



## **ARO27: The Artefacts from Castle Midden and Back Walk, Stirling**

**By Bob Will**

**With contributions by Iain Banks, Donal Bateson and Dennis Gallagher**

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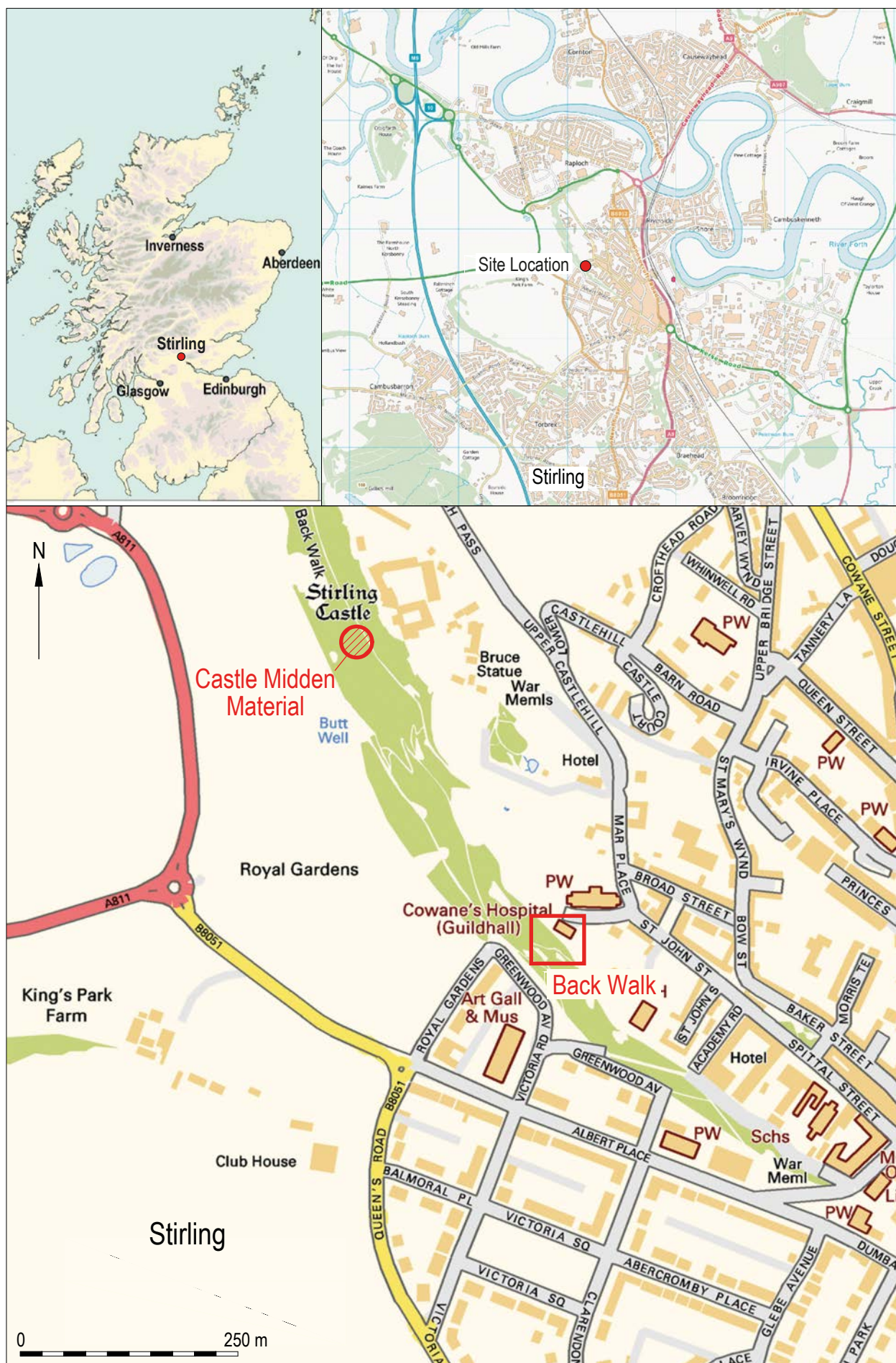
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Figure 1: Location of the sites.

## Summary

This publication gives the results of a small post-excavation project undertaken on a range of artefacts recovered from two sites: an eroding midden located in woods immediately to the west of Stirling Castle and from repair work to the Back Walk footpath on the western edge of the medieval burgh, both in Stirling. The material from the midden was recognised and initially recovered by local volunteers. Over 2000 artefacts were recovered and they included medieval and post-medieval pottery, a misshapen musket ball, as well as modern glass and ceramics. A surprising find was a WWI Austrian army belt buckle. The artefacts reveal information on the lives of the people of Stirling from the medieval period to modern times.

## Introduction

Interventions by local volunteers and pupils from Allan's Primary School over a number of years on an eroding midden in woods immediately west of Stirling Castle led to a programme of artefact recovery organised and supervised by Dr Murray Cook, the Stirling Council Archaeologist. The eroding midden covered an area approximately 100 m in length and the artefacts were recovered in 5 m and 10 m grid squares. It is a Scheduled Monument, and the interventions were in advance of a path upgrade for which Scheduled Monument Consent was granted.

The archaeological watching brief on the Back Walk, which was built in the eighteenth century, was undertaken in 2015 (Green 2016, 6), following consultation with the Stirling Council Bridges Team and the Stirling Council Archaeologist. The work consisted of the consolidation and repair of a section of the Back Walk footpath, which required the removal of a 36 m length of the retaining wall that supports the footpath. After its removal, the build-up of stratigraphic deposits was revealed under the path. Once the deposits were recorded the wall was rebuilt on a new concrete foundation.

An assessment was undertaken of the artefacts both from the Back Walk and the material from the Castle midden. It concluded that they comprised a significant assemblage, and that further work would reveal information on the lives of the inhabitants of Stirling, as well as

evidence for the development of the burgh, and the town's relationship with the Castle.

## Location

Both the Back Walk and the Castle midden are located in steeply sloping woodland on the west side of the north/south oriented volcanic ridge that Stirling Castle and the medieval burgh of Stirling are built on (Figure 1). The Back Walk consists of a series of paths that wind their way up through the woods and along the top of the ridge allowing access to the burgh. The Castle midden deposits are located in the woods immediately below the castle walls, while the section of the Back Walk subject to the watching brief was located adjacent to Cowane's Hospital and the Church of the Holy Rude at the rear of 47-49 St John Street (Plates 1 and 2). The section of the Back Walk path that was investigated lies at approximately 60 m OD.



*Plate 1: Back Walk along exterior of city wall with The Cowane Hospital in the background.*



*Plate 2: Damage to the Back Walk prior to reconstruction.*

## Historical Background

Stirling Castle is built on the summit of the volcanic crag and its tail outcrop was used for the



development of the medieval burgh of Stirling in the twelfth century. The area of the 'Top of the Town' closest to the castle was the medieval core of the burgh, and the medieval street plan survives, along with the Church of the Holy Rude, the Tolbooth and market place and several surviving sixteenth century town houses. The Back Walk paths that wind up the steep slopes of the volcanic crag on the west side of the town were built between 1724 and 1791 by William Edmonstone, Laird of Cambuswallace. The paths run at the foot of the old burgh walls up to the castle then continue around the base of the Castle Rock and back up to the Old Town of Stirling. The repaired section of the Back Walk was located behind Cowane's Hospital next to the Church of the Holy Rude, and on the perceived line of the Stirling town wall, which was constructed sometime in the sixteenth century.

## Post-excavation strategy

The objective of the post-excavation analysis was to extract the full extent of information relating to the range of artefacts and materials recovered. The main questions addressed the historical periods represented by the artefacts, the use and date of the development of the midden, and how the artefactual evidence related to other material recovered from the town and castle.

## Artefacts and samples

A wide range of artefacts and materials were recovered including pottery, glass, animal bone and shells as well as a few metal objects (Table 1). The largest group of material consisted of pottery, and a wide range of fabrics were present that date from the medieval period through to the twentieth century. The largest group consists of modern ceramics and the artefacts are described below.

Material	Number	Comments
Bone		
Polished bone handle	1	With inscription possibly embroidery or lace making bobbin
Metal		
Coins	3	1 modern
Musket ball	1	Badly distorted
Other metal artefacts	5	Includes belt buckle
Ceramic materials		
Clay tobacco pipes	186	Mainly pipe stems but 23 bowls or bowl fragments including 4 bowls late seventeenth century

Material	Number	Comments
Pottery		
Brick/tile	35	Includes tile drains
Scottish medieval redware	109	Jugs and cooking pots along with sherds with a white slip
Scottish white gritty ware	28	Jugs and cooking pots
Yorkshire ware	6	Glazed jug sherds
Medieval floor tile	1	With yellow/orange glaze
Scottish post-medieval oxidised ware	117	Mainly jugs and storage jars
Scottish post-medieval reduced ware	132	Mainly jugs and storage jars although there was a skillet handle
Rhenish stoneware	3	Strap handle
Modern white earthenware	918	Range of types of decoration
Modern saltglaze	4	From plates with moulded design
Modern red earthenware	82	Mainly black or brown glazed jars
Modern red earthenware	60	Slip-lined dairy bowls
Modern industrial stoneware	13	Storage jars
Glass		
Glass - green/black bottle	79	Modern rim sherd very fragmentary
Glass - clear window and vessel	91	Modern
Organic materials		
Animal bone	148	Very fragmentary includes a tooth
Oyster shell	165	Mainly fragments
Total	2187	

Table 1: Range of artefacts

## Metal Objects

### Lead Musket Ball (*not illustrated*)

One badly distorted lead musket ball weighing 27g was recovered from the midden. It is wedge-shaped possibly from hitting the gap between two stones in a wall. The force of the shot drove the ball into the gap while still retaining part of its curved circumference. Musket balls with a similar weight have a diameter of approximately 19 mm and generally date from between 1600-1800AD (Portable Antiquities Scheme 2017).

### Iron Knife (*Figure 2*)

A small knife with a metal handle and a broken blade was recovered during the watching brief. The handle and blade appear to be made from one piece of metal. Its overall length is 115 mm,

with the surviving section of the blade measuring 35 mm long and 17 mm wide. The handle has a rounded end and is 80 mm long and tapers slightly from 20 mm wide down to 15 mm at the blade. The handle is 5 mm thick with flat sides. The knife is heavily corroded and the broken blade has split and fractured and may have tapered from the back of the blade to the cutting edge. Due to surface corrosion there is no evidence for decoration of grips on the handle or any identifying features. The knife is very similar in appearance to a modern medical scalpel and was recovered close to Cowan's Hospital. Although Cowan's Hospital main use was as a poorhouse, medical procedures may well have taken place there, or it could have come from the nearby Argyll's Lodging which was used as a military hospital into the twentieth century.

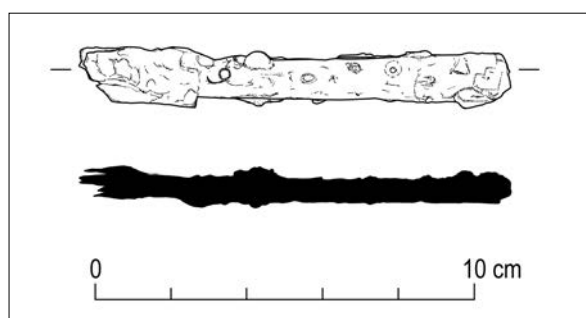


Figure 2: Iron knife.

### Austrian Imperial First World War military buckle (Figure 3, Plate 3)

By Iain Banks, University of Glasgow

This flat buckle with an impressed double headed eagle design is made of brass, folded the top and bottom to form the sides to the buckle, and with holes to attach the belt and catch. It measures 65 mm by 48 mm by 14 mm reducing to 7 mm, and the metal is approximately 1 mm thick. The buckle is in poor condition and badly tarnished, and is slightly bent and battered. On the back of the buckle, on the right hand side when worn, there are holes on the sides for a bar and catch, while at the other side there are two marks where a bar would have been soldered in place. The belt would have been attached to the soldered bar and fastened with the hinged bar which would have had two prongs to fit into holes in the belt.

There is a great deal of similarity between Russian and Austrian buckles from the WWI, both have a double headed eagle with spread wings as the central motif with a shield on its chest with a

sword in one talon and an orb in the other. But the symbols on the shield on the eagle's chest are identifiable. The shield on the eagle's breast is the Austrian Empire's coat of arms, which divides into three. The left hand side is a lion rampant for Habsburg, the central section would have had red/white/red horizontal bands for Babenberg (current Austrian flag), and the right hand side is a diagonal stripe with three white eagles, which is the coat of arms of Lorraine. These are the core areas of the Habsburg dynasty, and go back to the Dark Ages and the Carolingians. Habsburg was in what is now part of Switzerland, Babenberg was in Franconia (now Bavaria), and Lorraine was Lothringia.

The belt buckle seems to be an example of a standard issue for Austrian enlisted troops (but not Hungarian), rather than for an officer, as their buckles tended to be a more substantial. Buckles of this type seem to have been standard issue for all troops considered to be part of the Austrian empire, rather than the Hungarian, including Czechs, Croats, Slovenes, Bosnians, etc., but not Slovaks (Hungarian), or Serbs as they were not part of the Empire.

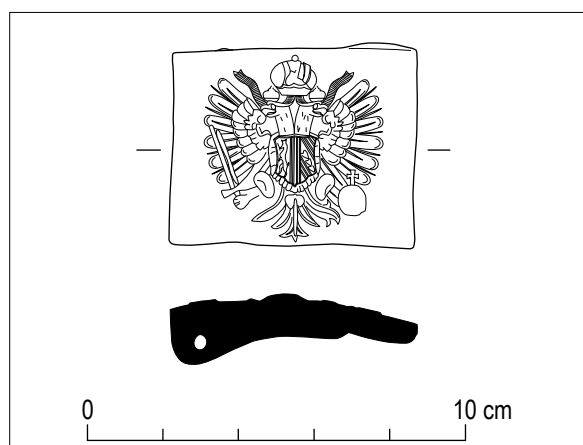


Figure 3: Austrian Imperial First World War military buckle.



Plate 3: Austrian Imperial First World War military buckle.

## Coins

By Donal Bateson, Hunterian Museum, University of Glasgow

Three copper alloy coins were recovered from the assemblage two from the Castle midden and the other from the Back Walk (Table 2). One of the Castle midden coins was a George II (1729-1760) farthing and probably dates to the period 1730-1750 while the other was a Queen Elizabeth II halfpenny. The coin from the Back walk could not be identified but looked to be a hammered piece possibly dating from the seventeenth century.

Coin	Weight (g)	Diameter	Description
Midden, 30 -35 m	3.6	22 mm	Copper alloy George II farthing? (1730 -1750)
Midden, 55-60 m	1.8	17 mm	Copper alloy Elizabeth II halfpenny (1971- 1984)
Back walk, SF 96	1.5	19 mm	Copper alloy seventeenth century hammered coin, farthing?

Table 2: Description of coins

## Pottery

By Bob Will

1475 sherds of pottery, weighing 8336 g, were recovered from the interventions and were the most commonly recovered artefact. The assemblage includes a range of fabrics dating from the medieval to modern periods but the largest group consists of modern white earthenwares. Sherd numbers and fabrics present are summarised in Table 3. All the sherds were examined, weighed and recorded according to guidelines and standards produced by the Medieval Pottery Research Group (MPRG 1998 and 2001). No scientific analysis has been undertaken.

Fabric Types	Total Sherds	Rims	Bases	Handles	Body Sherds	Weight (g)
Scottish medieval redware	112	7	6	1	99	784
Scottish white gritty ware	28	3	0	0	25	287
Yorkshire ware	3	0	0	0	3	22
Medieval floor tile	1	0	0	0	1	193
Scottish post-medieval oxidised ware	117	19	11	4	82	1639
Scottish post-medieval reduced ware	132	9	2	0	121	1567
Rhenish stoneware	3	0	0	1	2	36
Modern white earthenware	918	105	30	5	779	2704
Modern white salt-glaze	4	3	1	0	0	23
Modern red earthenware	82	7	1	4	70	356
Modern red earthenware slip-lined	62	11	5	0	46	507
Modern industrial stoneware	13	2	1	0	10	218
Total	1475	166	57	15	1238	8336

Table 3: Pottery types

## Medieval Pottery

143 sherds that date to the medieval period were recovered and comprise two main pottery types found in medieval Scotland, Scottish Medieval Redwares (SMR) and Scottish White Gritty Wares (SWGW) along with some imported sherds from Yorkshire. The largest group was SMR, which compares well with other assemblages from Stirling, and dates from the thirteenth to fifteenth century, and represent mainly jugs and cooking pots or storage vessels.

### Scottish Medieval Redwares (SMR)

112 sherds of Scottish Medieval Redware, weighing 784 g, were recovered and identified as the largest group of medieval pottery within the assemblage. SMR is a general name to describe a group of similar oxidised orange or red coloured fabrics that are found throughout Scotland (Haggarty, Hall and Chenery 2011), and they comprise mainly cooking pots or storage jars, jugs and bowls. The largest assemblages of Scottish Medieval Redwares have been recovered from excavations in Aberdeen, Perth and other east coast burghs, which along with kiln sites at Rattray near Peterhead and Stenhouse near Falkirk have led to the use of the fabric name East Coast Redware (Hall 1998). Generally, these fabrics are thought to date from the thirteenth to fifteenth centuries although the recent publication of the Perth High Street excavations has identified Scottish redware fabrics from the mid to late twelfth century (Hall, Haggarty and Vince 2012). The kiln site at Stenhouse is the closest and only excavated kiln site for the medieval period in the area, although there are historical references to a late medieval pottery site at Goose Croft in Stirling. Goose Croft was close to the Thistle Shopping



centre and the name survives as Goosecroft Road (Harrison 2002). There is a wide variation in the fabrics of this ware from crude and rough to well-sorted thin-walled and well-made vessels. The firing conditions also varied from oxidised to reduced or partly reduced. These variations may reflect different kilns, or manufacturing sites, or chronological differences.

The rims, include one with white slip on it (SF 202, Figure 4), may be from cooking pots or storage jars. Another of the rims is heavy and square in shape (SF 81, Figure 4). It has sooting and fuming marks on the exterior, which would suggest that it was used for cooking, and it could date from the thirteenth century. Redware cooking pots are not common even in Perth where redware is the main local medieval fabric.

The remaining four rim sherds are from jugs, and include a simple pinched or pulled spout. One upright rim may have been damaged in the kiln and has a broken edge and a glaze scar where it was stuck to another pot during firing, but it was still useable. Two of the remaining rims flare outwards slightly and form a slight lip possibly for the reception of a lid. A grooved strap handle for a jug was also recovered (SF 201, Figure 4). Four

bases sherds were recovered, all with flat bases rather than angled, and one has the remains of white slip on the interior. The sherds from jugs tend to have a clear glaze, which on the red clay body produces a brown or dark green glaze. Apart from glaze, the jugs were generally not decorated, although one unusual sherd was a jug rim with an applied bridge spout and applied pellet decoration (SF 9, Figure 4).

Three sherds had a white slip, presumably to mask the red colour of the fabric, and this has been noted on sherds from other sites in Stirling, including Station Square and the Tolbooth (Will forthcoming, Will and Addyman 2008). The use of white slip on red fabrics was first noted in Perth where the locally made pots tend to be in an orange/red fabric but were competing with the white gritty wares (Hall, Haggarty and Vince 2012). One of the sherds from Stirling is from a jug where the white slip was applied as a coating before the vessel was glazed to lighten its colour. In Perth, vessels with white slip are more common in the thirteenth and fourteenth centuries and appear to fall out of use in the fifteenth century (MacAskill et al. 1987). The remaining sherds of this ware from Back Walk include a base sherd and a rim from a storage jar.

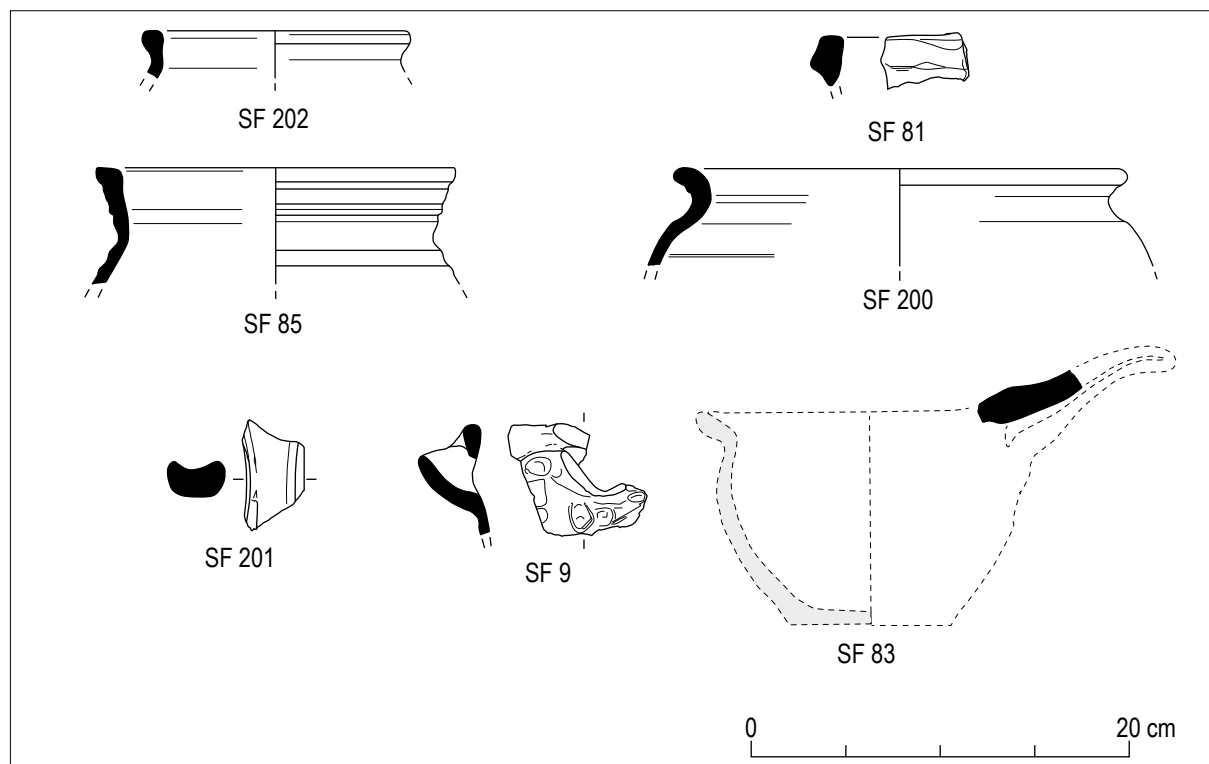


Figure 4: Pottery, Scottish Medieval Redwares – SF 9 jug rim with applied bridge spout and applied pellet decoration, SF 81 and SF 202 rims and SF 201 jug strap handle. Scottish Post medieval Oxidised Wares – SF 83 skillet handle fragment, SF 85 rim with grooved decoration and SF 200 rim sherd.

### Scottish White Gritty Ware (SWGW)

28 sherds were recovered in Scottish White Gritty Ware fabrics. These fabrics tend to start a little earlier than the SMR and date from the late twelfth century but remain in use into the later fifteenth century. This small assemblage contains glazed sherds from jugs and unglazed sherds from storage jars or cooking pots. The fabrics are quite mixed with thin-walled sherds with pronounced rilling or throwing marks, which could date to the fourteenth century and thicker sherds with a full green/brown coloured glaze which would date to the end of the industry in the fifteenth century. Different firing methods and reduced or oxidised conditions gave different colours to the glazes and fabrics: reduced conditions caused the fabric to go grey or black in colour. The different firing methods combined with the range of vessels and fabrics suggest the assemblage derived from different kilns and at different times.

### Yorkshire type wares

Three body sherds were recovered that were probably imported from the Yorkshire area of England. The sherds are all from jugs: one has a white coloured fabric and a shiny light green glaze with a brown vertical stripe, the second an orange fabric with a bright green glaze, and the third with a bright green glaze has a fabric with a grey core and an orange interior. Most Yorkshire vessels tend to have a white fabric and green glaze, although red coloured fabrics are known. Yorkshire wares date from the mid-twelfth century to the mid-thirteenth century (Mainman and Jenner 2013) and were traded into Scotland in significantly large numbers. The vessels are often highly decorated with applied decoration, stamps and motifs, which were copied by potters in Scotland.

### Post-medieval fabrics

Post-medieval fabrics form one of the largest groups of pottery (249 sherds) in the assemblage and consist of mainly Scottish Post-Medieval Reduced Wares (SPMRW) and Scottish Post-Medieval Oxidised Wares (SPMOW). These fabrics were first classified at Stirling Castle (Haggarty 1980) and date from the late fifteenth to the eighteenth century. The only published kiln site in Scotland is at nearby Throsk on the banks of the River Forth to the east of Stirling (Caldwell and Dean 1992), but other kiln sites making similar

vessels are likely to have been in operation across Scotland. Historical research at Throsk has uncovered details about the potters and their families along with their links to other parts of Scotland (Harrison 2002). It has been suggested that it was the draining of the carse that led to the development of pottery production, as the carse clays were made more easily accessible (Haggarty and Lawson 2013). The original work in 1977-1978 at Stirling Castle recovered a number of platters and wide rimmed bowls with stamped decoration around the rim and it was suggested at the time that although they were unusual they were probably locally made or possibly imported by an English garrison (Haggarty 1980, 39). Since that report was published no other examples have been found, either at the kiln site at Throsk, or from excavations in the town. This would suggest that they were imported into the castle possibly by an English garrison.

### Scottish Post-medieval Reduced Wares (SPMRW)

132 sherds of Scottish Post-Medieval Reduced Ware were identified. These vessels tend to be thicker-walled than medieval wares with a full green glaze. Their fabric is smooth with few inclusions and is reduced to grey or black in colour. The thicker, reduced wares tend to be used for large jugs or storage vessels and are often decorated with an incised combed wave pattern on their necks or shoulders. Two of the sherds from the castle midden had this type of decoration (not illustrated). Three of the body sherds are quite thin and may be slightly earlier than the others, possibly dating to the late medieval period.

### Scottish Post-medieval Oxidised Wares (SPMOW)

117 sherds of Scottish Post-Medieval Oxidised Ware were also recovered, and like the reduced version date from the late fifteenth to the eighteenth century. Scottish post-medieval oxidised wares while sharing similar traits with the reduced wares have thicker vessel walls than medieval wares. The firing conditions are generally more variable, with vessels and sherds often partly reduced with grey or black patches in a red or orange fabric. The glaze also tends to be patchy and thinner than the full glaze on the reduced wares. The oxidised wares are found in a wider range of vessels and tend to be fine table

wares; platters, bowls, skillets, fish dishes and money boxes, or *pirlie pigs*, as well as the more common jugs. The best range of these vessels had been recovered from the kiln site at Throsk and from Stirling Castle.

The sherds from the midden and Back Walk represent a range of vessels including a skillet (SF 83, Figure 4). The skillet or handled frying pan was identified by a rim sherd with part of the handle. Skillets have quite a distinctive straight handle that joins the rim and then extends out from the body of the vessel. Skillet handles are often folded over so that they are double thickness, which seems to be a Scottish trait. Similar vessels are known from the nearby kiln site at Throsk (Caldwell and Dean 1992, 19 and 23) and from Stirling Castle (Haggarty 1980, 44). Another rim sherd was from a large storage vessel with a wide rim and a short neck but with grooved decoration (SF 85, Figure 4). Similar vessels are known from the kiln site at Throsk where they often have two opposing handles attached to the neck or upper body. Another rim sherd is from a large globular bowl with an out-turned rim which is again quite a common vessel type (SF 200, Figure 4)

### Rhenish Stonewares

Three body sherds in stoneware fabrics were identified. These vessels were made in large numbers at several pottery sites along the Rhine and began to be imported into Scotland from the mid-fifteenth century, becoming more common in the sixteenth and seventeenth centuries. The three sherds consist of a small brown glazed strap handle (20-30 mm in width) from a drinking mug or bottle, and a thick speckled brown glazed body sherd from a bottle or flagon with a scar on the glaze, which may suggest the attachment for a handle or rim. The third is a body sherd in a pale cream fabric with clear glaze, with a small brown patch that could be from a drinking mug or flask, possibly from the Siegburg pottery near Bonn (Hurst et al 1986, 176-184).

### Modern Pottery

The largest group of pottery (1079 sherds) date to the modern period and represent the industrial potteries of the nineteenth and early twentieth centuries. Many of the sherds are small and abraded, which is consistent with being in midden dumps where the sherds have been

broken and moved. With the industrialisation of pottery manufacture, similar vessels and designs were made at a number of factories throughout Britain, with a number of factories noted in Scotland but mainly in the Central Belt area, including Bo'ness near Falkirk. A small arts and crafts-style pottery also operated at Dunmore near Throsk in the early twentieth century. The different factories used marks to identify their wares and to date their designs, which were often subject to copyright laws.

### White Earthenwares

The largest group consists of white earthenwares (790 sherds) and represent cups, saucers, plates, planters and general tablewares. The technique of producing a pure white glaze was developed in the 1790s and as it quickly dominated the market it was adopted by most pottery factories. Vessels are decorated in a variety of techniques including hand-painting, transfer-printing and sponge-printing. The earliest use of transfer printing was c. 1795 and it soon became the dominant form of decoration, with blue being the most common colour. Most of the sherds recovered are undecorated body sherds and no manufacturer's marks were present.

### White Salt-glaze

Amongst the white earthenwares were four sherds in a white salt-glaze identified from plates with a moulded design. The sherds have a slightly dimpled surface almost like orange peel. Salt-glaze was developed in the mid-eighteenth century as a way of producing white coloured vessels, but was largely replaced by the development of white earthenware in the late eighteenth century.

### Pearlware

In addition to salt-glazed sherds, a small base sherd was recovered in a 'pearlware' type glaze that was possibly from a bowl. These vessels are identified by a blue tinge to the clear glaze. This is often seen on the underside of the base where the glaze is slightly thicker. Pearlware was another technological step on the way to developing white earthenware in the late eighteenth century. As it continued to be made for a considerable time after white wares began to dominate the market, the presence of sherds cannot be used to date an assemblage, and they can be quite difficult to identify.



## Red Earthenwares

Red earthenwares were also represented and fall into two categories: slip-lined bowls and brown or black glazed vessels. The slip-lined bowls are large bowls with wide rims and narrow bases that are glazed on the inside with usually a white slip with a clear glaze on top, although patches of light yellow or green sometimes occur. The exterior of the vessels are rarely glazed. These vessels seem to have been used in the dairy to separate the cream from the milk and were made at a number of small potteries around Scotland in the nineteenth century.

Several sherds were recovered with slip-trailed decoration, this is where a different coloured solution of liquid clay 'slip' is used to decorate the vessel, either with simple designs or sometimes writing and mottos. This method of decoration was used from the post-medieval period to modern times, and these sherds may date to the late eighteenth or nineteenth century. Again this decoration was quite common and used by a number of potteries and factories.

## Industrial Stoneware

Surprisingly, only 13 sherds of Industrial stoneware were recovered. These type of vessels were made in vast quantities in several factories including Glasgow, and Portobello in Edinburgh, in the late nineteenth and early twentieth centuries, and were used for a variety of products containing ink to ginger beer. The main vessel forms are bottles, storage jars and flagons, and often have the name of local shops and businesses on them. The sherds from the midden were mainly from storage jars and included one lid, none of which were decorated.

## Medieval Floor Tile (*not illustrated*)

One fragment of a medieval floor tile (94 mm by 84 mm by 42 mm and 194g weight) was recovered during the watching brief at Back Walk. The tile has a red fabric with a yellow/brown glaze possibly over a white slip on the upper surface. Floor tiles have been recovered from Stirling Castle where the sixteenth century Chapel Royal is thought to have had a tile floor as well as other buildings in the Castle (Haggarty et al 2011). Fragments of similar floor tiles have also been recovered from excavations at the Blackfriars site in the town which probably date from the thirteenth century (Will forthcoming).

## Discussion

Not surprisingly given the nature of the recovery of most of the material the assemblage covers a wide date range from the medieval to modern period and provides a good indication of the type of pottery available within Stirling. The medieval sherds comprise the two main fabric types found in Scotland with slightly more redwares than whitewares, which is similar to material recovered from other excavations in Stirling where the redwares are more common. The post-medieval fabrics again consist of the main fabrics found in Scotland, but probably came from the nearby kiln site at Throsk on the River Forth (Caldwell and Dean 1992).

## Clay Tobacco Pipes (*Plate 4*)

By Dennis Gallagher

The clay tobacco pipe fragments from the Back Walk and midden consist of 185 fragments, mainly of post-1850 date, but the assemblage includes four bowls from the seventeenth century.

Three of the seventeenth-century bowls are of the elongated biconical form of c. 1660-80 date (Plate 4, Nos 1-3). The incomplete nature of the bowls hinders identification of the maker and place of manufacture. Pipe making was established in Stirling in the 1660s and continued for the remainder of the century (Gallagher and Harrison 1995). The spurred bowl (Plate 4, No 4) is an English form of late seventeenth-century date.

The vast majority of the pipe fragments are of a post-1850 date. There was no known pipe maker active in Stirling in the nineteenth century, an unusual situation in that period. Only one maker's mark has been identified, a complete stem of a Burns Cutty by Ralph Hall of Edinburgh (Plate 4, No 5a and 5b). Hall is recorded as a pipemaker in the Edinburgh directories for 1866-70 at 1 West Norton Place. There are no fragments with maker's marks from Glasgow. This is unusual as Glasgow was the largest pipemaking centre in Scotland and the lack of such pipes may suggest that the present group has many pipes from smaller production centres.

The group includes a number of designs that were produced by many pipemakers in the nineteenth century. The Burns Cutty (No 5), which appealed



Plate 4: Clay tobacco pipe fragments: No's 1-3 seventeenth century bowls, No 4 spurred bowl late seventeenth century, No 5a and 5b Burn's Cutty complete stem, No 7 late stem with secondary use, No 9 a bowl fragment with a thistle leaf design, No 15 a bowl fragment with a barrel design, No 20a and b Dutch pipe bowl with a maker's stamp of a windmill.

to the sense of Scottish identity, became a very popular pipe in c. 1850 and remained so for the remainder of the century. The Thistle pipe (Plate 4, no 9) also was designed to appeal to national pride; the leaf would have risen from a thistle flower on the spur. The Thorn pipe (No 14) was also very popular and was produced by many makers. Davidson of Glasgow produced a Thorn pipe as mould number 190 although the present fragment, with grooved lines between the 'thorns' is more like their 'French Thorn', mould number 170 (Gallagher and Price 1987, 130). Less common is the Barrel design (Plate no 15). This appears as mould number 220 in the catalogue of Davidson of Glasgow (Gallagher and Price 1987, 136).

No 20 (Plate no 20a and b) is a Dutch pipe with a circular maker's stamp of a windmill. Variations of the windmill stamp were employed by Gouda makers from the seventeenth century until 1902 (Duco 2003, 147, no 311). The pipe has a textured stem which provided a better grip for the smoker (cf. Duco 1987, 118, no 606). This may be a product of Gouda where the factories, like Glasgow, had a large export trade and the occasional examples are found in Scotland.

No.	Description
1	Bowl, bottered, mould imparted W/? on the side of the base; possibly an Edinburgh product, 1660-80; unstratified (illustrated).
2	Bowl fragment, bottered and finely milled, circular makers initial on surviving side of base, possibly a letter C; possibly an Edinburgh product, 1660-80; unstratified (illustrated).
3	Heeled bowl, bottered rim; c. 1660-80; 15-20 mm (illustrated).
4	Bowl fragment, rim and heel missing; English, late seventeenth-century (cf. Atkinson and Oswald 1969, 180), bowl form 19; unstratified (illustrated).
5	Stem fragment marked with incuse R.HALL EDINR/ BURNS CUTTY; c 1866-70; 15-20 mm.
6	Complete stem and lower bowl, latter with a leaf form protruding forward from its base; nineteenth century; 20-30 mm.
7	Stem and small part of a large bowl, stem c. 15 mm thick, the end of the stem shaped for secondary use, a groove cut along the upper seam of the stem; nineteenth century; 30-40 mm (illustrated).
8	Bowl upper wall fragment with fluted decoration; nineteenth century; 20-25 mm.
9	Bowl lower wall fragment with a thistle leaf in relief rising from the stem; post 1850; unstratified (illustrated).
10	Bowl wall fragment, fluted; nineteenth century; 70-75 mm.

Table 4: Catalogue of diagnostic clay tobacco pipe fragments.



No.	Description
11	Bowl wall fragment, abraded relief foliage decoration; nineteenth-early twentieth century; 15-20 mm.
12	Bowl fragment with oval stamp facing smoker, any detail totally obscured during finishing; nineteenth century; unstratified.
13	Bowl fragment with two parallel lines in relief, part of a design on the bowl facing the smoker; 45-50 mm.
14	Stem fragment with moulded protuberances, Thorn; nineteenth century; 30-35 mm.
15	Bowl wall fragment with five wide horizontal bands and two narrow vertical bands, Barrel design; nineteenth century; 30-35 mm (illustrated).
16	Fragment of spurred bowl; 40-50 m.
17	Spurred fragment; nineteenth century; 30-35 mm.
18	Abraded stem with incuse 2(?)04; nineteenth century; unstratified.
19	Stem fragment with stylised stem with leaves along upper seam; nineteenth century; unstratified.
20	Lower bowl and stem fragment, spurred, circular stamp of a windmill on bowl facing smoker, the stem has multiple vertical bands; Dutch, nineteenth century; unstratified (illustrated).

Table 4 continued: Catalogue of diagnostic clay tobacco pipe fragments.

### Bone handle (Figure 5)

This polished bone handle has the inscription *Qualité Supérieure* ('Superior quality') along one side. Although the handle is broken at one end its present length is 99 mm. The intact end tapers to a point. The shaft of the handle has a maximum diameter of 10 mm, but this reduces to 4 mm at the broken end. There is also a slight curve to the handle which may be a natural curve on the bone. Although the implement has been polished there are areas where there is some wear and the structure of the bone is visible as well as hairline cracks.

The identity and function of this implement is uncertain, bone was used in fine handcraft activities such as for sewing. It was also used for crochet hooks, knitting needles, lace-making bobbins, as well as handles for other related tools. The French inscription suggests the world of cosmetics or fine needlework or lacemaking. It is possibly the handle is from a stiletto awl, these were used to make eyelets in needlework. Stiletto awls often have bone handles with a metal point attached at one end with a metal collar or ferrule and this could explain the break where the handle is narrower.

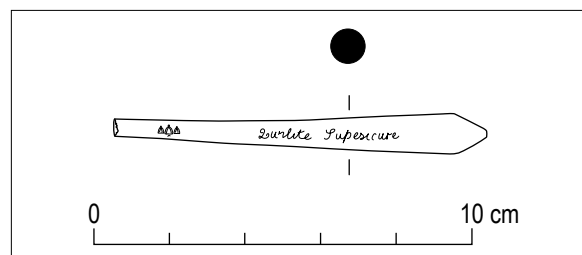


Figure 5: Polished bone handle.

### Glass

All the glass was recovered from the midden and generally appears to be modern, dating to the late nineteenth or twentieth centuries. The glass can be divided into two categories window glass and vessels (bottles or jars). The window glass is generally clear and of uniform thickness, which would suggest a recent date. The use of dark green or black glass for bottles began in the post-medieval period, but the sherds that have been identified are too small and fragmentary to provide information on shape and size of the bottles, or their date. A single rim sherd from a dark green bottle is too small for firm dating but could be mid-eighteenth century.

### Animal Bone

The 148 animal bones are very fragmentary, but they include several bird bones. Present are examples that have been cut with a saw, indicating butchery. The use of a saw in animal butchery is usually regarded as a post-medieval or modern practise (Catherine Smith, zooarchaeologist, Alder Archaeology pers. comm.).

### Shells

165 marine shells, mainly oyster shells (*Ostrea edulis*), were recovered from the sites. The River Forth had extensive oyster beds until the late nineteenth century when they were decimated by over-fishing, and they were a common food item.

### Discussion

The recovery of over 2000 artefacts, from an archaeological watching brief on the Back Walk path and from an eroding midden, has uncovered a significant amount of information and produced a few surprises. The recovery of a WWI Austrian army belt buckle from the Back Walk was unusual, but given the impact of the war on Britain where every town and village was affected by the mass mobilisation and recruitment into the



armed forces, the recovery of such an item is not unexpected. The buckle could have been brought back as a souvenir particularly as nearby Stirling Castle was an active army barracks, and other buildings in the town including the Old Town Jail, were used by the military and there could also have been prisoners of war in the castle or in the jail.

Similarly the polished bone handle with the inscription *Qualitie Superiere* would suggest a French or Belgian origin. The identification of the handle as a tool in embroidery or lace making does not seem out of place given the royal connections at the castle and the important town houses in the area. It was possibly an embroidery tool which would have been quite an expensive and high status item. Unfortunately, this type of tool is very difficult to date but the handle could fall into the period of the eighteenth-nineteenth centuries or even slightly earlier.

The pottery covers a wide date range and includes medieval and post-medieval material, but the bulk of the sherds are industrially produced white earthenwares that date to the late nineteenth and twentieth centuries. Among the medieval and post-medieval assemblages are examples of the main pottery fabric types found in Scotland, as well as imported material from England and mainland Europe. These give an indication of the importance of local pottery production as well as further away trade links. The use of white slip on Scottish medieval redware fabrics appears to be quite common in Stirling as a number of sherds have now been recovered from excavations in the town (see Will forthcoming).

The material seems to have been deposited as rubbish simply by dumping it over the edge of the crag and certainly the small abraded nature of even the 'modern' pottery would suggest that the material had been moved or re-deposited over time after the initial discard. Although it is difficult to say with certainty where this surprising range of material, from the everyday glass and pottery from the nineteenth century, to the more unusual in the shape of the WWI military buckle and the bone tool, came from. It is quite likely that both of the latter could have come from the Castle, as it was both a military garrison and a Royal Palace.

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