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Chapter 12  
A new look at the Late Bronze Age metalwork from the Tay  
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12.1 Introduction

This review of the predominantly Late Bronze Age metalwork from the River Tay presents a range of material that helps to contextualise the broader use of the river. Reference is made to earlier and later objects found in the Tay to try and gain a fuller understanding of the dynamics of deposition in, and recovery from, the river. While the amount of material from the river is very small in comparison with the large quantities from the Thames or the Trent, the Tay nevertheless ranks among the more archaeologically productive rivers in Britain and is the only significant source of river finds in Scotland (Coombs 1996, 102, figs 1–2; Cowie and Hall 2001).

In the particular case of the Bronze Age metalwork, the limited number of finds from the Tay is compounded by the sparseness of the information relating to their circumstances of discovery. While this means that the Tay has a much weaker archaeological signature than more productive rivers, and the extent and nature of the activities that led to the loss or deposition of those artefacts is correspondingly more elusive, some patterns can nevertheless be teased out.

Although our main focus is on the Bronze Age material, some consideration is also given to the material of other periods that has been recovered from the river, for the waters of the Tay have received and given up a diverse range of artefacts ranging from a Neolithic stone axe to a post-medieval seal matrix. Although this

Figure 162
The lower Tay showing the range of Bronze Age metalwork recovered from the river
is not the place for a definitive catalogue, comparison of the character and circumstances of discovery of these finds may indirectly aid understanding of how and why material came to be deposited in or recovered from the river at certain points.

The review of the finds of Late Bronze Age metalwork from the River Tay also provides a starting point for a brief survey of contemporary artefacts from the wider Tayside and Fife region, highlighting variation in their treatment and context, the evidence they provide for the region’s national and international connections, and finally the sideways light they shed on craftsmanship.

Our focus of interest is mainly on the lower Tay, extending from around the bend of the Tay at Delvine, to the north of Perth, downriver to approximately Ballinbreich to the east of Newburgh. It is therefore a stretch that neatly embraces Carpow Bank (Fig 162).

12.2 Middle Bronze Age metalwork from the Tay

In August 2008 Mr Ian Robertson of Perth brought into Perth Museum a very fine example of a Middle Bronze Age bronze dirk, which he had found in the river some 10 or 12 years earlier while scuba diving near Friarton (O’Connor et al forthcoming). The dirk (Fig 163) has a low trapezoidal butt, with somewhat rounded rather than angular shoulders and a fairly straight heel. It has had two rivet-holes; one still has a plug-rivet with domed heads in place, although the finder’s account suggests that the other rivet may still have been present when the blade was first discovered. The outer rim of the damaged rivet-hole is now missing and there appear to be signs of both ancient and more recent damage. The blade has an elegant ogival outline with a central rib, broad at the butt-end and becoming more rounded and pronounced as it tapers towards the tip of the blade. The upper portion of the midrib is bordered by incised grooves which converge on the midrib approximately three-quarters down the length of the blade. On one face just below the butt end of the midrib, there are worn traces of two incised pendant triangles, probably originally forming a transverse band all the way across. The blade has a number of nicks and notches, some of them with the appearance of ancient damage. Otherwise the dirk is overall in excellent condition. A small area of the lower blade has been cleaned to reveal the underlying golden metal but otherwise the dirk has an even glossy dark brown patina in keeping with recovery from a benign watery environment.

Allowing for the finder’s uncertainty as regards the condition of the weapon when found, the circumstantial evidence suggests that the weapon had suffered some damage in antiquity but was intact at the time of deposition. At the time of writing, the dirk is in the care of Perth Museum and Art Gallery pending a decision on ownership by the Receiver of Wreck.

The Friarton dirk is a type characterised by the presence of complex ornament bordering the pronounced, rounded midrib, with a date range from the late 16th to the 15th century cal BC. Such weapons are rare in Scotland and most common in Ireland, but it is closely paralleled by another local find from Pitkeathly, near Bridge of Earn (Burgess & Gerloff 1981, 8–9, no 18). Indeed, metal analysis seems to confirm its Irish origin (unpublished information from Dr Peter Northover). The find circumstances of the Friarton dirk are in keeping with the pattern of recovery of the majority of dirks and rapiers from watery contexts such as rivers, lakes, bogs and fens. In our present context, it has added significance since it marks the earliest item of Bronze Age metalwork from the Tay discovered in circumstances suggestive of deliberate deposition.

The only other item of Middle Bronze Age date from the river is a side-looped spearhead, recovered
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through metal-detecting at low tide on the foreshore at Newburgh in 1997 (Laing Museum, Newburgh; unpublished). The worn and damaged condition of this example may be more in keeping with the loss or discard of an artefact near the end of its functional life rather than votive deposition (although a combination of these factors cannot be ruled out). It may be noted that very few items of archaeological significance of any period have been recovered despite reasonably active metal detecting along the foreshore.

12.3 Late Bronze Age metalwork from the Tay

In the context of this volume, our focus is naturally concentrated on the later Bronze Age metalwork. For convenience these will be grouped by types, beginning with the swords, and discussed in terms of the circumstances of recovery where known, typology, date and condition.

Swords

Five, or just possibly six, bronze swords have been recovered from the Tay. All are 19th-century AD finds, and in the four instances where fuller details are known, the findspots lie between Perth and Newburgh. The significance of this will be discussed further below.

In terms of Late Bronze Age chronology, the earliest of the swords from the Tay is the superb specimen found in 1889 to the north of Mugdrum Island, near Newburgh on Reekit Lady sandbank (Fig

![Figure 164a–f](Image)

Late Bronze Age swords from the river: (a–b) Mugdrum/Newburgh; (c–d) Elcho/Rhynd; (e) 'the Tay near Perth'; and (f) an unprovenanced sword formerly alleged to be from the Tay opposite Elcho (line drawings after Colquhoun & Burgess 1988)
164a). Probably dating to c 11th century bc, the sword represents a variant form of the so-called Limehouse type of sword, itself a regional or insular form of flange-hilted sword of continental type (Erbenheim swords) (Colquhoun & Burgess 1988, 33–6, no 113). Although none of the rivets which would have held the organic hilt plates in place remain in situ, the sword is generally intact and in excellent condition, suggesting loss or deliberate deposition of a fully serviceable sword.

Also dating from the earlier part of the Late Bronze Age (Wilburton phase 11th/10th centuries bc, is the fine Wilburton type sword (ibid, 51–2, no 226) recovered from the river at Seggieden, which is on the north bank opposite Elcho (Fig 164c). It was found by the fishermen of Darry Island and was presented to the Perth Literary and Antiquarian Society in November 1854. Darry Island was also known as Darien or Incherrat and, along with the islands known as Sleepless Inch and Balhepburn (or Inchyra) was joined to the shore during river-deepening operations in the 1830s and 1840s (Robertson 1998, 4). The sword was deposited in good condition, complete apart from the loss of the rivets from hilt and shoulder. Once again, the overall condition hints at loss or deliberate deposition of a fully serviceable sword.

Considerable doubt surrounds the provenance of a second sword in Perth Museum reputed to be from this stretch of the Tay (Fig 164f). In their report on the Perth Museum collection undertaken as part of their survey of Scottish local museums, Joseph Anderson and George Black refer to a ‘Bronze Sword, found in the Tay opposite Elcho, 23¾ inches in length, the handle-plate concealed by a handle of wood put on’ (1888, 337). One of the extant swords in Perth Museum has modern alterations consistent with this description, having a black patina in keeping with a watery context, while filing of the edges of the hilt and the high polish of the blade suggest addition of a hilt (since removed) and much recent handling (Colquhoun & Burgess 1988, 106, no 630: ‘provenance unknown, possibly from Perthshire’). While we can be reasonably confident that we have identified the sword described by Anderson and Black, their list was compiled in the course of a wide-ranging and relatively rapid survey and may not be wholly error-free, and it is probably wise to sound a note of caution in the absence of independent verification of the Tay provenance. None of the 19th-century records held by Perth Museum give a place-name and the later records of the 1920s and 1930s list the sword but give it no provenance.

The sword in question belongs to the Ewart Park type, the classic Late Bronze Age leaf-shaped sword (Colquhoun & Burgess 1988, 55–68). Despite the modifications to the weapon, the sword has clearly been complete at the time of deposition. It is unfortunate that the provenance of the sword is in some doubt, because despite being numerically the most common type of Late Bronze Age sword from Scotland, this is the only sword from the river of Ewart Park type. However, in view of the relatively small overall numbers of finds from the river, and the recovery of such swords from other wet locations such as bogs and lochs, it would be unwise to read too much significance into this.

Instead, numerically the most common swords from the river are the three examples of Gündlingen type, dating from the Llyn Fawr phase, marking the transition from the Late Bronze Age to the Early Iron Age around the eighth century bc. Gündlingen swords (ibid, 114–16) are frequently found as river finds but given the small overall numbers from Scotland this is a significant concentration.

Two of the swords belong to a particular variant of the Gündlingen type (ibid, variant d). One of these is a magnificent weapon purchased for the national collection in 1877 (Fig 164e); it is said to be from the Tay, near Perth, but unfortunately nothing is known of the circumstances of its discovery (ibid, no 739). Apart from loss of the rivets in hilt and shoulders, the sword is in excellent condition and shows little sign of wear. The other sword (Fig 164d) belonging to this variant was recovered from the river near Elcho Castle (Rhynd) in 1865 (ibid, no 743). The sword is in extremely good condition, and undamaged apart from loss of the tip and some distortion of one of the shoulders. All six of the serviceable rivet holes retain rivets in situ on the hilt and shoulders, presumably indicating the grip plates were still in place until close to the time of deposition (a further two rivet holes remain imperforate). While it is uncertain whether the damage to the tip and shoulder was incurred during combat or the result of deliberate destruction or decommissioning, the overall condition hints at loss or deliberate deposition of a sword that had until that point been in a fully serviceable condition.

The third of the Gündlingen-type swords was brought up from the bottom of the Tay in a salmon net at Mugdrum Island, some time before 1899 (Fig 164b). Loss of the upper part of the hilt precludes detailed classification. At least four pin rivets remain in situ in the surviving portion of the hilt, possibly suggesting that the remains of the grip were still in place when the
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The sword was deposited in the river. While it is uncertain whether fracture of the hilt-plate was the result of accidental damage during use or deliberate destruction, the presence of intact rivets and the general condition hint at loss or deposition of a sword that had till then been in a serviceable condition.

Spearheads
The other weapon type frequently represented in riverine and other wetland deposits is the spearhead. While Late Bronze Age spearheads occur as single finds or as a component of hoards in the surrounding region; they are noticeable by their relative absence from the Tay itself. Only two examples are known to the writers. One, which has been rather overlooked, is in the collections of Dundee Museum. It was a casual find found lying in a bank of stones and mud at the head of a sandbank in the River Tay near Newburgh (Coutts 1971). A more recent discovery, made by a metal detectorist several years ago, is the tip of a further leaf-shaped spearhead of Late Bronze Age form, alleged to have been found on the Tay foreshore, but the precise location is not known.

Socketed axeheads
Turning now to what would conventionally be classed as tools; three socketed axeheads appear to have been found in the river (Fig 165a–c). An axehead from Luncarty was found by pearl fishers prior to 1914 in the bed of the Tay at Thistle Bridge, and later acquired by Perth Museum in 1923 (Schmidt & Burgess 1981, cat 1162). That from Delvine, near Caputh is said to have been found in the bed of the Tay, again by pearl fishers, c 1913 and acquired by Perth Museum in 1925 (ibid, cat 1214). The third axehead was discovered in 1946 in sand dredged from the Tay below Perth; the axehead belongs to a relatively rare type with rope-moulding around the mouth (ibid, cat 1036).

Other tools
The remaining Bronze Age metalwork recorded as being from the river includes a bronze sickle and a gouge (Fig 166a–b). The socketed sickle, a rare find,

Table 10
A summary of Middle and Late Bronze Age metalwork from the River Tay (metalwork assemblages after Rohl & Needham 1998)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Date cal BC</th>
<th>Dirk</th>
<th>Sword</th>
<th>Spearhead</th>
<th>Axehead</th>
<th>Gouge</th>
<th>Sickle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acton Park</td>
<td>1500–1400</td>
<td>●</td>
<td></td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taunton</td>
<td>1400–1300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penard</td>
<td>1275–1140</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilburton</td>
<td>1140–1020</td>
<td>● ●</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ewart</td>
<td>1020–800</td>
<td>●?</td>
<td>●?</td>
<td>●●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Llyn Fawr</td>
<td>800–650</td>
<td>●●●</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>
is dredged up from the Tay near Errol in 1840 (Anderson 1886, 203–4). This marks the easterly limit of finds from the river with known locations. The sickle also represents the earliest recorded artefact found in the course of dredging operations, which invariably took place to maintain the shipping channel to Perth harbour. Finally Anderson records a fine socketed gouge in the national collection as having been dredged up from the Tay (ibid, 201–2, fig 218). Under the circumstances, we may assume that it came from the lower reaches of the river below Perth where the main 19th-century dredging activity was undertaken in order to improve navigation. Gouges appear in the later Bronze Age and were probably linked to development of more specialised craftsmanship.

In summary, whatever the recovery dynamics from the river, the items of Bronze Age metalwork are all in good condition, a condition suggestive of deposition close to where they were found and consistent with not having been moved by river flows and sediment deposition. Though the number of swords found is modest, nevertheless the fact that early and late swords occur together hints further at a non-random pattern, one of deposition of swords several centuries apart into the same stretch of river and so suggestive of on-going, traditional, conservative community practices.

The big problem with regard to the Late Bronze Age metalwork is whether we are looking at patterns of deposition or recovery biases, or rather what is the balance between the two? Clearly both are in operation and to look more closely at the latter we now turn to a brief exploration of other finds from the river.

12.4 Other archaeological finds from the Tay

On the Tay, as elsewhere in Britain and Ireland and indeed most of north-west Europe, the recovery of riverine finds in the past has been governed almost entirely by the nature of the economic life of the river in modern times. Discoveries in the Tay and the Forth have principally been made in the course of traditional pearl fishing or salmon fishing with nets, with a lesser contribution from navigation-dredging. Pearl fishing is known to have taken place as far up river as Logierait, while the scale of the Tay salmon netting is well known (Fig 167). The pattern of netting-recovery does echo the use of nets on particular parts of the river. The stretch of the Tay between Moncreiffe Island and the mouth of the Earn, some 6km, ‘follows a broad single channel with sloping banks particularly suitable to the use of salmon nets. This part of the river was known to the old salmon fishers as ‘the throat of the river’ as, being below any of the spawning beds all returning salmon had to traverse it’ (Robertson 1998, 4). Netting then was more concentrated here and perhaps more likely to favour the recovery of material than dredging: with netting, Bronze Age metalwork would much more readily stand out amongst the salmon than it would in dredged sediment. The dredging of the river has continued into this century to maintain access to the harbour at Friarton, but this has not resulted in the reporting of any archaeological discoveries.
Further elucidation of the meaning of artefact deposition and recovery from the river may also be gained from looking at what else has been recovered. The Bronze Age metalwork forms part of a diverse inventory of artefacts recovered from the river ranging from a possible Mesolithic logboat to a post-medieval seal matrix. The overall inventory of finds of other periods is not large, but a full illustrated catalogue is beyond the scope of this paper and our aim is primarily to convey its range and the varying modes of discovery for comparison and contrast with the Bronze Age record. For simplicity, the different categories are dealt with in broadly chronological order.

The artefact record associated with the river is also enriched by finds of boats and parts of boats (Chapter 9, pp 129–30). However, it may be noted that like the majority of finds from the river, they mostly owe their discovery to activity associated with the economy of the river or its immediate environs – for example, one of the medieval logboats from Errol (Errol 2) was found by salmon fishermen in 1895 when it obstructed their fishing nets, while the logboat from Dalmarnock at Dalguise, near Dunkeld (NN c. 998 458) was found during construction work for the A9 (Mowat 1996, 21, no 25). And finally excavations at Friarton brickworks led to the discovery of the fragment of a possible Mesolithic logboat prior to 1878 (ibid, 34–5, no 50), placing it among the earliest artefacts associated with the story of the Tay.

Neolithic and Early Bronze Age finds

Only two early Neolithic artefacts definitely appear to have been found in the river. One is a ground-and-polished stone axehead found in the Tay at Aberfeldy (NMS: X.AF 632), making it an exception to the general pattern of discovery; otherwise, all of the recorded prehistoric finds have been downstream of Delvine. The other early Neolithic item is a lozenge-
shaped flint arrowhead (PMA: 1810), possibly unfinished, found in the course of dredging the river in the vicinity of Perth prior to 1920 (Asher 1923, 143).

Material of late Neolithic date includes an unusual flint macehead discovered on a sand and gravel bank in the Tay at Newburgh (Roe 1974) while a carved stone ball was found in the bed of the river during dredging and donated to the Museum in 1841 (PMA, 1290A; Smith 1876a, 47–8 and 1876b, 316). Although not necessarily from the river itself, two further carved stone balls from Mugdrum Island (NMS: X.AS 74; Marshall 1977, 66) and Newburgh (NMS: X.AS 201; Marshall 1977, 68) possibly reinforce this local cluster of finds closely associated with the river and its margins.

Early Bronze Age material from the river includes two examples of the shaft-hole implements known as battle-axes (Roe 1966; Clough & Cummins 1988) recovered in the course of dredging near Mugdrum Island (Anderson 1886, 315–16, fig 294; NMS: X.AH 44) and at Ballinbreich near Newburgh (ibid, 312–13, fig 291; NMS: X.AH 57). A further battle-axe was found, in what could be significantly close proximity to the river, on the west bank under the last arch of the railway bridge in Tay Street, Perth (Clough & Cummins 1988, 239 no. PER 36; PMA: 22/1974).

Stone artefacts such as the carved stone balls and the battle-axes are distinctive objects, with unusual shapes and forms that will perhaps have led to them being more easily spotted than more mundane artefacts and perhaps resulting in a recovery bias. Nevertheless, these are relatively special artefacts which have had considerable amounts of time and energy invested in their manufacture. In relative terms the numbers recovered from the river between Perth and Newburgh seem disproportionate – and perhaps hint at the possibility of deliberate deposition rather than casual disposal or accidental loss or erosion of riverside deposits. In view of the range of rather special late Neolithic and Early Bronze Age artefacts it is tempting to wonder if the tradition of deposition in the river had even earlier origins (Fig 168a–b).

Although not closely dateable mention may also be made of a saddle quern found below the high waterline of the Tay among stones on the east bank of the
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river, opposite the northern end of Moncreiffe Island (PMAG, 1983.426: King 1993a, 103). Its discovery highlights the continuing potential for discovery along a river that has been the focus for settlement and activity for millennia.

After the Bronze Age: later finds from the river

Turning to later periods, Iron Age material is absent, but in view of the relatively small numbers of artefacts of all periods, it would be unwise to read much into this when it is clear that so much depends on the vagaries of recovery and recognition. The only finds of Roman Iron Age material are a fine Romano-British trumpet brooch with traces of blue enamel (Hunter 1996, 116–17) and a hoard of six Roman denarii deposited in the late second century AD (Bateson & Hall 2002) both discovered in the Tay at Inchyra, through metal-detecting. Their loss/deposition may have been linked to a crossing point of the river.

Here we are limiting our examples to material known or believed to have been retrieved from the river itself: however, a comprehensive review would also need to take account of sites and finds from the wider riparian zone. The ‘Celtic’ carved stone head found at North Muirton, Perth, lies at the northern end of the North Inch, part of the Tay flood plain and set near the junction of the rivers Almond and Tay – in turn, close to the findspot of a series of pits near Bertha containing portions of Roman glass and pottery vessels (NMS, X. FR 200–203: Stuart 1852, 205; Ross 1966, 36; Hall et al 2005, 276). Also relevant in this context is the altar of Antonine date recovered from the River Almond beside Bertha Roman fort and only metres from its junction with the Tay (Keppie 1983, 402 no 16). Taken together such finds may suggest more than simple loss or discard and may hint at ritual activity associated with the banks of the river; just as in the case of Bronze Age artefact distributions, they suggest we should be wary of too simple a distinction between riverine and dry-land finds.

Turning briefly to medieval and later discoveries from the river, mention may be made of a fine socketed iron spearhead (PMAG: 191) found in the River Tay directly below Kinclaven Castle (King 1991, 72). The spearhead has recently been dated to the late 11th to early 12th century AD as a result of radiocarbon dating of a fragment of wooden shaft still present in the socket. Another weapon find was what was described as a ‘cutlass’ from the River Tay at Newburgh, said to have been donated to Elgin Museum in 1913 but now no longer traceable in their collections.

<table>
<thead>
<tr>
<th>Tools</th>
<th>Weaponry</th>
<th>Personal ornaments etc</th>
<th>Domestic vessels (pottery etc)</th>
<th>Boats/boat parts</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesolithic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
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</tr>
<tr>
<td>Late Neolithic/Early Bronze Age</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓?</td>
</tr>
<tr>
<td>Middle/Later Bronze Age</td>
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<td>✓</td>
<td>✓</td>
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<td>✓</td>
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</tr>
<tr>
<td>Medieval</td>
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<td>✓</td>
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</tr>
<tr>
<td>Post medieval/modern</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓?</td>
</tr>
</tbody>
</table>
Yet another chance find is the leg of a bronze cauldron or pot discovered in the bed of the river at Thistle Bridge, Luncarty in 1914 by tinkers (also responsible for the discovery of the bronze socketed axe described above – although in that case the finders were described as pearl fishers!). The object was eventually presented to Perth Museum in 1926, where it was initially accessioned as a bronze ingot (Tylecote 1974). Chance also accounts for the discovery of a lead seal bearing the arms of Orange-Nassau found at Aberfeldy (NMS: H.NM 264). As with prehistoric artefacts, the details of the circumstances of its discovery are frustratingly sparse. As a general observation then, it may be noted that as in the case of the Bronze Age record, chance lies behind most of the discoveries; metal detecting has not significantly added to the inventory of finds from the banks or inter-tidal zone. A copper alloy crucifix reliquary found by a detectorist on Carpow Bank (Hall 2007) is a rare exception and may be interpreted as a later reflex of votive deposition (ibid, 83–6).

A rare ceramic find from the river is a late-medieval, glazed, redware jug with rod handle (PMAG: 1993.427.1) dredged from the Tay at Perth (King 1993b, 103). While the circumstances of the Tay find are uncertain, it recalls the splendid cache of near-intact post-medieval earthenware jugs discovered in the Forth near Throsk, plausibly interpreted as a cargo lost following a capsize or similar accident (Caldwell & Dean 1992, 31).

An unusual discovery is the wheel (PMAG: 2007.195) found in the west bank of the River Tay, immediately south of Inchtuthil. Composed of four planks made from Scots pine and fitted with an iron tyre, the wheel is likely to date to the 18th century AD. It was found protruding from river gravel after flooding in 1996 – not only a reminder of the power of the river when in spate but also the potential for artefacts to be removed from their original depositional context through erosion of the banks and adjacent flood plain. As ever, the few reasonably well-provenanced finds flag up just how little we know about the detailed context of the majority of artefacts retrieved from the Tay, and a full review of the medieval and later discoveries would also need to take account of sites and finds from the adjacent haughlands, particularly around Perth itself. For example, an early medieval sword was found during construction work in the mid-19th century in the Watergate, Perth in what has been identified as an area of low-lying riverbank before the town became established (Hall et al 2005, 277 and note 12). On the other hand, an iron spearhead and a fragment
of a spur found in Tay Street, Perth may have been actual medieval losses or deposits into the river, as Tay Street was constructed in the 1870s on reclaimed land (Bowler (ed) 2004, 120 (Appendix 8 on CD)).

In summary, although not especially large in quantity, the medieval and later record of finds from the Tay is marked by a greater variety of types that may be more in keeping with an interpretation of accidental loss or disposal in the course of more mundane activities on or alongside the river.

12.5 Discussion: patterns of discovery?
By considering all the artefacts recovered from the Tay, we may be able to shed more light on patterns of retrieval of the Late Bronze Age artefacts. This variety has a bearing on the interpretation of the Late Bronze Age finds since the presence or absence of a range of artefacts may strengthen the possibility that the distribution of a particular type actually reflects an ancient pattern of deposition rather than being the result of biased recovery. It has already been observed that this seems likely with the swords given their focus in one area of the river and their condition. They form a sharp contrast with the finds of socketed axes from the stretch of river north of Perth. Given that both stretches were being worked using traditional methods, it is difficult to account for this pattern of recovery if material was reaching the riverbed randomly.

In the case of the Tay, how then are we to account for this pattern of recovery? Theoretically some feature of the hydrology of the river could have promoted concentration of relatively large objects such as swords in these areas at the expense of other types. This requires further investigation but seems unlikely. Another possibility is that differences in economic activity on the river have promoted differential recovery. This again seems unlikely because, as noted above, broadly comparable contact with the river-bed has resulted in rather different patterns of recovery. As we know relatively small objects such as axeheads were being recognised and retained in one stretch, it seems unlikely that swords were being kept selectively at the expense of smaller artefacts on another. However, it is possible that changes in the dredging regime – for example, to accommodate modern navigation – have
altered the overall pattern of recovery downstream from Perth (as is known for other rivers, including the Thames). Or perhaps there was something about the topography of the river which promoted a concentration of activity in this area at various times in antiquity? As with other finds from wet locations, the likelihood is that the metalwork has accumulated in the river episodically. Although the amount of Bronze Age metalwork from the Tay is not great compared with rivers in England, the presence of the Friarton dirk and the range of Gündlingen swords show deposition at the beginning and the end of the sequence of Bronze Age river finds. Whatever the ‘attraction of the place’, it clearly persisted over a considerable time.

We believe a strong case can be made for seeing these finds of Late Bronze Age metalwork from the river – at the very least, the swords – as the result of votive offerings rather than day-to-day activities or casual losses (Figs 169–70). And we should not forget that it may have been just such a craft as the Carpow logboat that was used as the floating vehicle or platform from which to cast votives in the river. But we should not close our minds entirely to more prosaic explanations. Elcho and Inchyra were ferry crossing points in medieval and later times, and the crossing of the Tay–Earn confluence near Abernethy was on a key pilgrimage route (Fig 170). Nor should the possibility of accidental loss, as a result of capsize or wreck, be entirely overlooked. In our own minds though, seen against the body of evidence for deposition of fine metalwork in wet places such as bogs, rivers and lochs, we are confident that the concentration of swords warrants explanation in terms of votive offerings. And of course, there is no reason why some of these explanations should be mutually exclusive. Work on understanding the Late Bronze Age use of the River Tay (particularly between Perth and Newburgh) from a material culture perspective continues and a future contribution will seek to set that material in its regional, national and international contexts – including the notion of the Tay as a nodal point for networks of contact, trade and exchange.