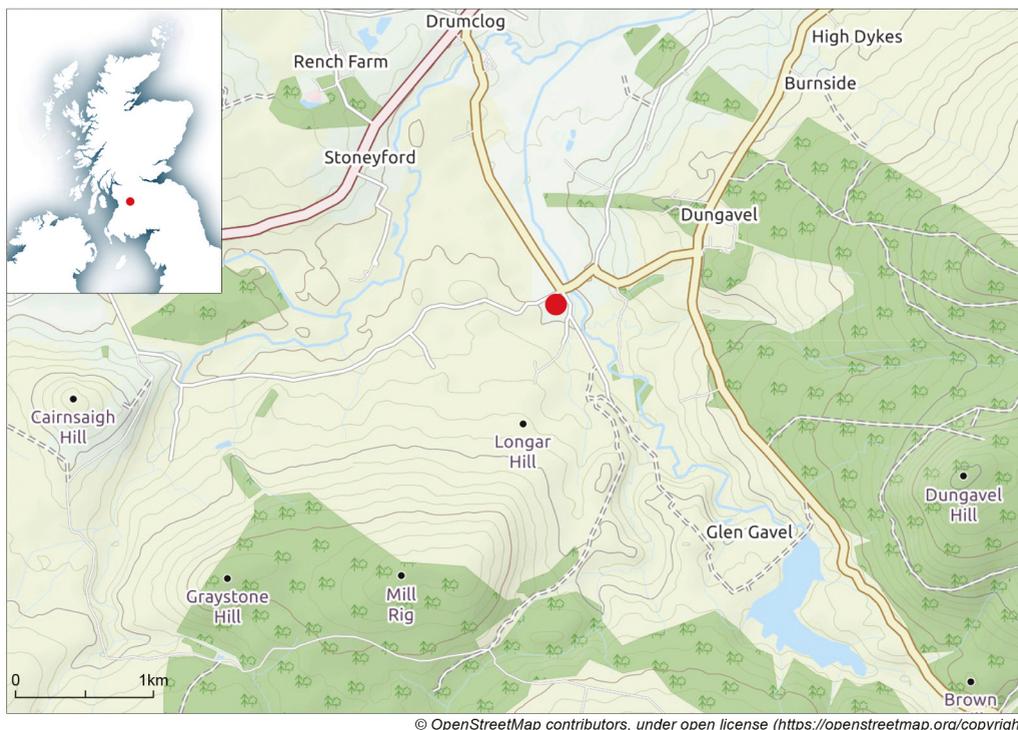
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ILLUS 1 Location of the Late Bronze Age weapon deposition site at Peelhill Farm. (Map prepared by Stephen Scott; © OpenStreetMap contributors, under open licence)

interpretation of this important hoard based on recent research by the authors. The opportunity has also been taken to provide a detailed catalogue and photographic record for the first time (see electronic supplementary material).

## DISCOVERY

Like so many other Bronze Age hoards, the find from Peelhill Farm was discovered by chance during agricultural works (NS 6454 3658; Canmore ID 44773). The first artefacts came to light in late February 1961, when a basin-shaped hollow was being ploughed as part of the reclamation of boggy land for arable use, work which also included the insertion of field drains and the infilling of the area with earth. These measures caused a disturbance to the original arrangement of the deposition: 'It was evident that

shrinkage and disturbance of the peat had eventually brought the bronzes of the hoard within reach of the plough, which had then scattered and sometimes exposed them' (Coles & Scott 1963: 136). Most of the artefacts were initially collected by the tenant farmer, his family and farm workers.

The find was reported to Jack Scott, Curator of Archaeology, Ethnography and History at Kelvingrove Art Gallery and Museum in Glasgow, who subsequently investigated the site on Saturday 4 March 1961 with Horace Fairhurst (University of Glasgow), Allard Johnson (West of Scotland Agricultural College), Robert Stevenson (National Museum of Antiquities of Scotland) and Mrs L A Taylor (Edinburgh University). Some more bronzes were discovered, both at the findspot and on the farm scrap-metal dump, but due to the action of the plough in scattering the artefacts, determining the exact

locus of the hoard turned out to be impossible. Nonetheless, pollen samples were collected and analysed, the results of which are discussed below (Durno 1963; Taylor 1963). The hoard was claimed as Treasure Trove and allocated to Glasgow Museums.

Many years later, in 1990, one further artefact was brought to the attention of the museum in the form of an incomplete spearhead, allegedly part of the Peelhill Farm find. It had apparently been in the possession of a local historian since 1961 (Mair 1991). The artefact is consistent with the typo-chronology of other spearheads in the hoard and has a similar patina, so there is no reason to doubt this provenance. This spearhead was gifted to Glasgow Museums (acc no. A.1991.1) and is here illustrated for the first time (Illus 15). To date, no other finds have been reported from the site. It seems that most of the artefacts once buried at Peelhill Farm were recovered, though the existence of further items, untouched by modern agricultural tools or carried away to a greater distance, cannot be ruled out. Unfortunately, modern systematic metal detecting survey has almost certainly been rendered impractical by subsequent changes in land use at the location. Although the circumstances of recovery preclude certainty, the close similarities in the treatment and condition of the artefacts strongly suggest that they were all deposited together.

The hoard is in the collections of Glasgow Museums and most of it is now on public display at Kelvingrove Art Gallery and Museum in Glasgow (acc nos A.1964.41.a–z; A.1964.41.aa–ah; A.1991.1; A.2013.1). A small number

of pieces of bronze, as well as all organic remains and a piece of stone, are in storage (acc nos A.1964.41.1–3; A.1964.41.ad.1–2; A.1964.41.ae.1; A.1964.41.p.1; A.1964.41.v.1; A.1964.41.y.1–2).

## CONTENTS OF THE HOARD

According to Coles & Scott (1963: 137) 72 bronze pieces were recovered from the site, 24 of which are very small fragments with a size of less than 15mm. To this we can add the spearhead reported in 1990. For full details see the catalogue accompanying this paper (see electronic supplementary material).

Unfortunately, accurate quantification is constrained by the incomplete state of the artefacts. Therefore, a methodology applied to large Late Iron Age assemblages at Celtic cult places in Gaul has been adopted (Mörtz 2016, 2018). Following Gérard Bataille (2006), the total number of recovered pieces have been tallied (TN), as well as the total number of artefacts after refitting pieces (TNR). Finally, a minimum number of artefacts (MNA) has also been assessed based on unique parts of the artefacts like tips or sockets of spearheads (Table 1). For example, there are three joining pieces of one sword in the find from Peelhill Farm. The total number for swords is thus three (TN), but after reconstruction just one (TNR), which also represents the minimum amount of the corresponding type of artefacts included in the hoard (MNA). Due to their minor size, isolated fragments smaller than 20 × 20mm

TABLE 1

Composition of the Peelhill Farm hoard. TN = total number, TNR = total number after refitting pieces, MNA = minimum number of artefacts

	<i>TN</i>	<i>TNR</i>	<i>MNA</i>
Axeheads	1	1	1
Ferrules	2	1	1
Rings	3	3	3
Spearheads	46	31	25
Swords	3	1	1
<b>Total</b>	<b>55</b>	<b>37</b>	<b>31</b>

and organic residues were excluded from this analysis. By applying the method of the MNA, different depositions with varying degrees of fragmentation become objectively comparable.

In summary, on this basis but discounting the very smallest fragments which cannot be joined with larger elements, the hoard from Peelhill Farm comprises the following artefact types to be discussed below: 46 fragments of at least 25 spearheads, one ferrule, one sword in three refitting pieces, three small rings and one socketed axehead. Nearly all the weapons are bent and broken, and many show traces of burning.

#### SPEARHEADS

A minimum of 25 spearheads forms a major part of the hoard from Peelhill Farm. All but one can be classified under Davis's (2015) generic category of Late Bronze Age plain pegged spearheads (Type 11). Some can be subdivided according to blade shape, though these variations are unlikely to represent differences in functionality or performance of the weapons. Two have circular grooves around their socket mouths (acc nos A.1964.41.j and A.1964.41.v), the rest are undecorated. Additionally, it is worth noting an unusual feature on one spearhead (acc no. A.1964.41.k), which has what appears to be an additional rivet hole a short distance above the socket base, but only on one side. An explanation for this uncommon feature remains obscure. Although the spearheads from Peelhill Farm are anything but uniform, they appear relatively homogeneous, especially since they are all around the same size, ranging between 150 and 200mm. Moreover, they do not cover a great typological variety. There are no pieces with offset blade bases, multi-stepped blades or fillets along the socket and, most notably, no barbed ones, such as seen in other contemporary, comparable hoards elsewhere in Britain (see below).

The one exception from Peelhill is a small fragmented spearhead with lunate openings in the hollow-cast blade (acc no A.1964.41.i). This feature occurs throughout Britain and usually characterises flame-shaped spearheads, which are commonly the most impressive weapons in

their respective contexts (Davis 2015: 191–204; Cowie et al 2016: 169–70). In Scotland, similar artefacts are, for instance, part of the hoards from Ballimore House, Cowal, Argyll and Bute (Childe 1943; Maraszek 2006: 370–1, SCO/CE1; Canmore ID 39975) and Atton, Glen Clova, Angus (Muir Haddow et al 1957; Maraszek 2006: 383, SCO/TA3; Canmore ID 32433). Although these examples survive incomplete, they clearly once exceeded 300mm in length and were thus considerably longer than the one found at Peelhill Farm. At least three different spearheads of the Duddingston Loch assemblage (see below) also have lunate openings in the blade.

Most of the Peelhill Farm spearheads show signs of deliberate damage and not many escaped this treatment. In a few instances, doubtless due to the action of the plough, it can be harder to differentiate between ancient and modern breakage, but this chiefly applies to transverse breaks. Generally, associated features, such as bending or hammer marks, clearly indicate that the damage was sustained or deliberately inflicted in the Bronze Age. Recent experiments have shown that the most effective method of fragmentation involved heating and striking the artefacts (Knight 2019a). Several weapons show signs of extensive treatment with fire, causing severe deformation, including bubbling, melting and warping, giving evidence that many were broken while hot. Spearhead number A.1964.41.o represents one of the most impressive kinds of wanton destruction, having the tip fully folded over (Illus 2). Deliberately hammered and crushed sockets are also a common feature, with seven spearheads displaying this damage (acc no. A.1964.41.ab; A.1964.41.f; A.1964.41.j; A.1964.41.m; A.1964.41.q; A.1964.41.s; A.1991.1). In one case (acc no. A.1964.41.m), the socket has suffered a blow from an edged implement, such as an axehead, perpendicular to the socket (Illus 3).

#### FERRULE

The tubular ferrule (acc no. A.1964.41.ae) is broken in two, slightly deformed, pieces. Such artefacts are interpreted as having fitted over the butt end of a spearshaft and fixed in place by a



ILLUS 2 Side view of the spearhead acc no. A.1964.41.o with traces of burning and completely folded tip.  
(Photograph by Tobias Mörtz; reproduced courtesy of Glasgow Museums)

rivet or peg. Artefacts of similar function feature frequently in Late Bronze Age hoards in Britain, though their number rarely matches those of the associated spearheads. As a result, identifying which of the associated specimens belongs to the ferrule usually remains a matter of guesswork. The tubular example from Peelhill Farm represents a unique piece for this region (Coles & Scott 1963: 139). To date, other finds of ferrules from Scotland are either of conical shape or have a splayed foot. Apart from some notable exceptions, for example those from the hoard of Guilsfield in Powys, Wales (Barnwell 1864: 212–21; Savory 1966; Davies 1967; Maraszek 2006: 493, WAL/GA9), the size of ferrules rarely exceeds the length of 200mm, so it appears they just covered the lowermost part of the shaft. Their purpose was probably to produce a better-balanced weapon by adding some weight to the butt end. Furthermore, the shaft could more effectively be employed offensively during combat if it was covered with metal.

#### SWORD

The sword (acc no. A.1964.41.a) is of Ewart Park type, with two rivet holes in each shoulder, two in the tang and a third recessed but not perforated (Colquhoun & Burgess 1988: 93, no. 497) (Illus 4). The shoulders bear an omega-shaped mark, showing the original position of the hilt, and suggesting that the sword was deposited

with the handle plates still attached or removed shortly before deposition. Although broken, some evidence of the use of the sword can be identified, such as the hammer-hardening of the edges, while the rounded nature of the tip and edges indicate resharping. Moreover, some slight nicks, notches and bowing of the edges on the lower blade towards the tip appear to be ancient and are likely to have been caused by physical contact with another weapon (Illus 5). This implies that the sword was employed in combat. Experimental testing with modern replicas has reproduced comparable marks (Molloy 2007, 2011; Anderson 2011; Gentile & van Gijn 2019; Hermann et al 2020).

The fragmentation of the sword into three pieces is a combination of ancient and modern damage. The fracture across the upper blade occurred in recent times, probably when struck by machinery, as indicated by an oval depression and material loss on one side, breaking through the patina, revealing the bronze metal. Conversely, the fragmentation across the lower blade removing the sword tip is ancient. Like the spearheads, this damage was intentionally inflicted and is associated with an extreme curvature (*c* 120 degrees). Bending and breaking a blade like this was probably achieved by hand (Bietti Sestieri et al 2013) or with the application of low heat (Knight 2019a). A similar treatment of swords can be attested in other hoards, for example Duddingston Loch or Blackmoor (see below).



ILLUS 3 Spearhead acc no. A.1964.41.m with impact mark on the socket. (Photograph by Tobias Mörtz; reproduced courtesy of Glasgow Museums)



ILLUS 4 Fragment of the sword grip acc no. A.1964.41.a with omega-shaped hilt mark. (Photograph by Tobias Mörtz; reproduced courtesy of Glasgow Museums)



ILLUS 5 Nicks along the cutting edge probably from warlike deployment on the tip fragment of the sword blade acc no. A.1964.41.a. (Photograph by Tobias Mörtz; reproduced courtesy of Glasgow Museums)

The wanton destruction of a faultless artefact is particularly interesting when compared with other Late Bronze Age swords from Lanarkshire, for example those from Cowgill (Colquhoun & Burgess 1988: 91, no. 482; Canmore ID 48522) and Douglas – Parkhall Bridge (Coles & Livens 1958; Colquhoun & Burgess 1988: 94, no. 506; Canmore ID 46514), both of which had been repaired by applying a cast-on technique after their tangs had broken off, implying that weapons were often well cared for and maintained.

#### RINGS

Three copper-alloy annular rings were also recovered, ranging between 33 and 42mm in diameter (acc no. A.1964.41.af; A.1964.41.ag; A.1964.41.ah). Bronze rings undoubtedly fulfilled a variety of functions, but when found in association with swords, it can be assumed that they served as fittings for the scabbard, as suggested by Coles & Scott (1963: 140). This assessment has been supported by one of the present authors (Mörtz 2012) regarding further combinations of small rings and swords in hoards from Britain and Late Bronze Age graves on the Continent, proving their connection to the scabbard by the position close to or directly on the weapon.

Two rings of comparable size and design have been found at Brigg in North Lincolnshire (Portable Antiquities Scheme: NLM-F5AEB0; NLM-B31E53; NLM-B34183) together with a sword of Ewart Park type, probably once buried in a scabbard. Their position in relation to the weapon, which was documented in situ, as well as the preservation of organic remains, allow for

the reconstruction of a belt with a ring at either end, serving as a baldric. The artefacts had been carefully deposited in a spring. This intriguing new find lends additional support to the identification of the function of the rings as part of the mounting of Late Bronze Age swords when found intimately associated.

#### AXEHEAD

The socketed axehead (acc no. A.1964.41.b) represents a simple form lacking decoration and of relatively small size, with a square socket and a curved cutting edge with pointed tips. Schmidt & Burgess (1981: 217–18) assigned the Peelhill Farm specimen to their group of ‘miscellaneous slender socketed axes with rectangular sectioned bodies’, which is a residual category of undiagnostic pieces, albeit one that is widespread throughout Britain. In Scotland, this rather ill-defined type otherwise only appears as single finds.

As can be seen, the assemblage is disproportionately dominated by martial gear, which justifies a classification of Peelhill Farm as a weapon hoard. While the possibility that Late Bronze Age axes could have been used in combat cannot be entirely ruled out, they are conventionally interpreted as tools. A probable explanation for the presence of the axehead is that it served to repair and maintain the organic parts of the spears. Alternatively it may have been used in the process of fragmentation and destruction of the weapons. The implications of the composition of the hoard and the treatment of the artefacts for the interpretation of their deposition are discussed further below.

## DATING

Coles & Scott (1963: 140) suggested a date in the 7th century BC for the deposition of the hoard at Peelhill Farm, in assuming that ‘the sword can hardly have been produced before the mid-eighth century’. This assessment was based on a relational approach, which divided the available metalwork into groups of what was believed to represent time-specific associations within a typological evolution of weapons and tools in particular. Prior to the publication of the Peelhill Farm paper, Coles (1960) characterised these stages for Scotland and named them according to selected hoards. This was done with special reference to the English and Welsh material, but also by considering the state of research in Ireland and on the Continent. The sequence of the Scottish Late Bronze Age was thus established based on cross-linking the finds to other regions.

The ‘Dating of Bronzes’ project set the stage for a completely new approach to the chronology of the Bronze Age in southern Britain (Needham et al 1997). By radiocarbon sampling directly associated organic residues, for the first time a whole series of metalwork was connected to absolute calendar years. Though generally not as precise as many relational chronologies, the employment of such measurements became an important balancing factor in determining the age of bronze artefacts. The hoards in Scotland have yet to be evaluated by a similarly rigorous programme. Nonetheless, samples are increasingly now taken when suitable organic material is available.

In this context, radiocarbon dates for the hoard from Peelhill Farm are of special interest (Sheridan et al 2013: 210; Cowie et al 2016: 170). These were obtained from remains of wooden shafts, which had been preserved inside the sockets of spearheads. In 2012–13, three samples were submitted to the Scottish Universities Environmental Research Centre (SUERC) in East Kilbride, and two produced positive results in the 10th and 9th centuries BC (Table 2). The material in all cases was ash (*Fraxinus*), a hard but resistant wood, which is very well suited for the making of a spearshaft, and a number of finds

from other parts of Britain suggest the deliberate selection of this species in the Bronze Age (Coles et al 1978: 25; Needham et al 1997: 66–9; Taylor 2001: 225–6; Davis 2006: 83–4).

Some allowance must be made for the age of the original material, since it is unclear if the samples derive from worked wood from the outer or inner part of a branch or trunk. However, in view of the evidence that the weapons had seen use in combat, they would have had to be in a serviceable condition and were most likely equipped with relatively fresh organic components. On balance, it is therefore probable that the artefacts at Peelhill Farm were deposited in the 9th century BC. This date range corresponds with other radiocarbon determinations for Late Bronze Age weaponry in Scotland, such as the wooden leaf-shaped sword from Grotsetter on Orkney Mainland (Stevenson 1958; Coles et al 1978: 12; Cowie & O’Connor 2007: 330–1; Canmore ID 2331), which produced a result of 980–790 cal BC (2 $\sigma$ ; OxA-6779: 2710 $\pm$ 50 BP) (Bronk Ramsey et al 2002: 59; Cowie & O’Connor 2007: 330–1). To this we can add the three dates obtained from fragments of wooden shafts preserved in the sockets of spearheads deposited at Breachacha, Isle of Coll (Cowie 2016, 2018), and one for the organic remains of a scabbard from the Carnoustie weapon hoard in Angus (Blair et al 2018; Canmore ID 357556) (Table 2). The ever-increasing body of data associated with metalwork in Scotland is slowly refining our chronological understanding of depositional activities.

In their original typological assessment, Coles & Scott (1963: 140 fn10) compared the spearheads and ferrule from Peelhill Farm to those from the Rush Fen find at Wilburton in Cambridgeshire (Evans 1884; Pell 1905), but remarked: ‘Of the S. British hoards, that from Broadward, Hereford, is perhaps closest in type-content to Peelhill. Here the lunate spearhead, grooved-base spearhead, tubular ferrule and native sword were found.’ The dating of this discovery was not further investigated, but the observation is worth a renewed evaluation here following recent investigations.

The Broadward hoard was unearthed in 1867 in the Lower Moor near Broadward Hall

TABLE 2

Radiocarbon dating for Late Bronze Age weapon hoards in Scotland. Dates for Carnoustie and Coll according to Blair et al (2018) and Cowie (2018). Dates for Peelhill Farm were calibrated by authors using the OxCal computer program, v.4.4.2, calibration curve IntCal 20 (Reimer et al 2020)

<i>Hoard</i>	<i>Artefact</i>	<i>Wood species</i>	<i>Lab code</i>	<i>BP</i>	<i>cal BC (2σ)</i>
Carnoustie	Scabbard	<i>Fraxinus</i>	SUERC-75019	2855±33	1118–924
Coll	Spearhead	<i>Corylus</i>	SUERC-76336	2878±21	1120–980
	Spearhead	<i>Fraxinus</i>	SUERC-76335	2786±24	1010–850
	Spearhead	<i>Fraxinus</i>	SUERC-76337	2711±24	910–810
Peelhill Farm	Spearhead (A.1964.41.p.1)	<i>Fraxinus</i>	SUERC-43334	2766±30	993–831
	Spearhead (A.1964.41.ad.1)	<i>Fraxinus</i>	SUERC-47717	2737±24	926–818
	Spearhead (A.1964.41.[1].1)	<i>Fraxinus</i>	–	failed	–

in Shropshire (Barnwell 1872, 1873; Rocke 1872; Banks 1873; Burgess et al 1972: 241–2; Maraszek 2006: 465, ENG/SH2; Bradley et al 2015). It consists mainly of spearheads, which had been accompanied by fragments of at least two swords, one chape, two ‘bugle-shaped objects’ (perhaps strap fittings), four ferrules, one chisel, one circular ring or handle and one artefact of unidentified function. A second group of bronzes, said to have been dug up about 1912–13, is possibly connected to the find, but their fate remains unknown (Burgess et al 1972: 212; Bradley et al 2015: 25). Many of the items discovered in 1867, now kept in the British Museum in London, were broken and partly melted. Except for being larger in quantity and including 15 barbed spearheads, the composition of the Broadward hoard is indeed very similar to the find from Peelhill Farm.

Burgess, Coombs & Davies regarded the Broadward assemblage as the exemplar of an independent class of hoards, characterised by a high quantity of spearheads of broadly similar types, regularly associated with ferrules, sometimes Ewart Park swords and only very few other items (Burgess et al 1972). Depositions with these features appear in all parts of Britain, but clearly cluster in the Welsh Marches. They considered Peelhill Farm as part of this group of hoards (Burgess et al 1972: 230), reinforcing

the suggestion by Coles & Scott and even going so far as to write: ‘With lunate-opening, elliptic, lanceolate and ogival spearheads, and tubular ferrule fragments, this hoard looks very much out of place in Scotland, and would have seemed far more at home if found in the Marches’ (Burgess et al 1972: 232).

Wooden shaft remains from the Broadward find have recently been sampled for radiocarbon analysis (Bradley et al 2015: 28–9). These produced results of 980–830 cal BC (2σ; GU26038: 2740±30 BP) and 940–820 cal BC (2σ; GU26039: 2760±30 BP), which very much corresponds with the dates for Peelhill Farm. Therefore, it can be concluded that both discoveries are part of the same phenomenon of the 10th and 9th centuries BC, that is the closing phase of the Late Bronze Age in Britain. Hoards following the example of Broadward represent a specific type of weapon deposition, consisting mainly of spearheads and containing few or no swords (Mörtz 2016: 120–8; 2018: 169–74). In the case of Peelhill Farm, however, the barbed spearheads which usually characterise such assemblages are absent.

## LANDSCAPE SETTING

Although the surroundings are now much altered by changes in land use, the published account and

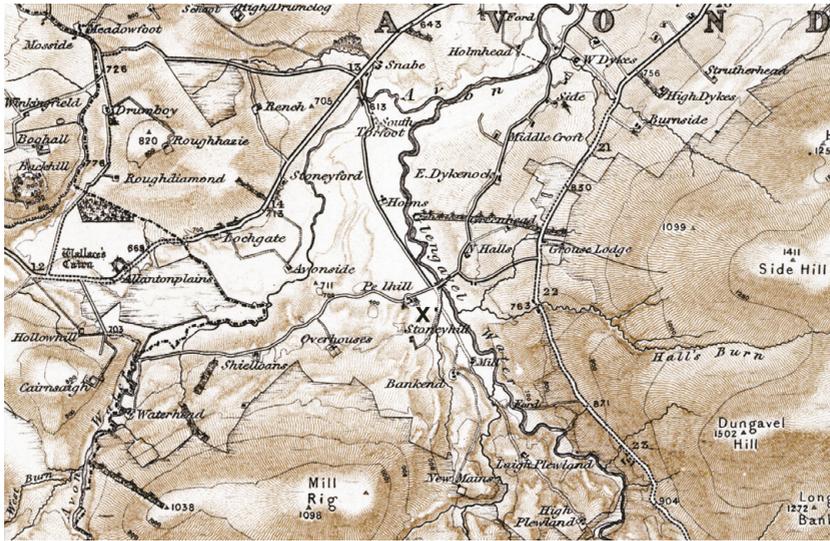


ILLUS 6 View of the findspot from south-west during investigations in March 1961. (Photograph by unknown; reproduced courtesy of Glasgow Museums)

photographs taken at the time of the investigation of the hoard show that the findspot was situated in a boggy basin-shaped hollow partly enclosed and overlooked by a glacial moraine (Illus 6). From the moraine, the view opened northward over the valley of the Glengavel Water, a tributary of the Avon Water, itself a major tributary of the Clyde (Illus 7). Due to the construction of the Glengavel Reservoir in the late 19th century, the Glengavel Water is now a much less significant watercourse than in the past, when the riparian environment may well have been a significant factor in the choice of location for the concealment of the hoard. Recent studies for southern Britain by Richard Bradley, David Dunkin and David Yates (Yates & Bradley 2010a, 2010b; Dunkin et al 2020) reinforce the importance of a relationship between metalwork deposition and water bodies.

Regrettably, the suite of fluvio-glacial features visible in the 1960s photographs of the site have been greatly reduced in height, presumably in the course of the agricultural improvements that first led to the discovery of the hoard and further still over the succeeding half-century (Illus 8). However, just to the south-east of the

findspot a prominent moraine is still intact and provides an impression of the original topography of the area. As part of the investigation of the hoard in March 1961, samples taken from two of the bronzes were subject to pollen analysis. The results were interpreted as an indication of an open environment with arable land during the time of deposition (Durno 1963: 144). This conclusion is largely supported by the samples originating from a small profile close to the locus of the find. Unfortunately, no radiocarbon dating was carried out at the time, and the metalwork had been scattered by the action of a plough, so that the stratigraphic position of the hoard in relation to the analysed material can no longer be established. At best, the pollen analysis, with its hints of human activity in the immediate locality, suggests that the deposition of the weapons may have taken place within what might be described as a cultural landscape. While we cannot be certain of the conditions, the recovery of pollen grains from the soil in the sockets of two of the spearheads probably suggests that the metalwork was buried in a context adequately anaerobic to allow their preservation. Under the circumstances, this would tend to indicate that the



ILLUS 7 Map of the site during the 19th century with intact glacial moraine along the Glengavel Water (Ordnance Survey 1900). The location of the hoard is marked with a cross in the middle of the picture. (Reproduced with the permission of the National Library of Scotland (CC BY 4.0))



ILLUS 8 View of the findspot in May 2013 with Peelhill Farm in the background left; remains of the glacial moraine can be seen to the right of the main house. (Photograph by Tobias Mörtz)

hollow was already sufficiently wet or marshy for peat formation to have commenced.

Few finds of Bronze Age metalwork have been recorded from this region. However,

mention may be made of the remarkable discovery of the hoard of five or six Yetholm-type bronze shields, which had been arranged in a circle and were found during peat-cutting in

1779 or 1780 at Lugtonridge Farm near Beith in neighbouring Ayrshire. Only one of these survives today (McCulloch 1864; Maraszek 2006: 381–2, SCO/ST9; Needham 2017: Suppl Inf App 1; Canmore ID 42016). Recent research indicates that Yetholm shields were probably produced and deposited during the Penard phase (c 1300–1120 BC) (Needham et al 2012: 479–82; Uckelmann 2012: 122–5), suggesting that the hoard from Beith pre-dates Peelhill Farm by a considerable margin.

The specific landscape setting of the Peelhill Farm find, as well as its spearhead-dominant character, corresponds well with the other extensive spearhead hoards of Broadward class (Mörtz 2016: 120–8; 2018: 169–74). They were all recovered from wet ground, connected with bogs, rivers or springs. Thanks to renewed investigations, the eponymous Broadward site can now be considered as one of the best-known Late Bronze Age deposition places in Britain. Excavations in 2010 showed that the weapons were buried at the edge of a spring adjacent to a palaeochannel, which once flowed into the River Clun, about 600m distant (Bradley et al 2015). The two other large spearhead depositions from Shropshire, Bishop's Castle (Rocke 1872: 339; Burgess et al 1972: 240; Maraszek 2006: 465, ENG/SH1) and Willow Moor near Little Wenlock (Dukes 1836; Chitty 1928; Burgess et al 1972: 242–3; Maraszek 2006: 465–7, ENG/SH3), were both detected during drainage works in the 19th century and are now largely lost. The first had been recovered from a dried-out pool, the latter from a small morass. Another old find, the Broadness hoard (Smith 1909–11; Burgess et al 1972: 237–8), was dredged from the River Thames.

Since the publication of Burgess et al's (1972) paper on the 'Broadward Complex', two further depositions with comparable characteristics have been discovered, reinforcing this link between landscape and depositional practice. Firstly, the findspot of the Bramber hoard in West Sussex (Aldsworth et al 1981; Maraszek 2006: 479, ENG/WS2) is situated on the very edge of what was once the flood plain of the River Adur, which flows into the English Channel a few kilometres to the south. Over 100 artefacts and fragments,

mainly spearheads, were recovered from beneath several layers of alluvial clay. Most recently, a hoard of weapons from near Stixwold in Lincolnshire, to be known as the 'Tattershall hoard' (Bruns & Daubney 2006; Portable Antiquities Scheme: LIN-CEDC78), was found close to the present course of the River Witham in what had once probably been a tidal inlet. It is likely that the deposition took place exactly at the margins of the wetland and this corresponds to the landscape setting of the other hoards with similar composition, including Peelhill Farm. Some of the spearheads from Bramber and Tattershall still have wooden shaft remains in their sockets, offering the prospect of further radiocarbon dating to clarify the chronological assessment of the hoards of the Broadward class.

#### PEELHILL FARM AND DUDDINGSTON LOCH

In Scotland, the specific features of the hoard from Peelhill Farm are matched most closely by the well-known find recovered from Duddingston Loch in Edinburgh (Wilson 1851: 225–8; Callander 1922: 360–4; Maraszek 2006: 379–80, SCO/LO9; Cowie & O'Connor 2007: 318–20; Canmore ID 52116). The findspot lies at the foot of the hill called Arthur's Seat, the remains of an extinct volcano, which today provides an unmistakable Edinburgh landmark. In 1778 workmen dredging by boat for marl from the bottom of the loch brought up a quantity of Late Bronze Age metalwork, the exact number of which is unknown, though it seems that the artefacts all fitted into one of the leather bags used for the operations. Many of the items had been partly fused together and traces of an intensive treatment by fire can easily be detected on the surviving pieces. For these reasons, the deposition of the metalwork is more likely to have occurred as a single event rather than as successive acts at differing times. Although detailed contextual information is lacking, there is therefore some justification for treating it as a unitary group or hoard. Episodic deposition may also have occurred to account for the presence of a small unburnt blade

fragment tentatively identified as a worn portion of a Middle Bronze Age rapier (Knight 2019b).

The artefacts from Duddingston Loch had all been deliberately damaged to a differing degree before their deposition. In contrast to the Peelhill Farm hoard, none of the surviving items is intact and in a usable condition. Nevertheless, the same techniques of destruction were employed, that is bending, breaking and burning. In the case of Duddingston Loch, no organic material has survived, ruling out the possibility of radiocarbon dating. In terms of relative chronology, the only complete sword shows affinities to the Wilburton type on account of its slotted hilt and slightly curved ricasso in particular. Colquhoun & Burgess (1988: 52, no. 234) did not assign it to one of their variants, but it appears to be a rather late form. This is supported by the other sword fragments, which all belong to the succeeding Ewart Park type (Colquhoun & Burgess 1988: 95, nos 524–6 and 98, nos 559–62).

Most of the Duddingston Loch spearheads are of a simple, leaf-shaped design. Some have lunate openings in the blade, but this feature occurs throughout the Late Bronze Age (Davis 2015: 191–204). Regarding the radiocarbon dates for the Broadward hoard (see above), the presence of a barbed spearhead (Illus 9) may be taken as an indication of a deposition towards the end of the period, that is the 9th century BC. However, an earlier development of these peculiar weapons cannot be excluded. The handle fragment of a metal vessel, classified by Sabine Gerloff (2004: 149, no. 24; 2010: 272–3, no. 126) as a bucket of the Hiberno-British series, is also assigned to the Ewart Park phase.

Although several artefacts originally recovered from the loch can no longer be fully accounted for, the much higher number of swords as compared to Peelhill Farm is incontrovertible. The closest parallel in terms of composition and typology can be seen in the so-called ‘Blackmoor hoard’ found in 1870 within the Woolmer Forest, near Selborne, Hampshire (Selborne 1876: 254; Colquhoun 1979; Maraszek 2006: 424–5, ENG/HA3), which has been dated to the 10th century BC by radiocarbon sampling of wooden shaft remains (Needham et al 1997: 64). Like

Duddingston Loch, the find comprises swords with features of both Wilburton and Ewart Park type, in addition to a large assortment of different kinds of spearheads. It is disputed whether the Blackmoor find should be regarded as exemplary for the early stage of the Ewart Park phase (Needham et al 1997: 93–7; Burgess 2012: 143–5) or even as an independent phase of its own (Gerloff 2007: 149–51). Burgess (2012: 144) rightly criticised the limited range of artefacts contained in the eponymous hoard as not being qualified to characterise an entire metal-working assemblage.

Instead, Blackmoor represents a widespread type of extensive weapon deposition with tools either absent or present only as a minor component. Metallurgical debris or raw material is also not included. The hoards from Rush Fen near Wilburton, Cambridgeshire (see above) and Waterden near South Creake, Norfolk (Maraszek 2006: 459–61, ENG/NR40; Bridgford & Northover 2020) share these features. Though largely lost, Pant-Y-Maen in Dyfed (Jones 1861; Barnwell 1864; Griffiths 1958; Burgess et al 1972: 240; Maraszek 2006: 491–2, WAL/DY2) and some smaller discoveries, comprising between 10 and 25 artefacts, for example Andover in Hampshire (Dale 1914; Varndell 1979) or Bradley Fen in Cambridgeshire (Appleby 2005; Knight & Brudenell 2020: 180–205), should also be grouped with this kind of deposition. In the light of radiocarbon dating evidence, the Wilburton hoard was buried in the 11th century BC and Blackmoor in the 10th century BC (Needham et al 1997: 64). Dates from comparable hoards found at Fincham and Waterden, both Norfolk, fall within a similar range (Bridgford & Northover 2020: 66).

Compared to the Broadward class of hoards these assemblages represent an earlier, but related category of Late Bronze Age weapon finds. Although their composition is also dominated by spearheads, the distinctive barbed form usually does not appear, while swords figure much more prominently. Such hoards also regularly contain small heads of less than 150mm in length with very short sockets, which may have been attached to javelins or pikes. Many items show



ILLUS 9 Barbed spearhead from the Duddingston Loch hoard (NMS acc no. DQ 42). (Photograph by Tobias Mörtz; reproduced courtesy of National Museums Scotland)

both traces of use in combat and signs of deliberate destruction as attested for the Peelhill Farm hoard. Again, the connection to different bodies of water is a recurring pattern of their landscape setting, with almost all discovered in wet ground close to a riverbank or at the fen-edge. Only Waterden was found in dry soil on a low hilltop overlooking an adjacent spring and the source of the River Burn in the distance. To distinguish them from Broadward hoards, these weapon depositions can be subsumed as the ‘Wilburton class’ (Mörtz 2016: 120–8; 2018: 169–74), since the eponymous find is still the best-known example. Despite its geographical separation from the discoveries in southern Britain and the presence of a barbed spearhead, Duddingston Loch invites consideration as the northernmost representative of this class. As with Blackmoor and Wilburton, the composition of the hoard, with its pronounced bias towards weaponry, makes it rather unsuited to the role of type assemblage characterising an entire metalworking phase of the Scottish Late Bronze Age, as originally suggested by Coles (1960).

Another significant weapon deposition was discovered in the summer of 2014 near Breachacha on the Inner Hebridean island of Coll, Argyll (Cowie 2016, 2018), in an area where several Late Bronze Age swords are known to have been recovered during drainage works in the course of the 19th century (McGillivray 1878; Cowie 2006; Canmore ID 21583, 21585 and 21588). In total, the recent find comprises 13 fragments representing parts of at least two swords, five spearheads and a socketed knife or dagger. Most artefacts bear evidence of intentional damage, but none show signs of burning. Radiocarbon dating of wooden shaft remains produced relatively widely differing results between the 11th and 9th centuries BC (see above). This could be due to an old wood effect or an indication of repeated deposition at different times. Finally, mention should be made of a hoard from the ‘West of Scotland’ (Burgess et al 1972: 243), of which only two fragments of a spearhead and a ferrule survived (Illus 10). They are said to have been found in a cairn before 1726, but no further information on the exact locale, circumstances of

deposition or former contents of the discovery is available. Nevertheless, traces of treatment by fire are unmistakable signs of a ritual destruction comparable to the hoards from Peelhill Farm and Duddingston Loch. These can possibly also be taken as an indication that the find once comprised many more weapons and thus had a very similar make-up. However, on the present state of knowledge this remains a matter of guesswork.

## INTERPRETATION

Classically, Late Bronze Age hoards of broken artefacts were regarded as scrap or founder’s deposits, assembled with the intention of recycling. In this vein, Coles & Scott (1963: 138) concluded: ‘Both the character of the hoard’s composition, and its physical state, show that this is a scrap-metal hoard, with broken and partly melted objects ready for melting down and recasting. The socketed axehead and spearheads 1–3 and 5 are scarcely damaged and might be considered, with possibly the sword, as the personal equipment of the bronze-smith or his collector, although of course we cannot be certain of this.’ The authors remarked upon the low number of hoards with corresponding features in Scotland as compared to south-eastern England, with Duddingston Loch as one of the few comparable assemblages (Coles & Scott 1963: 138). However, neither the heavily biased composition of both finds, which nearly exclusively consist of weapons, nor the depositional environment were considered as important aspects in explaining their treatment and burial.

In his survey of Late Bronze Age metalwork in Scotland, Coles (1960) took up John Evans’s (1881: 456–9) classic and influential scheme of differentiating between ‘founder’s hoards’, ‘merchant’s hoards’ and ‘personal hoards’. Following the prevailing view of the time, the intention behind the burial of such artefacts was primarily safe-keeping, either because of economic or political reasons. Gordon Childe (1930: 43–5) added the category of ‘votive hoards’ for assemblages that were given up as an offering to supernatural entities. Coles (1960: 38–9) comments



ILLUS 10 Spearhead and ferrule supposedly from a cairn in 'West of Scotland' (NMS acc no. DQ 196–198).  
(Photograph by Tobias Mörtz; reproduced courtesy of National Museums Scotland)

on this proposal in passing: 'Votive hoards are difficult to determine, and the only Scottish Late Bronze finds considered to be deposited as such are three shield groups and the Shuna, Argyll, find where three swords were found "all sticking

vertically in the peat with the points downwards, as if they had been designedly thrust in, and not casually lost", and the evidence for *votive* deposition is still not certain.' In considering only discoveries with an unusual arrangement, most

metalwork assemblages are automatically excluded from this category, since they often lack detailed documentation or were removed from their context before discovery, for example by a plough, mechanical excavator or dredger.

The assessment of the Broadward find followed other lines of enquiry. As early as 1873 Richard William Banks (1873: 204) remarked: ‘Mr. Rocke states that the bronze objects are all, more or less, imperfect, bent, or broken, and appear to have been so at the time when they were buried. This fact will occur to any one who carefully examines them. Coupled with their occurrence in large masses, it remarkably coincides the circumstances of the numerous finds in the peat mosses of Schleswig and South Jutland recorded by M. Engelhardt. The mutilation was in both cases intentional; and the deposit, whatever may have been the motive, was not the result of accident.’ With reference to the excavations of the Iron Age bog finds at Kragehul, Nydam, Thorsberg and Vimose by Conrad Engelhardt between 1858 and 1865 (Wiell 2003), the extensive spearhead hoards of Broadward class were compared to assemblages of martial character from other periods and regions.

Burgess, Coombs & Davies (1972: 229) did not take up Banks’s suggestion, although they characterised the Broadward and similar finds as ‘warrior hoards’. To explain their character and distribution, different regional fighting techniques were envisaged, reflecting a preference for either the sword or the spear. Still, no answer was offered to the crucial question of the motivation for deposition of the artefacts. In assigning the finds to warriors, a social interpretation is implicit, which needs further explanation. Therefore, on a simple descriptive level, the discoveries of Broadward and Wilburton class should rather be termed ‘weapon hoards’, because this is what they doubtless are with regard to their contents. The first to isolate these finds from other Late Bronze Age metalwork assemblages was David Coombs (1975). He and more recently also Regine Maraszek (2006: 196–8) considered that if swords and/or spearheads formed the majority of the artefacts that would be sufficient for their characterisation as a weapon hoard. However, some of the finds included in

their analyses show a relatively heterogeneous composition with many tools present.

Early on, Evans (1881: 469) noticed ‘that there are several instances of swords and scabbards, and spear-heads and ferrules being found together without either palstaves or socketed celts being with them.’ It is exactly this total or near absence of axeheads, which normally form the backbone of large depositions, that makes the hoards of Broadward and Wilburton class so special. Raw material, ingots or other items directly attributable to the process of casting or recycling are equally missing. Additionally, no metalwork of significantly older dating is included. It is therefore proposed that only those finds with a non-martial component of less than 25% of the total amount should be designated as weapon depositions (Mörtz 2014, 2016, 2018).

Throughout Britain many smaller finds with fewer than ten swords and/or spearheads are known. However, in marked contrast to the large assemblages like Duddingston Loch and Peelhill Farm, those show in most cases no, or only minor, damage. In particular, traces of burning are absent. Some of these small hoards were buried in wet ground or placed in water like the extensive ones, but there are also discoveries from dry environments, for example two intact swords uncovered in a layer of charcoal in 1846 during road construction for Queen’s Drive on the slope of Arthur’s Seat above Duddingston Loch (Wilson 1851: 228; Maraszek 2006: 378, SCO/LO2; Canmore ID 52549).

Coombs (1975: 70) considered that ‘many of the objects appear to have been collected after battle or a period of hostilities’ and connected their concealment to ritual activities at watery places. In many cases, the artefacts themselves confirm such a scenario because they show damage caused by a martial deployment, which consequently ended their use. Instead of being repaired, the weapons were further destroyed and finally deposited in wet ground. From these observations it can be inferred that warlike events, defined here in their broadest sense as hostile and violent interactions between different groups, initiated the chain of events that led to the deposition of the artefacts at Duddingston Loch and Peelhill Farm. Of course, the organisation and

scale of warfare at this period remain a matter of debate. One plausible scenario might be that the acts of destruction and concealment were carried out by the victors, who collected the belongings of the defeated enemy from the scene of fighting. The different modes and intensities of destruction of the captured booty could possibly be related to specific events during the preceding warlike encounters. For example, perhaps it was only those spears and swords which had wounded or killed combatants that were bent, broken and burnt. Other artefacts appear not to have qualified for such treatment and were deposited with limited or no damage, suggesting a different 'biography' or history of use. In these ways, the experience of violence was projected into the weapons by the victorious group (Mörtz 2013, 2016, 2018). Their destruction may be regarded as a performance of the pain and suffering felt by the survivors, which could not be communicated otherwise (Sofsky 1996: 65–82). The execution of these acts might therefore have been dependent on the personal and subjective feelings of single individuals, within a framework of ritual which followed communally sanctioned rules and conceptions.

In such ways, the process of deposition might have brought closure to a period of legitimised violence that had in all likelihood been conceptualised as opposite to the rules of everyday life, especially regarding the explicit demand for the killing of members of another group, which possibly was defined as hostile only for this limited time-span (Mörtz 2013, 2016, 2018). Following Victor Turner (1969), the reversed state can be defined as liminal. When returning from warlike encounters, fighters may have had to be re-integrated into society by engaging in ritual activities, including the sacrifice of booty. Just as those individuals who were willing to carry out violent attacks against others entered a state of liminality, so their weapons were transformed too. Swords and spears in particular are often intimately associated with the individuals handling them, effectively creating individual biographies of things (Whitley 2002; Molloy 2011; Pearce 2013). Owing to their fundamental importance in the struggle for life and death, the sensitivity for the artefacts on the part of their users probably

went beyond their mere functional properties. From a subjective perspective, the weapons were experienced as an extension of the self, possibly even as a part of the body (Malafouris 2008; Warnier 2011). As a result, the biographies of the captured items could not be ignored by the victors. If perceived as hostile and tainted, destruction and sacrifice of the opponents' weaponry may have been both required and inevitable.

Fear of the dead may have been another motive (Horn 2014: 214–20). However, in Britain the presence of human remains directly associated with metalwork depositions is rare (Brück 1995). What happened to the dead of both the winning and the defeated group is thus unknown. We cannot tell whether the corpses were mutilated and cremated in a similar manner to the sacrificed artefacts. Also, the number of fighters involved in combat is hard to establish. Even though all weapons had most probably been collected and sacrificed by the victors, the size of the warring bands cannot simply be deduced from the number of artefacts in each hoard. Usually, a one-third loss of fighters suffices to make defeat inevitable for the affected party as coordinated action is no longer feasible (Pauli Jensen et al 2003: 311; Ilkjær & Iversen 2009: 144–5). Such dispersal probably prevented a total defeat, if this was intended at all.

In contrast to pikes and spears, swords were carried directly on the body and could not easily be thrown away. They were thus possibly only captured when their owner died or had been taken prisoner. This could serve as an explanation for the minor quantity of swords found in extensive weapon hoards. For this reason, it must be stressed that the warring groups could have been much larger than is indicated by the number of deposited artefacts. These considerations speak against the scenario of a complete disarmament of the defeated. The possibility of giving up one's own equipment seems equally unlikely, as in this case the safety of the community had to be ensured by a smaller group of fighters, which was a high risk and a major material challenge given the scale of the depositions.

The rituals associated with the destruction of the weapons and their irreversible deposition are

characterised by their rarity, unusual effort and strong performative character. One of the latter moments might have been the dramatic sinking of possibly still glowing artefacts into flowing and still waters. The extensive weapon depositions such as Duddingston Loch and Peelhill Farm can therefore be described as ‘high-intensity rites’ (van Baal 1976: 168–78). The aim was the complete annihilation of the enemy equipment. This could indicate that the items came into unwanted possession, probably through a successfully defended attack. Perhaps other actions were also part of the ritual, but they are difficult to identify from the archaeological findings. If the ring handle of a bucket present in the Duddingston Loch assemblage belongs with the large weapon hoard and is not a separate deposition, this might suggest the ritual consumption of drink. Future research ranging from the re-examination of old finds and detailed investigation of newly discovered sites, accompanied wherever possible by excavations, will hopefully provide further insights into the sacrifice of weapons during the Late Bronze Age.

## CONCLUSION

Drawing on the prevailing interpretive framework at the time, Coles & Scott (1963: 138–40) explained the assemblage of metalwork from Peelhill Farm in terms of the hoarding of old and worn-out items intended for recycling. In the light of subsequent research, such a scenario now seems improbable and inconsistent with the archaeological record. The breakage of the artefacts appears to be both unsystematic, in that there has been no attempt to achieve standard sizes, and random, in that some of the spearheads are in a relatively good condition whereas others were rendered completely unusable. Moreover, the assemblage is composed almost exclusively of weapons, reflecting a very narrow functional spectrum and not an arbitrary choice of outdated bronzes. Instead, the recognisable traces of use point to the deployment of the weapons in actual combat, which in the absence of obvious repairs may have taken place immediately or

only a short time prior to their deposition. On the contrary, further, and in some cases comprehensive, destruction of the artefacts was carried out, which included the removal of organic components and bending, breaking and burning of the metal. Finally, the damaged weapons were consigned to a boggy hollow, a location where any intention of retrieval seems inherently unlikely. Although now much changed, photographs taken at the time of the original investigation suggest that this, eventually peat-filled, basin lay within a natural arena-like setting defined by a curving ridge of glacial moraine. Despite not being high in themselves, these elevations offer wide views to the north over the valley of the Glengavel Water and were possibly quite striking and unusual features of the landscape, which suggests that the site chosen for this ritual act may have been of local importance. While the place of the supposed engagement must remain unknown, it may now be suggested that the Peelhill Farm hoard represents a sacrifice of weaponry, perhaps the equipment of a defeated enemy, following a violent conflict during the 9th century BC.

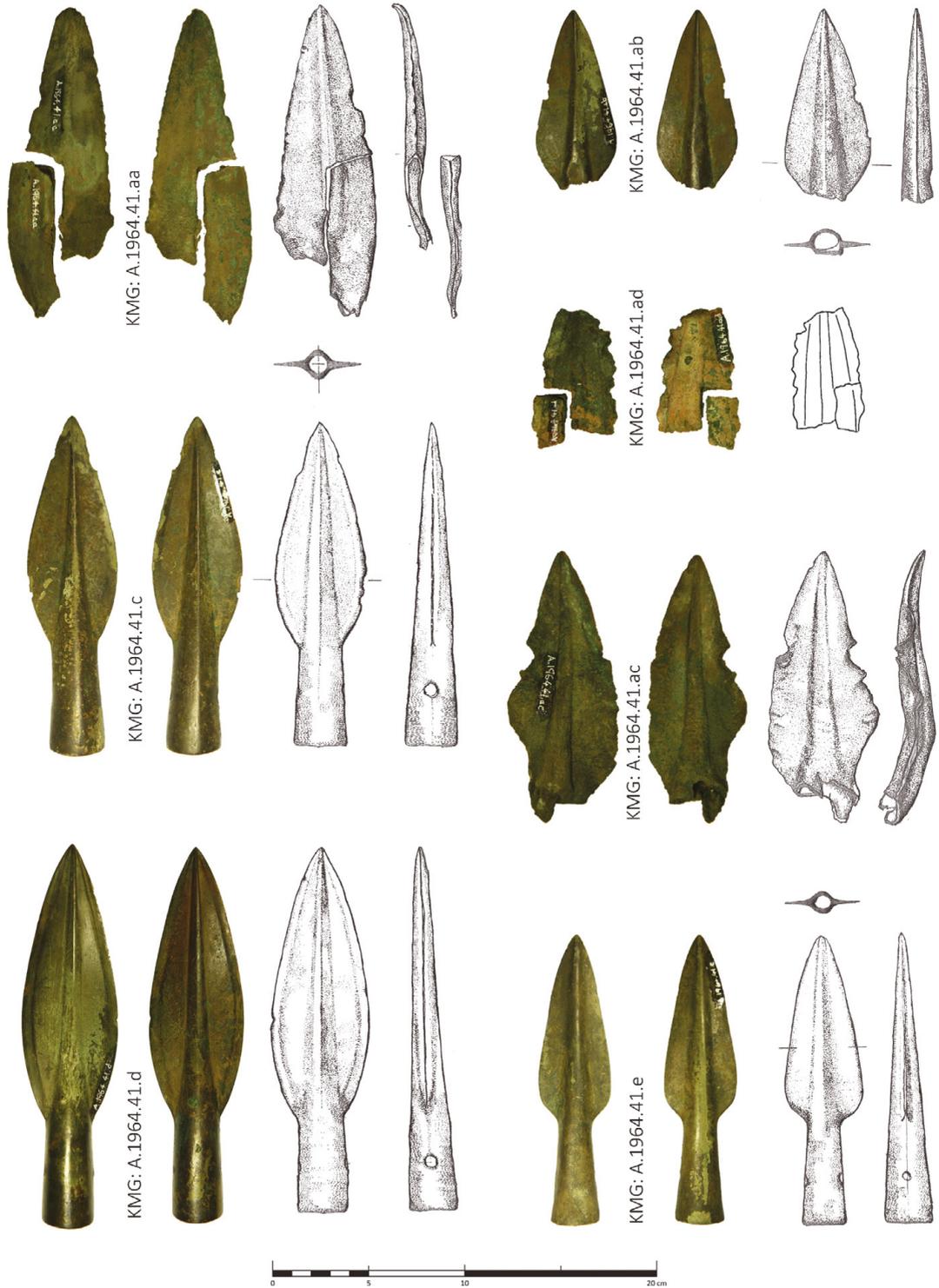
**Supplementary material:** Appendix available online at <https://doi.org/10.9750/PSAS.150.1320>

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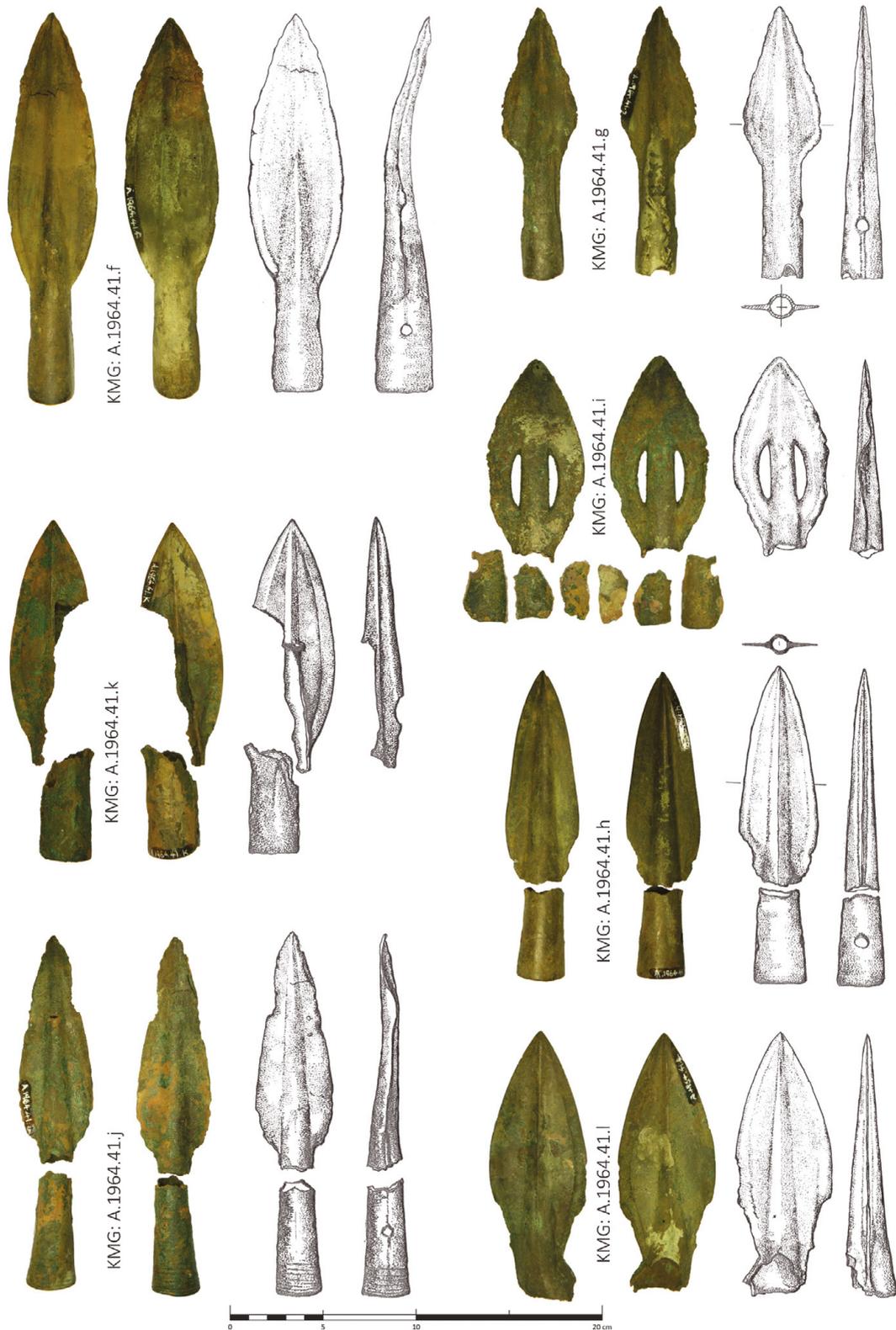
Glasgow Museums kindly granted access to the hoard and associated archive as well as permission to undertake radiocarbon dating, photograph the artefacts and to refer to unpublished archival information. The radiocarbon dating was undertaken by Professor Gordon Cook and his colleagues at the Scottish Universities Environmental Research Centre (SUERC), Glasgow. Thanks are due to Dr Alison Sheridan (National Museums Scotland) for arranging for the dates to be funded as part of the NMS radiocarbon dating programme. We are grateful to Dirk Mariaschk for the design of the plates (Illustrations 11–16). The location map (Illustration 1) was very kindly prepared for us by Stephen Scott. Lastly, we have benefitted from the helpful comments of our two anonymous reviewers.



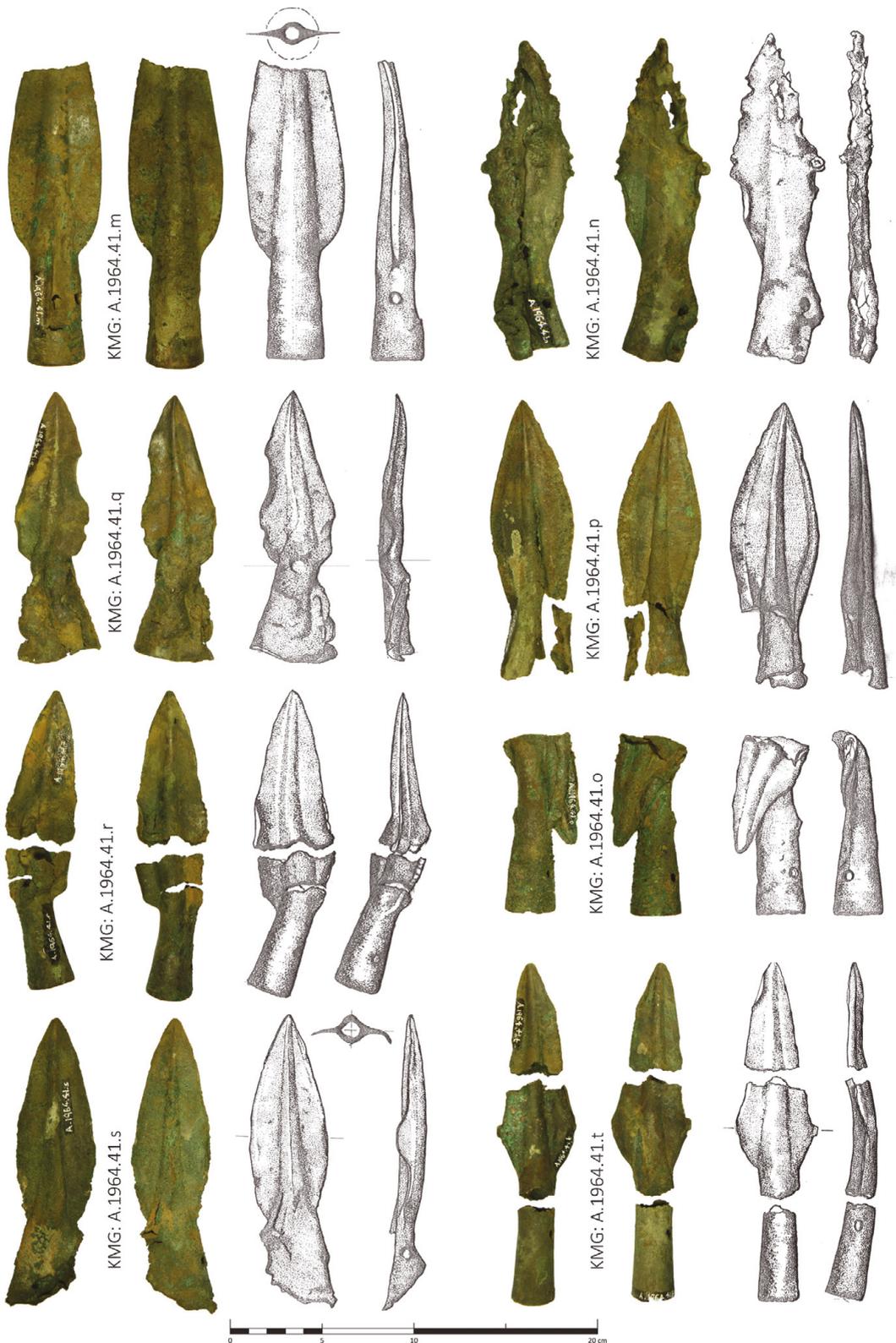
ILLUS 11 Peelhill Farm hoard: sword. (Photographs by Tobias Mörtz, drawings by unknown; reproduced courtesy of Glasgow Museums)



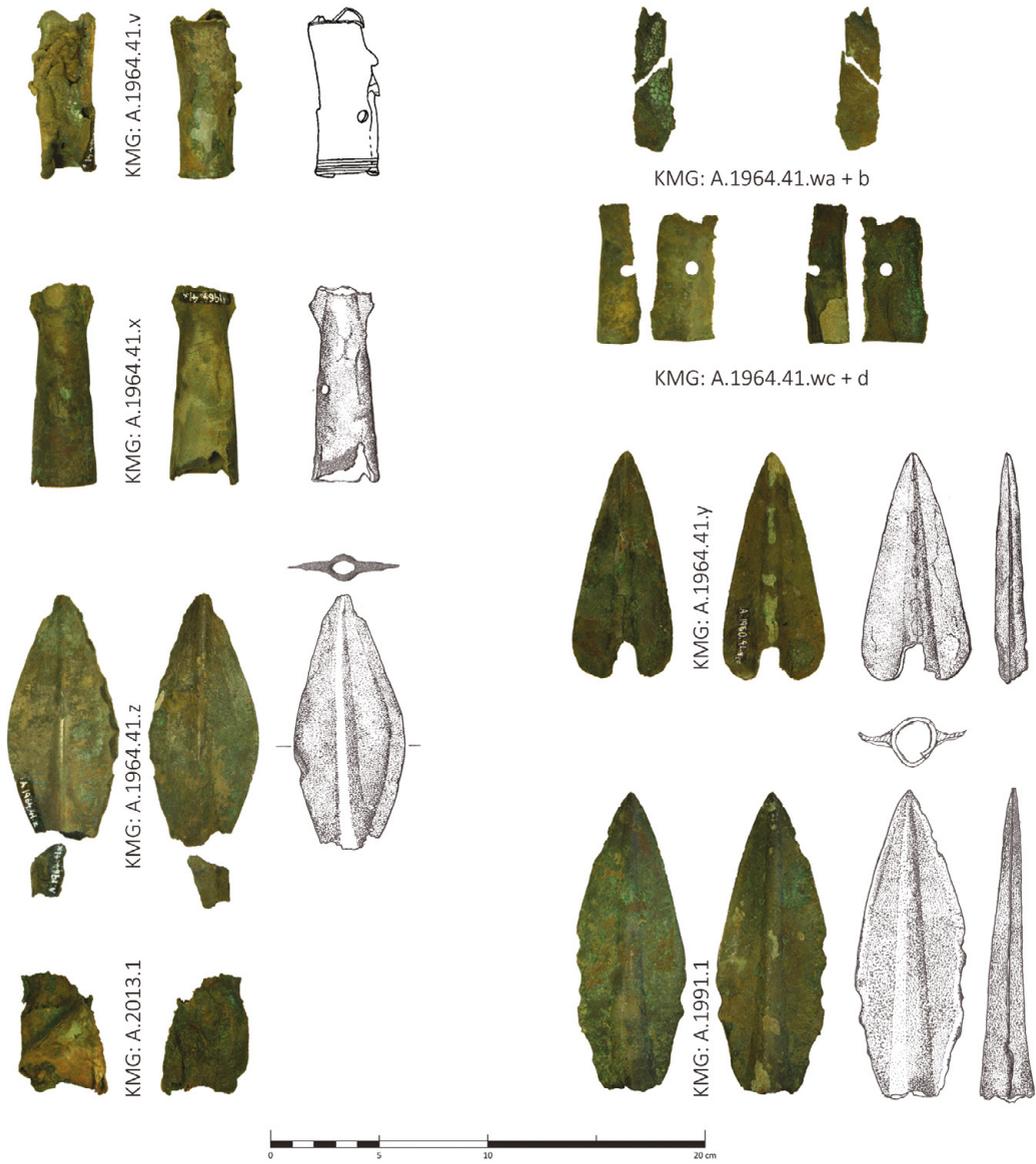
ILLUS 12 Peelhill Farm hoard: spearheads. (Photographs by Tobias Mörtz, drawings by unknown; reproduced courtesy of Glasgow Museums)



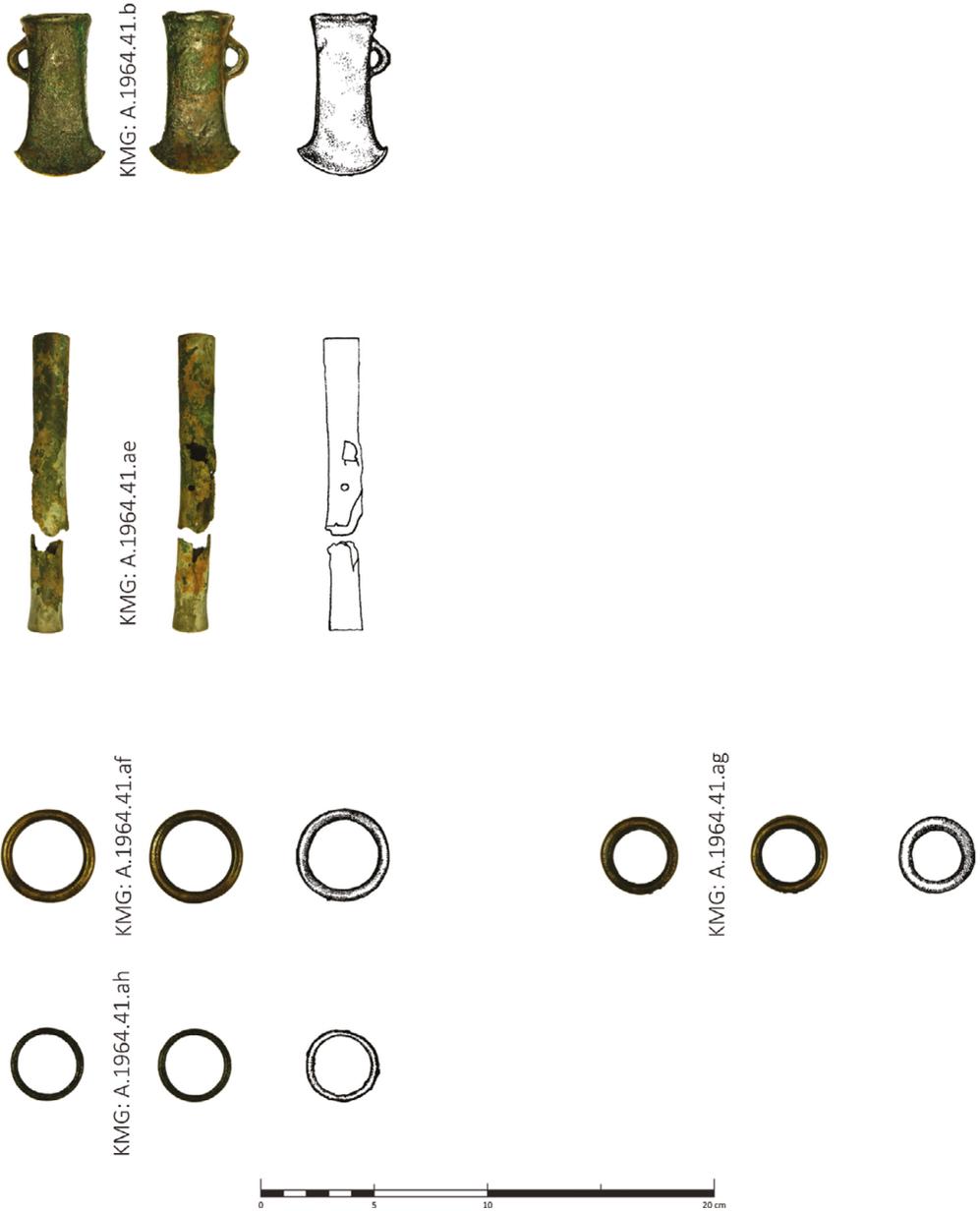
ILLUS 13 Peelhill Farm hoard: spearheads. (Photographs by Tobias Mörtz, drawings by unknown; reproduced courtesy of Glasgow Museums)



ILLUS 14 Peelhill Farm hoard: spearheads. (Photographs by Tobias Mörtz, drawings by unknown; reproduced courtesy of Glasgow Museums)



ILLUS 15 Peelhill Farm hoard: spearheads. (Photographs by Tobias Mörtz, drawings by unknown; reproduced courtesy of Glasgow Museums)



ILLUS 16 Peelhill Farm hoard: axehead, ferrule and rings. (Photographs by Tobias Mörtz, drawings by unknown; reproduced courtesy of Glasgow Museums)

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