

VII

Excavations on Westgate Road, Newcastle 1991

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INTRODUCTION

RE-DEVELOPMENT at the junction of Westgate Road and Thornton Street (NZ23256320) prompted the instigation of a small programme of excavations funded and undertaken by Newcastle City Council between July and September 1991. The site lies across, or adjacent to, the presumed line of Hadrian's Wall, at a point crossed by the town ditch. The excavations had the following objectives:

- 1 Locate any surviving traces of Hadrian's Wall and associated frontier works.
- 2 Locate and examine the ditched element of the Medieval town defences adjacent to the West Gate.
- 3 Examine the nature of later and post medieval refurbishments of the town defences.
- 4 Investigate the history of extra-mural suburban expansion outside the West Gate.

As a result of modern foundation disturbance no trace of Hadrian's Wall was found on this site. The same can be said of the insubstantial buildings shown on early maps which constitute the late/post medieval development beyond the confines of the walled town. Moreover, the medieval defences were not encountered in the area available for excavation. This can be explained in one of two ways; the early fourteenth century ditch ran either to the east or the south and west of Trench One (fig.2), or was in this area and was completely removed when the ditch was recut as part of the refurbishment of the defences during the seventeenth century. It was a massive ditch of this period which provides the principal interest of this site.

THE SITE

Figure 2 locates the two trenches described in this report. Trench One was positioned to examine the plot frontage. Safety considerations demanded successive reductions in the area of excavation, and a full sequence was recorded at two points, at the east and west ends of the trench.

Trench Two was in the area once occupied by the central courtyard of the Westgate Road Police and Fire Station, the only part of the plot known from the Submitted Plans (Twas T94/21) to be free from foundations.

A full report of the excavations, along with specialist reports and data files can be consulted at the Archaeology Unit, Old Jesmond Cemetery, Jesmond Road, Newcastle, or at the Museum of Antiquities, the University of Newcastle upon Tyne.

DOCUMENTARY HISTORY

The development of this section of the town was dominated by the road to the west, following the line of Hadrian's Wall, and the gateway by which it entered the fortified town, the West Gate. Much of the eastern part of the plot was presumably removed by the town ditch, known as the King's Dykes (Fraser 1961, 381-3), while the remainder was left open throughout the medieval period by the need to deny cover to attackers.

The pressure to develop the main thoroughfares led to piecemeal encroachment by 1611 (Speed's Map). Another form of encroachment, rubbish dumping, was taking place outside the West Gate, but mainly on the other

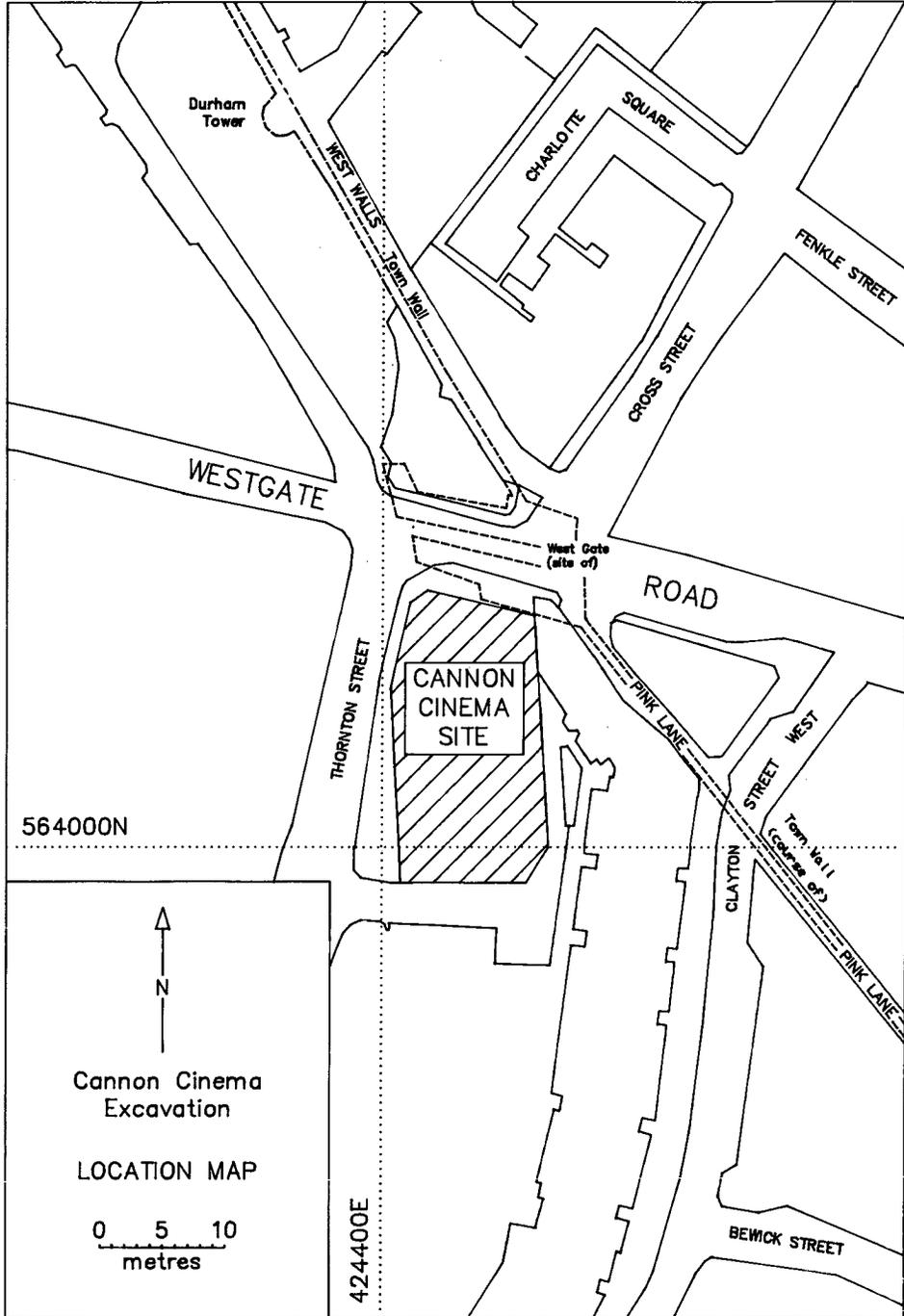


Fig. 1 The Site.

side of the road (Cal. of Chamberlain's Account Book, 1561-4, ff. 137a, 138 and 159), and references to a midden on this site are lacking.

The town defences were in a state of some neglect at the start of the Civil War, and with the strategic importance of the town, both as the gateway to Scotland and as the principal supplier of coal to the capital, it was inevitable that the town would feature in any coming conflict. However, there is scant detail of the physical measures taken to prepare for war, and in particular, the refurbishment of the Westgate stretch of wall and its ditch. In February 1639, Sir Jacob Astley records the movement of artillery and muskets from Tynemouth Castle, and a French engineer, De Bois, was sent to Newcastle to supervise the fortification in April (Terry 1899, 96). In May 1639, during Charles I's visit, John Aston's journal notes "now began the preparations to be more warlike, the numbers of soldiers to increase, officers to be chosen and discipline to be used; and all sounded now nothing but blood and death" (Hodgson 1910, 9).

Despite this bellicose talk, the town capitulated on the 30th August, 1640, after the Scottish victory at Newburn two days earlier (Terry 1899, 108). The first mention of deepening the town ditch occurs in Lithgow's account of the preparations for the siege in August 1644, (*op. cit.*, 189). The usual practice of re-vamping the medieval ditch may well have occurred here (Harrington 1992, 27), as clearly happened at Bath Lane to the north (Nolan *et al.* 1989, 57). The small buildings shown on Speed's Map would have to be demolished, but there are no records of any claims for compensation to the Corporation.

West Gate was one of the four points of entry by the attacking Scots, in this instance 900 men of Galloway and Perthshire Regiments, who attacked at 5pm on 19th October, following the detonation of a long mine between Pink Tower and Westgate. The breach in the town wall was investigated in 1648 by the Corporation, and then found to be 55 yards long (Brand 1789, 7) and the wall was extensively repaired at this time, but there was

no mention of the ditch, which may have been treated as an ephemeral element, to be scoured when trouble arose.

Shortly after the Restoration, the filled-in ditch was being leased by the Corporation, the first known reference being to the stretch between Newgate and Pilgrim Street Gate in October 1670 (TWAS LB19/4/50). The Spittal Tower to the West Gate section was leased to Robert Heslop, a barber churgeon living in the Close, for £2 9s p.a. (LB10 24/10/50) and renewed in 1719 on the same terms (LB10 25/5/50).

The West Gate stood to the north of the plot, and the fact that the street frontage on this block is set three metres back from the buildings on either side is explained by the position of the south wall of the gateway block, see Fig. 2. This structure is shown pictorially on Corbridge's Map of 1723 and Isaac Thompson's Map of 1746. A main block, with windows and crenellations clearly visible, had a low, wide, barbican extension extending along half of the Cannon Cinema plot. Hutton's Map of 1772 has the rest of this frontage developed, and Beilby's Map of 1788 shows a small courtyard of outbuildings to the rear of this terrace. The remainder of the plot is usually shown filled with rows of trees or bushes, in the manner of the gardens and orchards within the walled town.

The plot was still in Corporation hands in 1814 when a reform party, led by Alderman Archibald Reed, was attempting to improve and enlarge the Freeman's Hospital, Manors. A proposed extension of 40 rooms was found to obstruct existing buildings and so a new site in "a most agreeable situation" on Westgate Road was chosen (*Newcastle Remembrancer* 1817, 88). World events now coincided with parochial developments and it was decided to use the inauguration of the new hospital to celebrate the Peace of Amiens, 10th May 1814, by laying the foundation stone on that date. A general description of the Peace and Unity Hospital is given in Mackenzie II, 531, and a vivid account of the inauguration ceremony was provided by the *Courant*, May 14th 1814. A 20 room extension was added three years

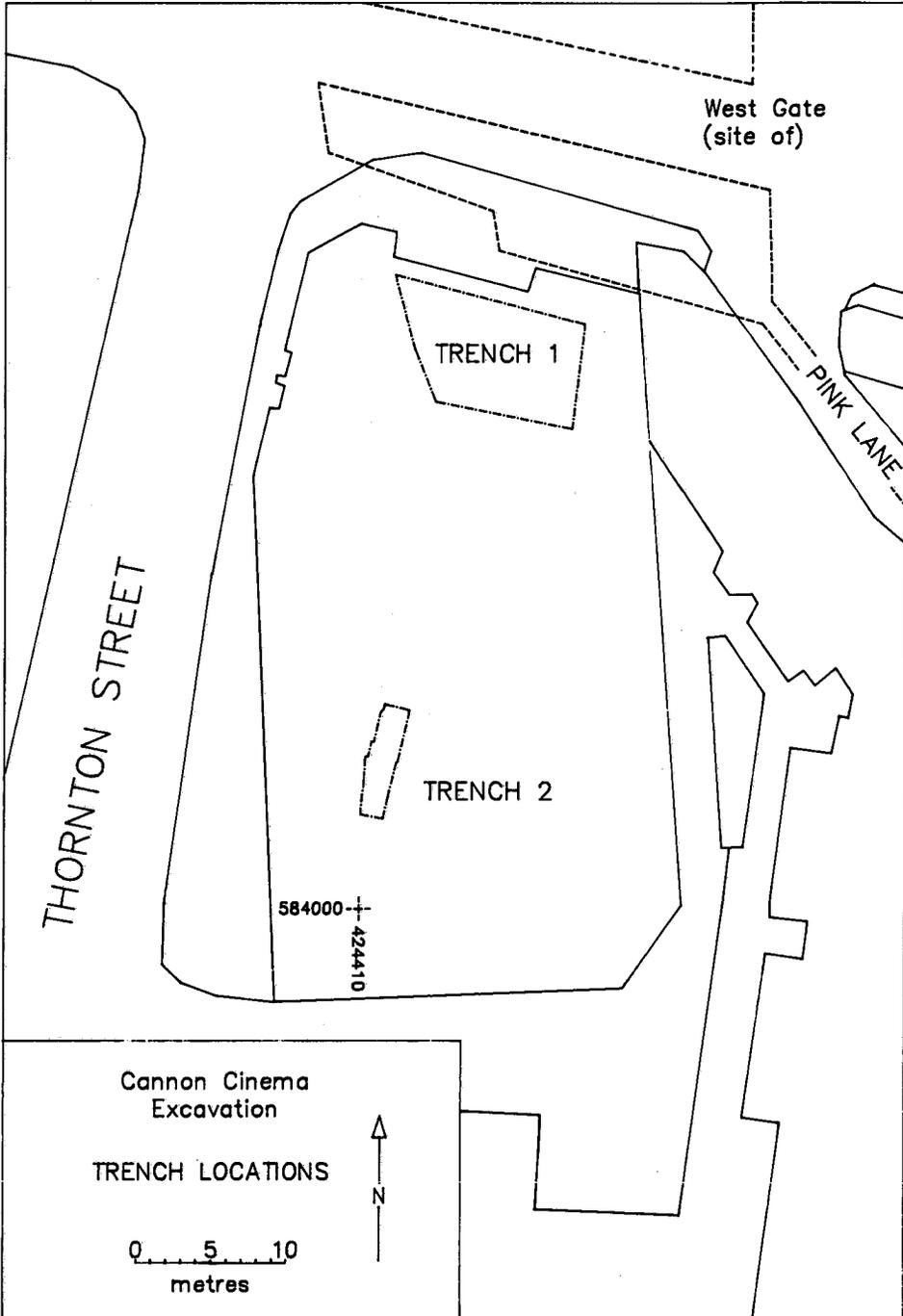


Fig. 2 The Cannon Cinema plot with excavation trenches.

later (*Courant*, June 29th, 1817). Like many similar institutions, the Hospital was soon in decline, and the premises were taken over by the Police Department in or around 1848 (Twas T94/57).

This structure proved inadequate for the expanding Service, and a design for a new Gothic structure was passed for construction in March, 1884. Called the Westgate Road Police and Fire Station, it had accommodation for 30 Constables and a Police Superintendent, 4 married and 10 single firemen, plus Fire Superintendent, a hospital for four, a billiard room, library and day rooms, as well as stabling for the fire horses and engine. In 1910 the married accommodation was extended, and in 1922 the horses were retired and motor fire engines installed (Twas T94). This was demolished in 1938, when the Essoldo, later Cannon, Cinema, was constructed (Manders 1991, 31).

EXCAVATION DESCRIPTION

Roman Activity

Several pieces of Roman pottery, but no structures or undisturbed stratigraphy of that period were uncovered. From the castle, where the fort of Pons Aelius has been attested, the wall is indicated at 67–75 Westgate, where a mile castle was uncovered in 1985 (Harbottle *et al.*, 1988), but the next confirmed sighting is west of Benwell Fort. Here, broad gauge wall with clay and rubble core on flagged footings was 69m north of the edge of the Vallum. If the Wall stood on its anticipated line, beneath the cinema pavement, and Benwell dimensions applied here, the Vallum (if present) would be beneath the pavement on the southern side of the plot. These excavations may represent the largest possible investigation between the Wall and the Vallum, without encountering either.

The Site Phasing

The 203 contexts were split into 44 groups for analysis, which have been assigned to seven sub-phases:

Trench/Groups	Phase	Description	Date
1+2/1	0	Subsoil	
2/		Garden	pre 1640
1/2	2.1	Ditch Cut	c. 1640
1/3–9	2.2	Slow accumulation	} 1640–pre 1680
1/10–15	2.3	Building demolition	
1/16–22	2.4	Dumping and levelling	pre 1680
2/	3	Yard and ditch	mid/1 C18th
1/23–27	4	Modern building	C19th–C20th

Cannon Cinema
Excavation

Trench 2

Cut 531

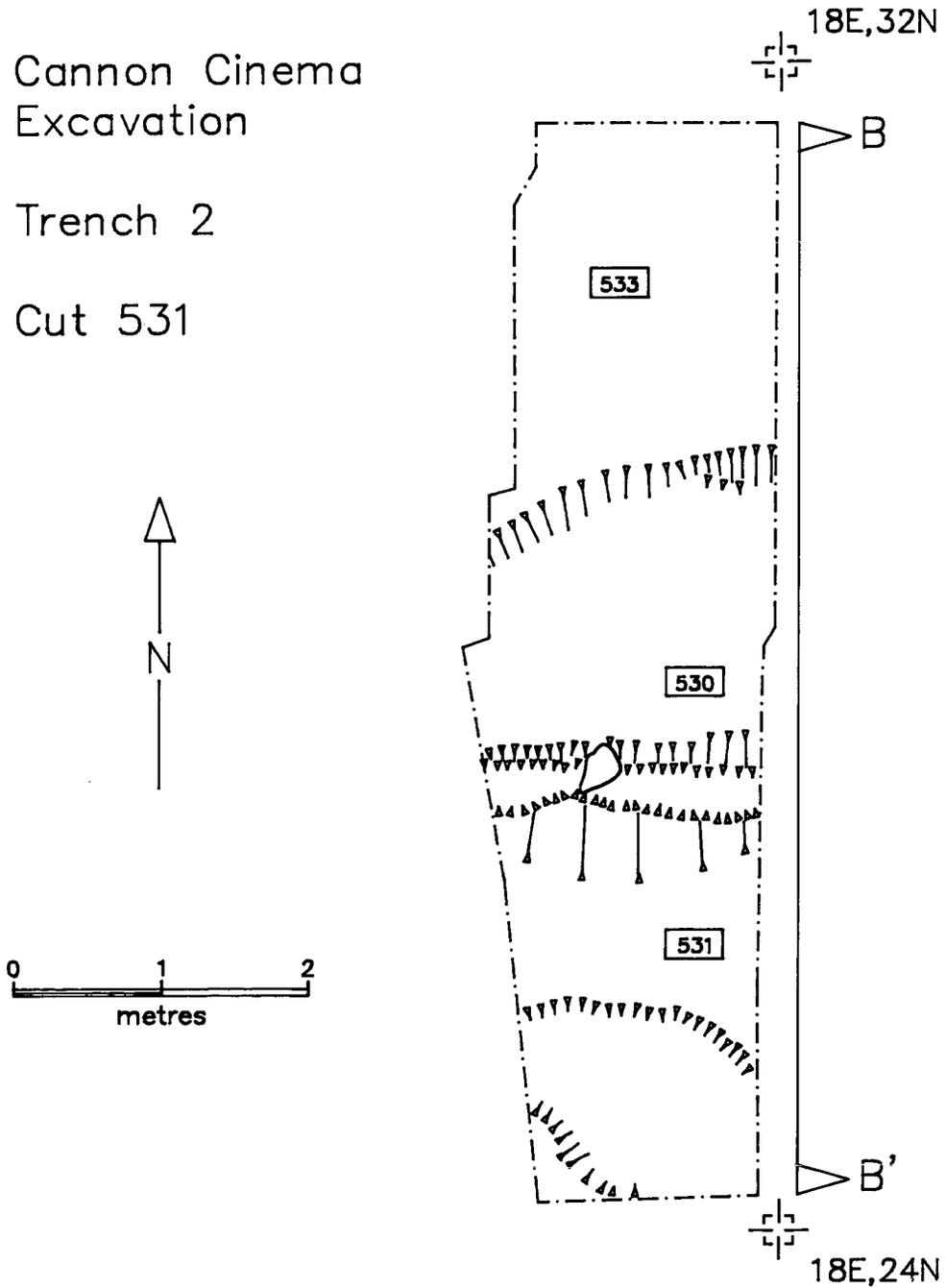


Fig. 3 Trench Two plan.

Phase One

The earliest deposits were encountered in Trench Two, at a depth of 1.7 m and consisted of the water-deposited fill (528) of a small gully (530) cutting into the base of a wide-flat bottomed feature aligned east-west. This feature had been truncated by later cultivation (519) making the ditch originally over 3 metres wide and 0.6 m deep. It may have been a boundary ditch for a parcel of land in the angle of Westgate Road and the town ditch, but apart from assigning a general medieval date to the fill, it is impossible to say whether 530 preceded or post-dated the construction of the town defences.

The Town Ditch (Phase 2.1)

The next feature of known date in the site sequence is the massive ditch (165, Phase 2.1) running east-west. The sides were encountered approx. 2.05 m below ground level, having been truncated by the later foundations, making it impossible to determine the level from which it was originally cut. The straight, regular sides sloped at an angle of approximately 45 degrees,

levelling off to a slightly rounded base. Judging from the excavated portion, it must have been constructed to a width of over 7 m.

This feature was the massive town ditch expected from pre-excavation research, but as the finds from the lowest levels indicate a date in the third quarter of the 17th century for the first significant filling phases, this could not be the medieval ditch dug in response to the Scottish incursions of A.D. 1312-18 (Fraser 1961, 383), but rather a new ditch cut to protect the Royalist town from the Parliament-supported Scottish army during the Civil War.

The filling sequence was straightforward. The full section could only be drawn at the eastern edge of the trench (fig. 5) and was not typical of the western half of the ditch, where the later deposits (Phases 2.3 and 2.4) were thicker in proportion to the earlier.

Initial filling (Phase 2.2)

The primary silt (169), a dark grey silty loam with flecks of coal, was clearly open for some time, and then overlain by patches of dumped material (166-8) and then more silty soil, 162. A group of large boulders in 162 randomly

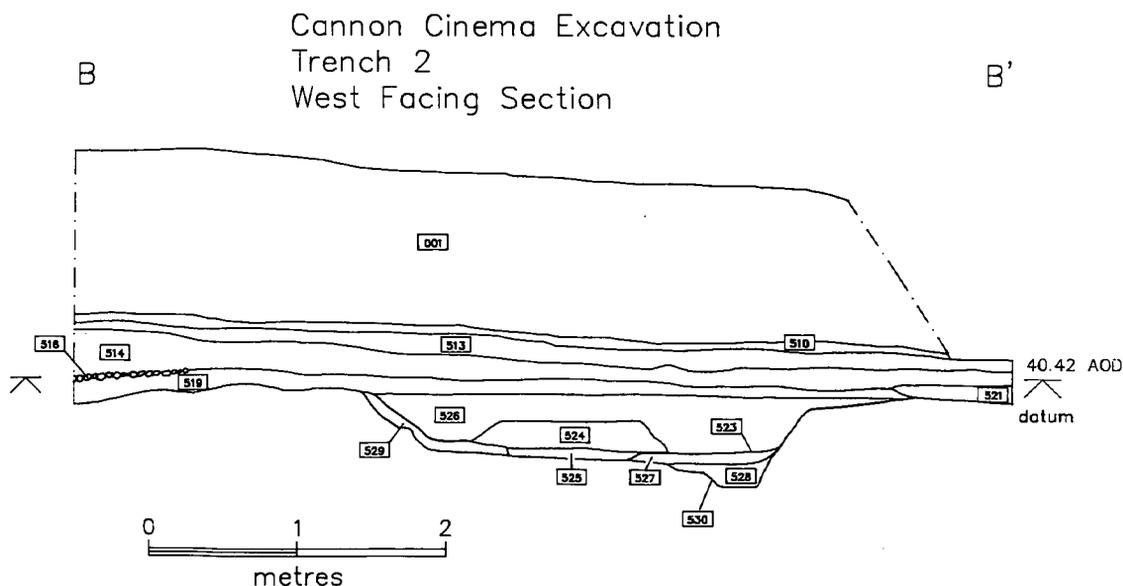


Fig. 4 Trench Two section.

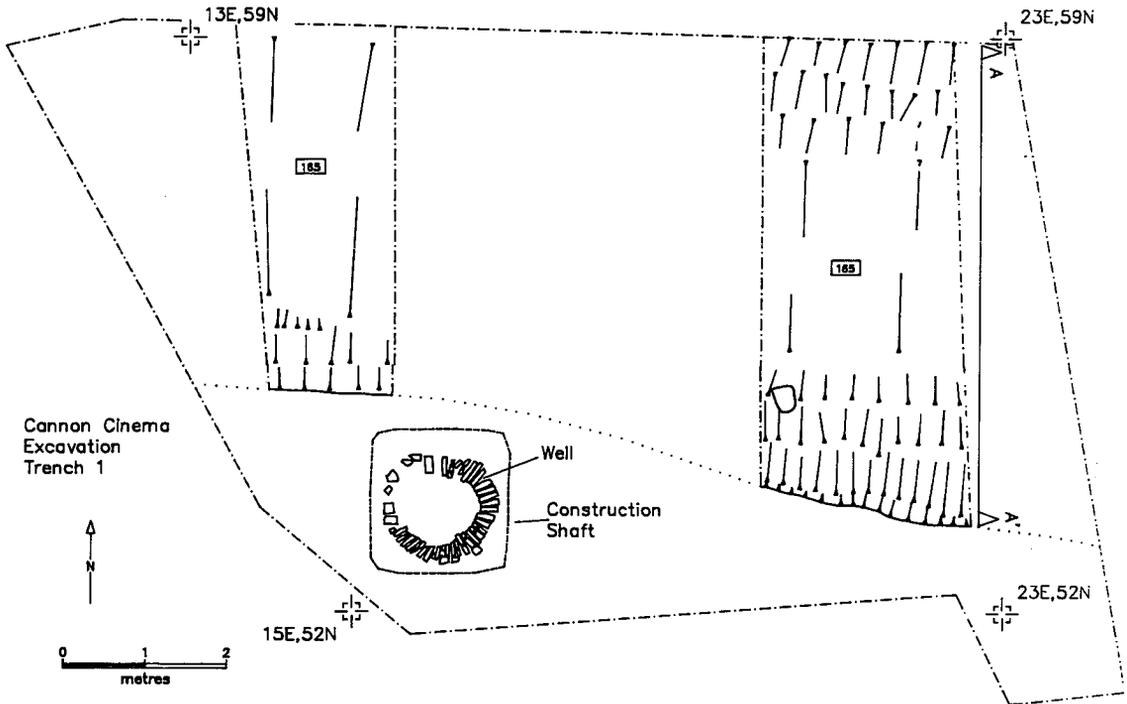


Fig. 5 Trench One plan.

scattered on the floor of the ditch (fig. 6), were probably derived from the surrounding natural sands and gravels (163) and were exposed but not removed when the ditch was dug. Several layers (160–2, 157) of mixed clay and silt overlay 162, and then the ditch saw an extended period of alternate sand and gravel sedimentation, mainly at the western end of the ditch, with layers 130, 125 and 124 showing in the eastern section, Fig. 6.

The ditch surface stabilized at this level, when running water gouged an irregular channel, 129, into the ditch fill. This was open for sometime, perhaps one winter, during which several small deposits were dumped onto the southern edge (141, 123 and 120). The first trace of possible demolition debris, 122, was encountered on the northern edge of the ditch at the end of Phase 2.2.

Rubbish dumping (Phase 2.3)

The water course of Phase 2.2 (129) and a

period of gradual accumulation early in Phase 2.3, gave the next deposits, 112–109, a greenish colour with stains from iron-panning, but waterlogged conditions did not prevail and no organic material survived. These layers were overlaid by substantial dumps of burnt material (100) and demolition debris (094) thrown in from several cartloads from the north-west. Brick and stone were both present in quantities, in a mortar soil and greenish silt which may have been derived from cess, although environmental sampling could not confirm this.

This dumping was rapidly followed by the deposition of over 0.3m of a further purple-black ash layer, 022, which was particularly rich in occupation debris, notably clay pipes. Again a north-westerly direction of tip was observed. Phase 2.3 ended with the laying down of a series of dumps of broadly similar material mixed with more silt, e.g. 070, representing an episode of more casual discard of domestic

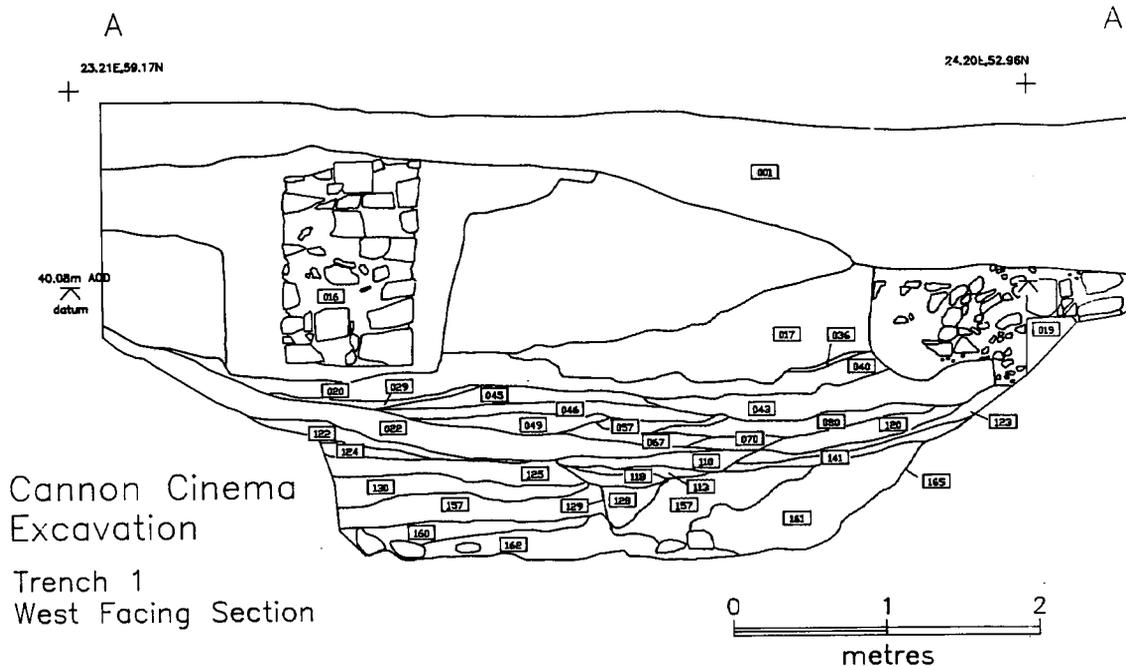


Fig. 6 Trench One section.

rubbish. The ditch was now over half full and was seriously compromised as a defensive obstruction.

Further dumping and levelling of the Ditch (Phase 2.4)

Five stakes or small posts in no apparent order were recorded on the southern edge of the ditch. The overlying layers were of a varied nature; 067 was of sand and cobbles, 060 of yellow-grey clay with sandstone blocks up to 0.5 m in size, 057 was mixed silt and loam, while 049, 048 and 045 had higher percentages of mortar, brick and charcoal. Several large deposits (050, 039, 017) of sandy soil with few finds represent the deliberate back-fill of the ditch to within 0.5 m of the surviving (southern) ditch lip.

Modern Features

The stratigraphy of the ditch was truncated by levelling for the two 19th-century phases of development, the 1814 Peace and Unity Hospital, and the 1885 Westgate Road Police and

Fire Station. A substantial stone foundation wall, 011, was probably the north wall of the hospital. A brick-lined well, 06, 1.3 m internal diameter, in a square construction shaft, 1.9 m across, probably belonged to the hospital, although it may have stood in the courtyard of the preceding building shown on the map of 1802. A further, massive wall, 016, ran parallel to the Westgate frontage, showing in the east section (fig. 6). This was one of the internal foundation walls of the Police and Fire Station.

A small area of cobbling in Trench Two (516, fig. 4) overlay a garden soil, 519, and may have formed the back-yard of one of the vanished early buildings on the frontage. It was overlain by a cultivation horizon, 514, that was cut by the foundation trench of the internal north-south hospital wall, 503.

THE FINDS

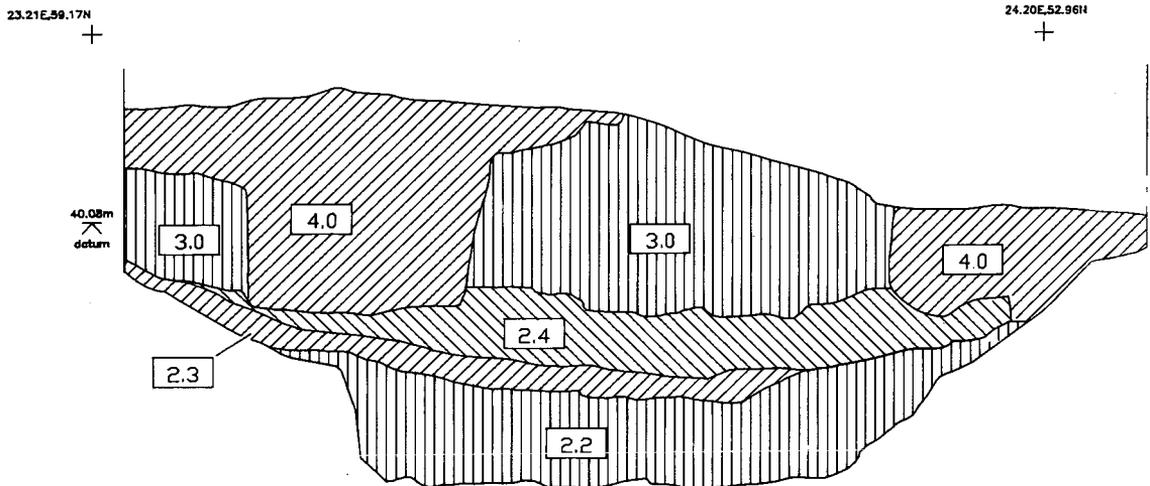
Finds from other Newcastle upon Tyne excavations may be referred to in abbreviated form as, e.g. Ditch 4, or Blackfriars 19. The key to these excavations is at the beginning of the bibliography. * indicates not illustrated.

THE POTTERY

by *J. E. Vaughan*

The two pie charts compare the quantities of pottery recovered from the different phases in Trench One by weight and by sherd count. Numbers of sherds of the different fabric types are shown in the table. A "compressed" version of the fabric number series used in the processing pottery from recent City excavations has been used here. The bar chart highlights the seven principal types occurring in the three phases of Ditch filling and also illustrates the discussion below. The percentages are based on weight rather than sherd count.

Although a large porportion of the pottery recovered from the Ditch was medieval it was evident that it was not a primary deposition. The lowest deposits on the east side of the site, for example, produced sherds of English slipware, whiteware and Weser (all 17th century types) and also a distinctive sherd of Beauvais double slip sgraffito (16th c.) but they produced relatively large quantities of buff white wares and early gritty wares. The proportions of these two main groups in Phase 2.2 (which can be seen in the bar chart) by comparison with the assemblage from the Castle Ditch (Ellison 1981, fig. 6) might suggest disturbance or redeposition of mainly late 13th-century deposits with the other types occurring in smaller numbers indicating sporadic 15th- and 16th-century activity in this area. However, the bias towards the earlier types in Phase 2.2 may be purely coincidental because the assemblage from Phase 2.4 is dominated by the later reduced greenwares. This would seem to indicate that the area outside the Westgate had been a long-running disposal point for rubbish which was then cleared and used, together with some

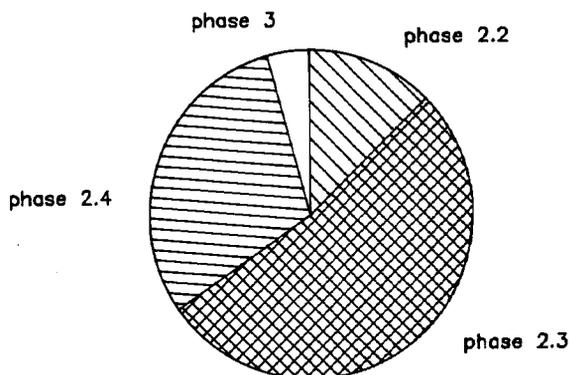


Cannon Cinema
Excavation

TRENCH 1 PHASING

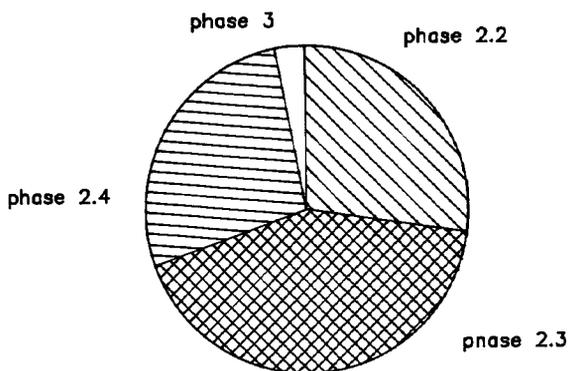
Fig. 7 *Trench One section phased.*

Pottery Assemblage from Trench 1



Comparison by weight

Total=32772g



Comparison by sherd count

Total=2469

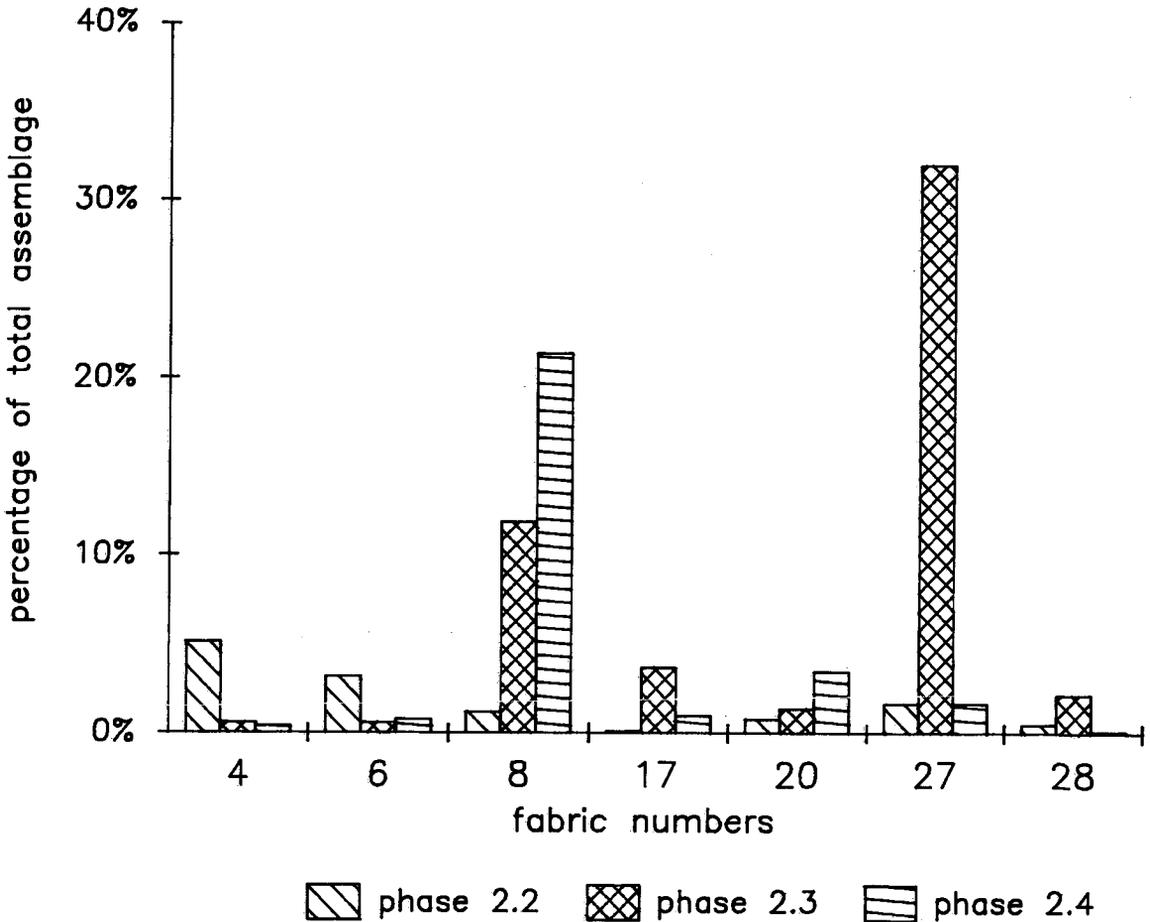
short term contemporary dumping, to backfill the Ditch rapidly after the Civil War.

The material from Phase 2.2 was very fragmented, as can be deduced by comparing the two pie charts (average sherd weight 6gm as opposed to nearly 17 for Phase 2.3), while the later reduced greenwares residual in Phase 2.4 were all familiar types and forms. For these reasons, detailed study was restricted to the post medieval types from the Ditch, the majority from the Phase 2.3 deposits. These represent the rapid accumulation of rubbish after the Civil War and so contain a high proportion of the contemporary wares seen in other rubbish dumps of the second half of the 17th

century in Newcastle. Residual medieval wares made up just over 25% of the material in this phase, with Low Countries redwares, some also probably residual (see below) a further 2.6%.

- 1 Roman
- 2 Early coarse wares, e.g. Dog Bank type
- 4 Buff white wares including the "orange" type seen at Closegate etc.
- 6 Local gritty wares, e.g. reduced greenwares 1, 2 and 3 and "oxidized gritty".
- 8 Later reduced greenwares 4 and 5 and the possibly "transitional" type—often lighter fabric and with some quartz grit as also noted by the present writer amongst mate-

Main fabric types in the Ditch



- rial from the Mansion House excavations.
- 10 Other Medieval fabrics, unprovenanced
 - 11 Scarborough ware
 - 12 French wares from Saintonge and Beauvais.
 - 17 Rhenish stonewares of all types
 - 19 Weser
 - 20 Low Countries/imported redwares
 - 24 Cistercian ware
 - 25 Early Black glazed red earthenware
 - 26 Post medieval Whitewares
 - 27 English Redwares of 17th-century type
 - 28 Tinglazed Earthenwares
 - 32 18th/19th century types, mostly local red or "brown" wares.
 - 50 Unknown and burnt fragments

Low Countries Redware

Low Countries Redwares first appear in the Castle Ditch assemblage in the 14th century reaching a peak, as a proportion of the assemblage, in the mid-16th century. In the early 17th century material from Orchard St. redwares, the majority imported, make up nearly 60% of the assemblage. Six imported vessels were identified in the Phase 2.3 deposits here. Two were possible late 16th–17th-century vessels:

Table 1 Pottery Fabrics by Phase (Weight not sherd count)

Fabrics	Phases				Totals
	2.2	2.3	2.4	3	
1	2	1			3
2	6				6
4	254	17	9		280
6	167	27	21	4	219
8	65	274	372	30	741
10	10	34	13		57
11	9		2		11
12	1	2	1		4
17	6	128	40	3	177
19	2	4	4		10
20	55	55	96	5	211
24	3	7	7	1	18
25		22	7		29
26	13	11	9	1	34
27	49	380	34	9	472
28	17	54	4	4	79
32			6	17	23
50	15	26	51	3	95
Totals	674	1042	676	77	2469

rim fragments of a North Holland Slipware pipkin and a small bowl ("porringer") as *Ditch* 231. The largest proportion of imported redware was in Phase 2.4 and its association there with the later reduced greenware types might suggest that it is mainly 15th- and 16th-century material.

English Redwares

These dominate the Phase 2.3 assemblage, making up 58% of the material. 57 vessels were identified out of a total of 67 for the site. 26 of them were slip decorated. The wares were not produced locally, as far as is known, but they are not all typical of Metropolitan wares.

1. Pipkin, glazed red-brown internally. Not sooted but the part of the body opposite the handle is missing.

2. Pipkin, oval in plan, heavily sooted. Greenish brown internal glaze, bubbled and pale on base.

These two vessels are similar to the white-ware form although they have a solid pan handle rather than the hollow southern white-ware type (see *Orchard St.* 62). There were fragments of two others. The rim form has been noted before amongst the redwares from the Pit (no.8) and the *Bastion* (no.2), but not associated with feet and handles. Three other unattached feet were found.

3. Chamber pot, similar to *Bastion* 75. Full cover of glaze though uneven, bright red brown.

4. Bowl? Softish fabric with internal glaze. Chipped.

There were eight bowls from Phase 2.3. Two were slip decorated with simple rims as *Bastion* 55 with another undecorated fragment of the same form. Three plain vessels had simple clubbed rims (see *Blackfriars* 35, Pit 10). There was a clubbed base with broken off handle also like Pit 10. Two other clubbed bases and one plain were possibly jars rather than bowls.

5. Jar similar to *Bastion* 15. Rim seems pushed out of circle at handle. There were four other rims of common jar type (*Bastion* 13).

6. Pedestal shaped "jug", no handle or spout present. Glazed externally with slip trailed repeating fleur-de-lis pattern. Unglazed zone

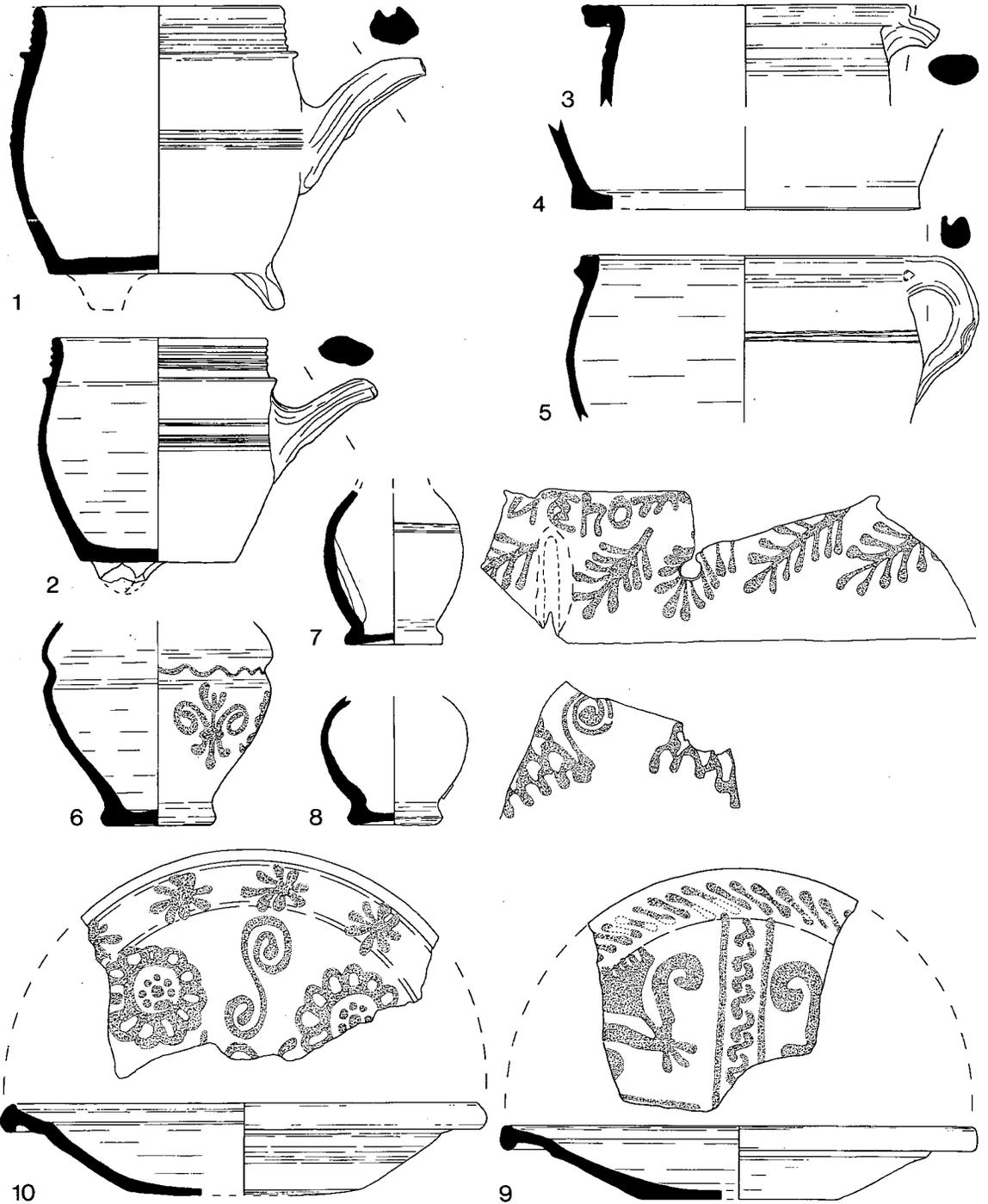


Fig. 8 Redwares (1/4 scale).

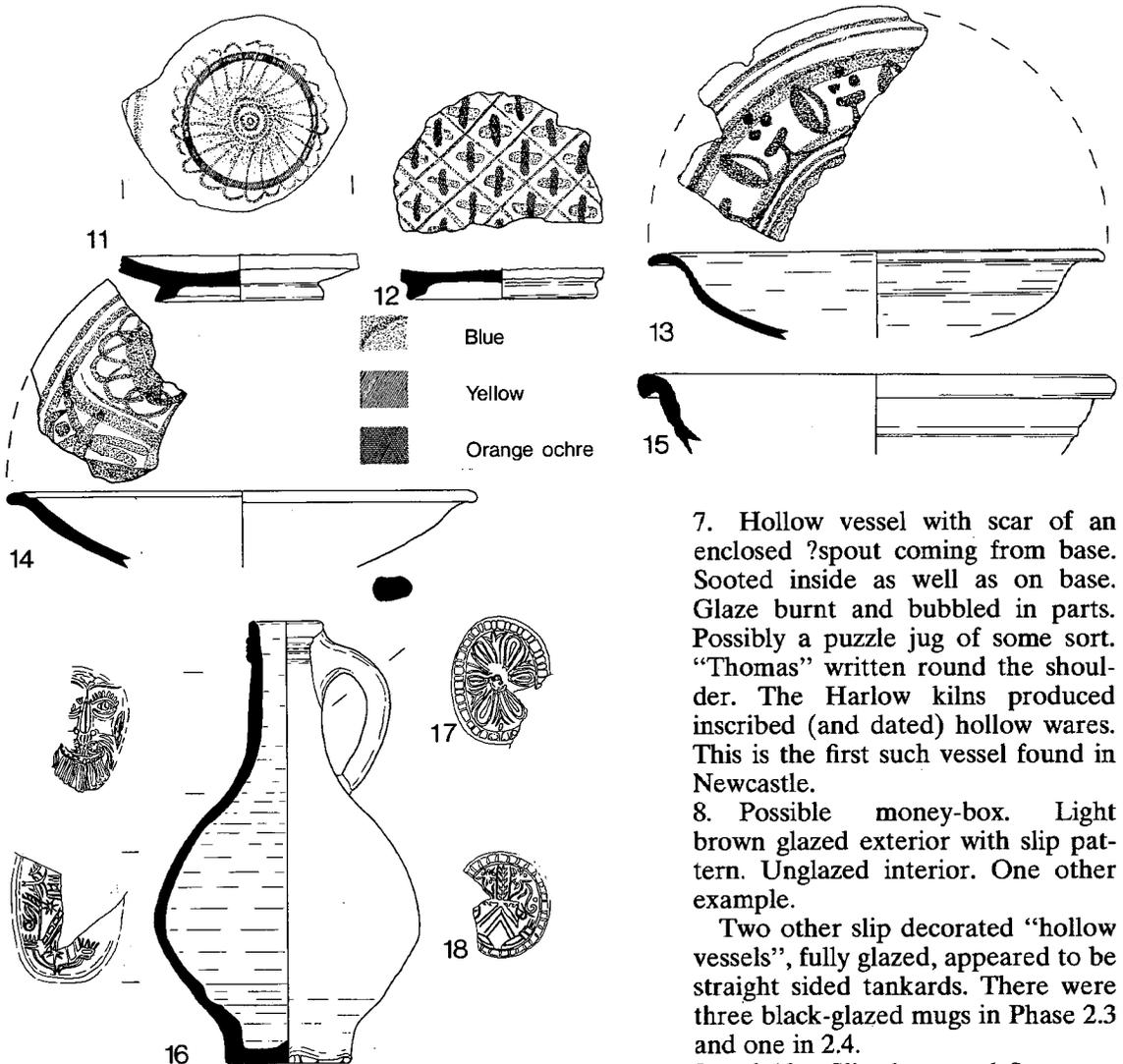


Fig. 9 Pottery (1/4 scale).

inside. Glaze is rough and bubbled in places and zones of vessel are reduced giving patchy green and brown colour to the lead glaze.

Others: two plain jugs like *Blackfriars* 64 a simple rim fragment, probably jug, clubbed base of slip decorated vessel slip decorated mug/jug as *Blackfriars* 69.

Two small rim sherds like *Bastion* 87.

7. Hollow vessel with scar of an enclosed ?spout coming from base. Sooted inside as well as on base. Glaze burnt and bubbled in parts. Possibly a puzzle jug of some sort. "Thomas" written round the shoulder. The Harlow kilns produced inscribed (and dated) hollow wares. This is the first such vessel found in Newcastle.

8. Possible money-box. Light brown glazed exterior with slip pattern. Unglazed interior. One other example.

Two other slip decorated "hollow vessels", fully glazed, appeared to be straight sided tankards. There were three black-glazed mugs in Phase 2.3 and one in 2.4.

9 and 10. Slip decorated flatwares. There were 14 vessels all with the typical rolled rim. This is not as large a proportion of the total assemblage as occurs at *Blackfriars* or in the 17th-century *Pit* at the Castle. However, the assemblage is smaller. The two illustrated examples were chosen for the patterns. 10 is probably not Metropolitan. Very similar in rim form and decoration (thick slip trailing with asterisks along rim) to *Blackfriars* 47.

Tin glazed earthenware

11 vessels identified, all but one (no. 12 below) from Phase 2.3. Two cups or small jars were manganese speckled (see *Bastion* 74), one other was plain and two had blue bands. There were six flatwares/dishes, three with ring bases. Four are illustrated.

11. Dish with light and dark blue and yellow painting. Motif similar to *Blackfriars* 110.

12. Dish base with geometric pattern in blue and yellow ochre. Simple geometric patterns do not seem to be very common (Phase 2.2).

13. Dish with pattern very similar to vessel from Norwich (Jennings, 1981, no. 1403) described as "probably Netherlands" mid-17th. Form as Norfolk House (a plate) no. 21 (Dawson in Bloice 1971) though rim seems more curved. Yellow and pinky buff fabric, lead glazed exterior.

14. Dish. Form and decoration similar to vessel from Norwich (see above, no. 1387), see also *Pit* 2.

Whiteware

Six vessels. Two each in Phases 2.2, 2.3, 2.4.

15. ?Bowl with hooked rim. Fabric coarse and gritty. Burnt and blackened internal glaze. (Phase 2.4) Another bowl in this phase was also in a fairly coarse fabric with a hooked rim. A similar form is illustrated from Basinghouse (Moorhouse 1970, fig. 11, no. 40).

One of the vessels in Phase 2.2 was a straighter sided bowl with a hooked rim, green glazed. The other, fully glazed yellow, was again paralleled at Basinghouse (fig. 12, no. 59), a simple bowl shape with expanded rim.

The two vessels in Phase 2.3 were probably both used for cooking. One was represented by a tubular handle with traces of green glaze, probably a pipkin. The other was a vessel with everted rim and rilling in several fragments. A sherd probably the same vessel had a broken off handle. It was yellow glazed internally and sooted externally. Probably a small bowl like Basinghouse no. 64 (op. cit., fig. 12).

Rhenish Stonewares

Over two-thirds of the fragments were classed as Cologne Frechen though of eight vessels

recorded there was one Sieberg, two Langerwehe and one Raeren. In addition there were six fragments of Westerwald.

Cologne Frechen

16. Bellarmine with mask and medallion. Fairly squat form.

17. Bellarmine in mid-grey fabric with metallic pink/brown internal surface and grey speckled with green/brown exterior. Medallion similar to *Closegate* 101. Date up to late 17th century.

18. Medallion with coat of arms. Pink under-fired fabric with dull brown external glaze. There was one other bellarmine.

CLAY TOBACCO PIPES

by J. E. Vaughan

1372 fragments were recovered from the site. Clay pipe fragments do not appear in the lowest deposits in the ditch although these produced some 17th-century material. The only pieces of note in Phase 2.2 were a small spurred bowl and the ridged stem (no. 41). However, over 60% of the fragments were from the major dump deposit of Phase 2.3 on the eastern side of the site. The equivalent deposit on the west side produced only 8%.

None of the pipes is typologically later than 1675 but apart, possibly, from the fragments in Phase 2.2, they were all discarded within a much shorter time span than reference to the typology would suggest. The presence of a WS stamp might be taken to give a *TAQ* of 1651-2. However, this relies on the identification of the maker as William Sewell (see Edwards 1988, 54-5). Oswald suggests that the rather crude stamp from the *Bastion* ditch, similar to that illustrated here, was not William Sewell of Gateshead (1983, 193). There must always be an element of uncertainty in the attribution of names to initials. The other makers dates are unknown.

The great majority of the fragments (981-71.5%) were plain stems. In addition 30

bowl fragments provided no further information. Just over a quarter of the fragments gave some information as to type of bowl or stamp. Of 229 bowls or fragments with flat bases, 16% were too fragmentary to be identified, 61% were heart-shaped and 17% round/oval with three large sub square bases of Yorkshire type. There were only 28 bowls and one fragment with spurs. There were 235 bowls which either were complete or could be identified. These are summarized below.

Tyneside Type 1: 18%
 Type 2: 57%
 Type 3: 8%
 Type 4: 10%
 Type 5: 2%

There were 5 possible London types, see below, and 6 fat Yorkshire types. Although the majority of those classed as "Tyneside" were undoubtedly local products there was considerable variation in shape with several small dia-

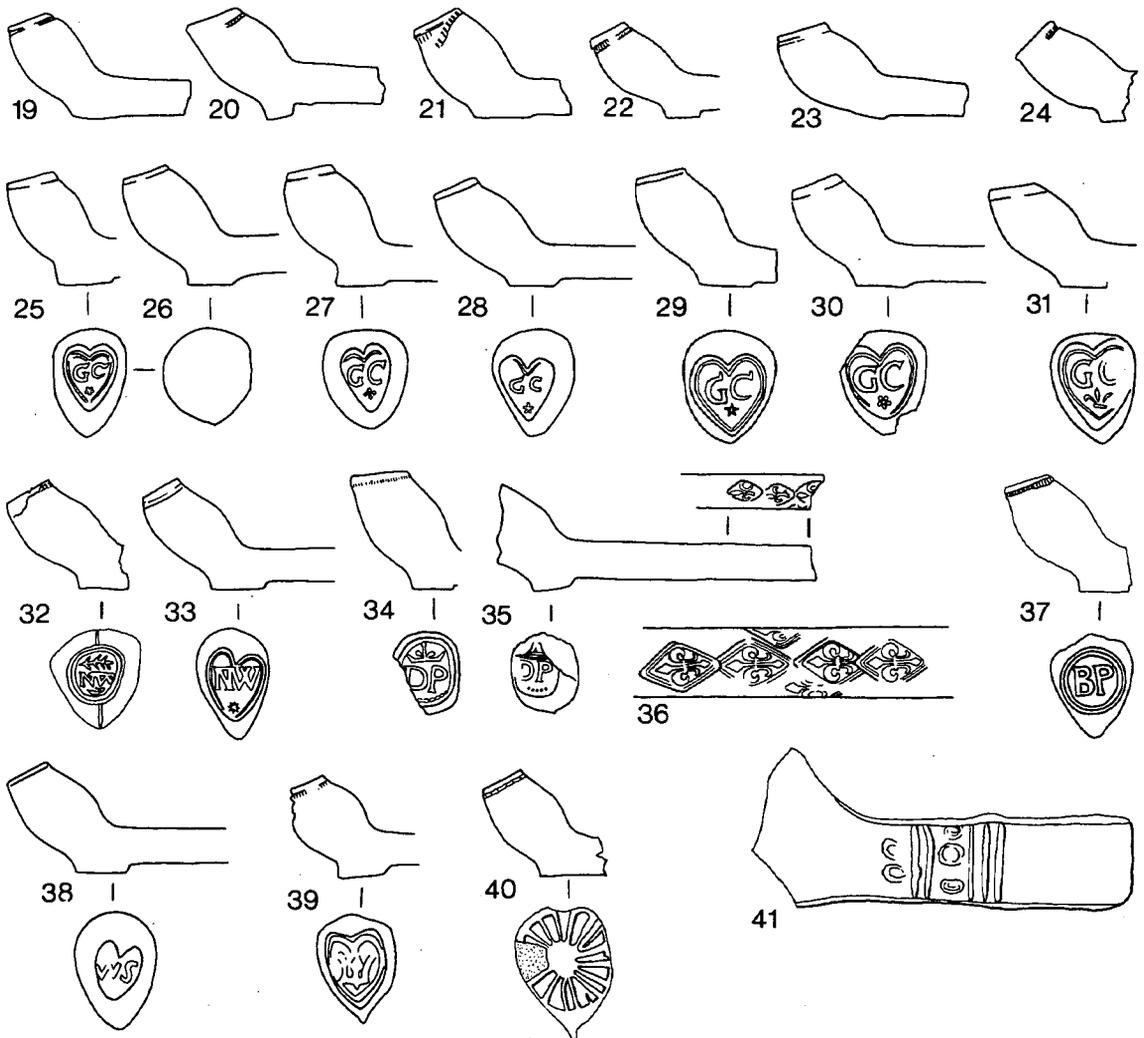


Fig. 10 Clay pipes (1/2 scale; stamps and No. 41 1/1 scale).

meter bowls which could be non-local. Some plain bowls are illustrated. No. 19 is from Phase 2.4 the rest from Phase 2.3 (western side of the site).

19. Bowl with small round base. From Phase 2.4.
20. Possibly London type 23.
21. Possibly London type 5.
22. Very small, narrow pipe.
23. Odd pipe with only slight vestigial spur.
24. Wide mouthed pipe with crude knife trimming on underside. There was another similar pipe without the trimming.

39 makers stamps could be read. 33 type A and 6 type B.

- GC—27 (all A)
- NW— 5 (4 As, 1 B)
- DP— 4 (all B)
- BP— 1 (B)
- WS— 1 (A)

GC is the most prolific, presumably local, clay pipe maker in the first phase of the Tyneside industry. There is a George Carter recorded in 1665 (see Edwards 1988, 66) in Newcastle. Another, or perhaps the same, George Carter is known in Gateshead (Edwards dates given as 1667–77) possibly too late. Bowl types 1, 2 and 3 are used, the same stamp appearing on 1 and 3 in one instance. Nine different stamp dies have previously been recorded for GC and there are seven, apparently different, ones amongst this group. The bowls generally have well defined, almost “pedestal” bases.

- 25 and 26. GC1: small letters above a flower within a beaded border and partial inner border. Similar to Edwards no.2 (without inner border). Nine examples, 6 bowls, 3 bases only. One example of another very similar stamp.
27. GC2: large letters above cross fleurie, similar to Edwards no. 5. Eight examples, 5 bowls (types 2 and 3), 3 bases only.
28. GC3: Small letters above small ?fleur-de-lis in a well indented heart. Two 2b bowls.
29. GC4: Large letters above five point star, well made and clear. One example.
30. GC5: Another well made clear stamp with letters above flower. One example.
31. GC6: Faint letters above well formed

fleur-de-lis. Possibly same die as *Bastion* pipe 542 (Oswald 1983, 189).

The maker NW is represented by two different stamps.

32. Small type B with branch of foliage above, similar to no.5 in Edwards catalogue. The type also occurs at excavations near the Close Gate (Nolan 1989, 47).

33. Letters barred across the top and eight pointed double star below. Four other examples the same. On the illustrated example the die slipped creating a double image of one side of the star.

The DP stamps are interesting not only because these initials have not been recorded before on Tyneside but because it was possible to join a bowl fragment to a length of stem with a stem stamp of fleur-de-lis in a line. There were three other examples of this stem stamp, possibly belonging to the other three DP stamps! The illustrated stem stamp occurred at Blackfriars (Edwards 1987, 119) where it was noted that it was used in Holland by Jan Muur—evidently not the maker of these pipes. There are two different dies of the DP heel stamp:

34. A clear coronet above the letters.
35. Two rather unclear lines, possibly also an attempt at a coronet but the letters are also differently formed. The bowl shape is not typical of the local Tyneside product and may be a London type ?23, rather angular shape. Part of lozenge stem stamp.
36. Complete lozenge stem stamp.
37. Stamps of BP have been found near the Close Gate (Nolan 1989) and in the 17th-century pit at the Black Gate where a London origin was suggested (Oswald 1979, 177). A heart shaped BP stamp (i.e. type A) was found in the Bastion Ditch (Oswald 1983, 234).
38. WS, see above. Also occurred at Blackfriars (p.116).
39. ?trident. Also occurred in Bastion ditch on a different bowl (Oswald 1983, 195). There were similar stamps at Bristol associated with the Civil War siege.
40. Wheel stamp also occurs in Bastion ditch but this one has twelve visible and probably sixteen spokes to the wheel.

Table 2 Glass Types by Phase

	Window	Bottle	Green Vessel	Crystal	Other	Total
Phase 2.2	47		6	1	16	70
Phase 2.3	83	9	19	24	1	136
Phase 2.4	14	1	10	2		27
Phase 4	5		2	2	2	11
Total	149	10	37	29	19	244

Other heel stamps: fleur-de-lis on its own in lozenge on heel, found also in *Bastion*, on a type 2 bowl. Three bowls had a rouletted line across a heart shaped base.

41. Moulded stem from Phase 2.2.

THE GLASS

by J. E. Vaughan

The table gives a simple breakdown of the different types of glass recovered from the Ditch. The numbers are of fragments which only gives a very rough guide to quantities.

Window Glass

Fragments were found as shown in the table. The great majority were thin, just over 1mm thick, and light green although there were a few blue-green fragments. Most were also

small. Several previous reports have discussed post-medieval window glass from Newcastle and this group of fragments does not add to present knowledge. Amongst the fragments from the large ashy dump on the west side of the site were three joining pieces with black spotted divitrified surfaces and two cut/grozed edges at an angle of 105° to each other. In a symmetrical diamond shaped quarrel this would give a tip angle of 75° as noted amongst the 17th-century *Pit* material (Ellison 1979, p.169). Two other small fragments had straight, slightly thickened edges indicative of broad glass.

Venetian type crystal glass

This was of two kinds: clear metal with a greyish/smokey tinge, no surface weathering and fragments with surface weathering in the form of an iridescent patina.

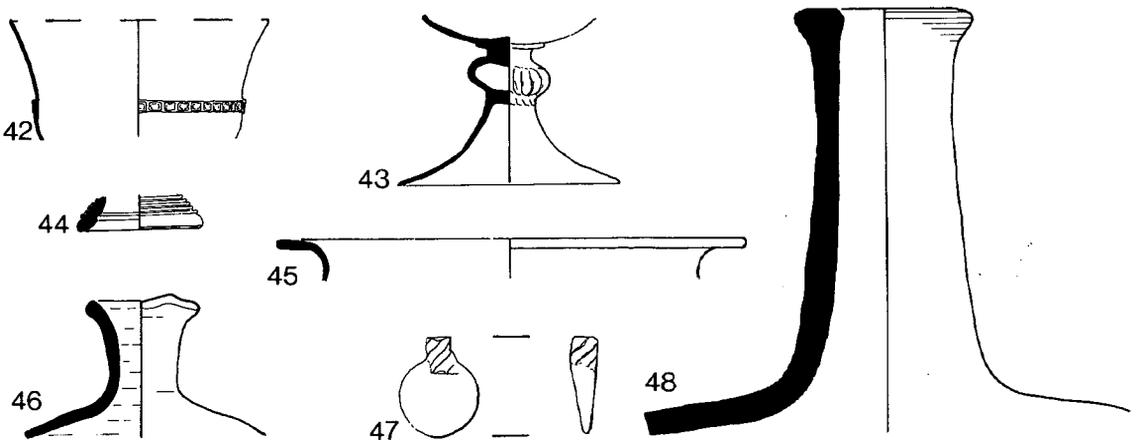


Fig. 11 Glass (1/2 scale).

Beakers

Thirteen clear fragments from Phase 2.3 were probably all one vessel; pushed in base sitting on a footrim with notched decoration, an everted rim with fragments of applied and notched thread decoration. This type of base is found on 16th-century Venetian beakers (see Charleston 1984, 259 and fig.148, no.72) but the everted rim and applied threads are typical of early 17th-century beakers (*ibid.*, 260–1), see no.42 below. The usual type of foot for these vessels would be pushed in with an applied notched cordon round the base (*ibid.*, no.89 and *Pit* 42b).

42. Three fragments with iridescent weathering including an everted rim with applied thread below, probably part of a chequered spiral trail. There were two other everted rim fragments in Phase 2.3 and one in Phase 2.4.

43. Fragments with iridescent weathering of a short wine glass stem with mould blown ribbing on the knop. This is one of the new forms fashionable after the Restoration dating to around 1670 and thus probably broken when quite new. There was a small unweathered fragment in Phase 2.4 of a folded wine glass foot as *Bastion* 100.

There were two small weathered fragments with raised bosses in Phase 2.2 and Phase 2.4.

Other vessel glass

Of interest from the first phase of ditch filling (2.2) were an inturned rim 7cm diameter, probably a beaker and possibly 16th century (another similar in Phase 2.4) and 15 small joining fragments of gingery brown glass with fine ribbing. No form elements survive to tell if it is wrythen or not.

Illustrated vessels all from Phase 2.3.

44. Spun foot of a Romer (a goblet on a tall stem) in fine quality clear green glass, some surface patina. Narrower stem than the example illustrated from *Pit* 62 possibly indicating a date in the second half of the 17th century.

45. Unweathered light green fragment with horizontal rim. 13 cm diameter.

46. Small bottle in green metal with heavy

“gold” surface weathering. Similar to example from Rosedale, North Yorks (Charleston 1972, fig.60, no.3) but must be slightly bigger.

47. Green “stirrer”. Disk end with twisted stem.

Bottle Glass

48. 9 fragments in Phase 2.3 appear to be from one bottle or flask. Four pieces form top, neck and shoulder. Not a sack bottle. Very thick walled so appears dark but the metal is perhaps just normal green vessel glass.

THE COINS

by R. Brickstock

The small assemblage of 17 coins is made up entirely of 17th-century copper “small change”, with the exception of a worn silver penny of Elizabeth I. Of the remaining 16 issues, mostly in a relatively poor state of preservation and exhibiting considerable wear, the earliest is a copper farthing token of James I (issued 1614–25), while the rest span the half century from 1629–79.

It is not unusual to find quantities of Scottish coins in northern England at this period, and 12 of the group are Scottish 2*d.* pieces, sometimes called “turners”, probably a corruption from the French “turnois”: the double turnois was a small copper coin, struck in 1577 onwards, which probably circulated readily alongside it. Two double turnois, one certainly (and the other probably) of the region of Louis XIII, appear in this assemblage. The remaining coin, also Scottish, a 6*d.* (“Bawbee”) of Charles II, belongs to Charles’ second issue of copper coinage (1677–9).

There has been considerable debate about the dating of the “turners”. Some bear the numeral II in the obverse field. This is normally taken to be an indicator of value rather than of the ruler: new dies for Charles II could easily have included “II” in the legend, and the copper issues of 1677–9 did so (although the earlier, 1663, issue did not). The numeral was probably placed on the issues of 1642, 1644 and

1650 to prevent confusion: these issues were three times the weight of the immediately preceding ones and yet of the same denomination (Stewart 1955, 110–11).

If this analysis is accepted, the present assemblage contains six “turners” of Charles I: two each of 1629 and 1632, and the remaining two the heavier issues bearing the numeral II (1642–50). A further five “turners” are badly corroded, and could be either Charles I or Charles II, and the last, lacking the numeral II in either legend or field, is ascribed to Charles II (first issue 1663).

The Catalogue

Reference is made to the following works:

STEWART: Stewart I. A., 1955 *The Scottish Coinage*

North: North J. J., 1960 *English Hammered Coinage, II, Edward I to Charles II, 1272–1662*

The condition (wear:) of obverse and reverse is recorded according to the following classification:

UW	unworn	W	worn
SW	slightly worn	VW	very worn
EW	extremely worn	C	corroded

Phase 2.2

1. JAMES I denom: COPPER FARTHING TOKEN 1614–25

Obv IACO.ET.D.G.MAG.BRIT Crown and two sceptres

Rev FRA.ET.HIB.REX Harp surmounted by crown

catalogue: NORTH 2135 wear: ?SW/
SW diam: 16.0mm wt: 0.5g

2. CHARLES I denom: SCOTTISH “TURNER”, 2d. 1629

Obv CAROLVS.D.G.MAG.BRIT Thistle

Rev FRAN.&.HIB.REX Lion rampant, 2 points behind lion

catalogue: STEWART 235 wear:
?W/W diam: 17.5mm wt: 1.4g

Phase 2.3

3. CHARLES I denom: SCOTTISH “TURNER”, 2d. 1629

Obv CAROLVS.D.G.MAG.BRIT Thistle

Rev FRAN.&.HIB.REX Lion rampant, 2 points behind lion

catalogue: STEWART 235 wear:
W/W diam: 17.0mm wt: 1.2g

4. CHARLES I/II denom: SCOTTISH “TURNER”, 2d. 1632–63

Obv—?Crowned CR

Rev—

catalogue: STEWART 239 wear: C/C diam:
17.5mm wt: 0.9g

5. CHARLES I/II denom: SCOTTISH “TURNER”, 2d. 1632–63

Obv—?Crown

Rev—

catalogue: STEWART 239 wear: C/C diam:
19.0mm wt: 1.6g

6. LOUIS XIII? denom: DOUBLE TIRNOIS 16—

Obv—

Rev DOUBLE.TOURNOIS.16—Three fleur-de-lis

catalogue: — wear: C/C diam:
19.0mm wt: 2.1g

7. CHARLES I denom: SCOTTISH “TURNER”, 2d. 1632

Obv CAR.D.G.SCO.ANG.FR.ET.H.R
Crowned C II R, 3 Lozenges

Rev NEMO.ME.IMPVNE.LACESSIT Thistle

catalogue: STEWART 237 wear:

C/?SW diam: 15.0mm wt: 0.4g

8. ELIZABETH I denom: SILVER PENNY 1558–1603

Obv [E.D.G].R[OSA SINE SPINA]

Rev [CIVITA]S.L[ONDON] Shield in milled circle, English arms

catalogue: NORTH 1988 wear: C/W diam:
16.5mm wt: 0.3g

9. CHARLES I denom: SCOTTISH “TURN-

NER", 2d. 1632

Obv CAR.D.G.SCO.ANG.FR.ET.H.R
Crowned C II R, 3 Lozenges
Rev NEMO.ME.IMPVNE.LACESSIT Thistle
catalogue: STEWART 237 wear: C/C diam:
15.5mm wt: 0.2g

10. CHARLES I denom: SCOTTISH "TUR-
NER", 2d. 1642/44/50

Obv CAR.D.G.SCOT.ANG.FRA.ET.HIB.R
Crowned C R, II to right
Rev NEMO.ME.IMPVNE.LACESSIT Thistle
catalogue: STEWART 239 wear:
?W/W diam: 19.0mm wt: 1.7g

11. CHARLES I/II denom: SCOTTISH
"TURNER", 2d. 17th cen.

Obv—
Rev—
catalogue: STEWART 239 wear: C/C diam:
19.0mm wt: 1.2g

12. ?17th cen. denom: SCOTTISH "TUR-
NER", 2d. 17th cen.

Obv—
Rev—
catalogue: — wear: C/C diam:
18.0mm wt: 1.2g

13. CHARLES I/II denom: SCOTTISH
"TURNER", 2d. 1642/44/50/63

Obv CAR.D.G.SCOT.ANG.FRA.ET.HIB.R
Crowned C R, ?II to right
Rev NEMO.ME.IMPVNE.LACESSIT Thistle
catalogue: STEWART 239/243 wear:
?C/C diam: 19.0mm wt: 1.5g

14. CHARLES II denom: SCOTTISH
"TURNER", 2od. 1663

Obv CAR.D.G.SCOT.ANG.FRA.ET.HIB.R
Crowned C R
Rev NEMO.ME.IMPVNE.LACESSIT Thistle
catalogue: STEWART 243 wear:
?W/W diam: 19.0mm wt: 2.4g

Phase 2.4

15. CHARLES II denom: SCOTTISH
"BAWBEE", 2d. 1677-79

Obv [CAR.II.D.G.SCO.AN.FR.ET.HIB.R]
Bust left
Rev NEMO.ME.IMPVNE.LACESSIT Thistle
catalogue: STEWART 244 wear: C/C diam:
24.0mm wt: 1.0g

16. LOUIS XIII denom: DOUBLE TOUR-
NOIS 1643

Obv LVD.XIII.D.G.[FR.ET.NAV.REX]
Rev DOUBLE.TOUROIS.1643 Three fleur-
de-lis mm: +
catalogue:— wear: ?SW/SW diam:
19.0mm wt: 1.5g

17. CHARLES I denom: SCOTTISH "TUR-
NER", 2d. 1642/44/50

Obv CAR.D.G.SCOT.ANG.FRA.ET.HIB.R
Crowned C R, II to right
Rev NEMO.ME.IMPVNE.LACESSIT Thistle
catalogue: STEWART 239 wear:
?W/W diam: 19.0mm wt: 1.1g

THE METALWORK

by J. E. Vaughan

Copper Alloy

From Phase 2.3

49. Book clasp with incised decoration on
upper surface. Similar from Basinghouse
(Moorhouse 1971, fig.25, no.162). Probably
late 15th early 16th century.

50. *Stud or button in shape of domed disk
25mm diam. on a short (?broken) square
sectioned (2.5mm) shank.

51. Strip 8.5mm wide folded to form square
headed "rivet".

52. *A group of several small fragments
showing as at least five small tacks on X-ray.

53. *Large object made of thin sheet. Possibly
a strainer as lines of small punched holes
could be distinguished.

From Phase 2.4

54. Decorative binding strip?

55. Strap end?

56. *Pin, 32mm long though incomplete,

1 mm diam. shank. Large spherical head, about 4 mm diam.

From Phase 3 (Trench 2)

57. Key. Asymmetric bit. Possibly large chest key.

Iron Work

272 fragments of ferruginous material were sent for X-ray. 65% of the iron fragments came from the Phase 2.3 deposits with a concentration in the large ashy deposits. Apart from a fragment of a blade with rivet holes in Phase 2.2 the identifiable objects all came from these contexts too. The illustrated objects have been simply drawn from the X-rays.

58. Stem and bit of key.

59. Handle of small scale tang knife with remains of copper alloy rivets.

60. Fragment of double loop strap end buckle.

61. Oval buckle frame. Both the buckles had traces of leather still attached.

62. ?Split pin.

A fragment from Phase 2.3 on the west side of the site appeared to be a piece of sheet with a rolled edge and could have been a piece of armour.

Lead

Of 59 fragments recovered, 32 were from Phase 2.2, 19 from 2.3 and 5 from 2.4. The presence of 13 pieces of lead shot partly explains the relatively large number of lead objects. They were concentrated in the Phase 2.2 deposits with only three coming from Phase 2.3. Two were pistol balls, weighing 13 gm and 11 gm. The rest were musket balls varying in weight from 25 to 33 gm and averaging just over 29 gm. This would give nearer 16 than the 14 to the pound said to be the ratio used during

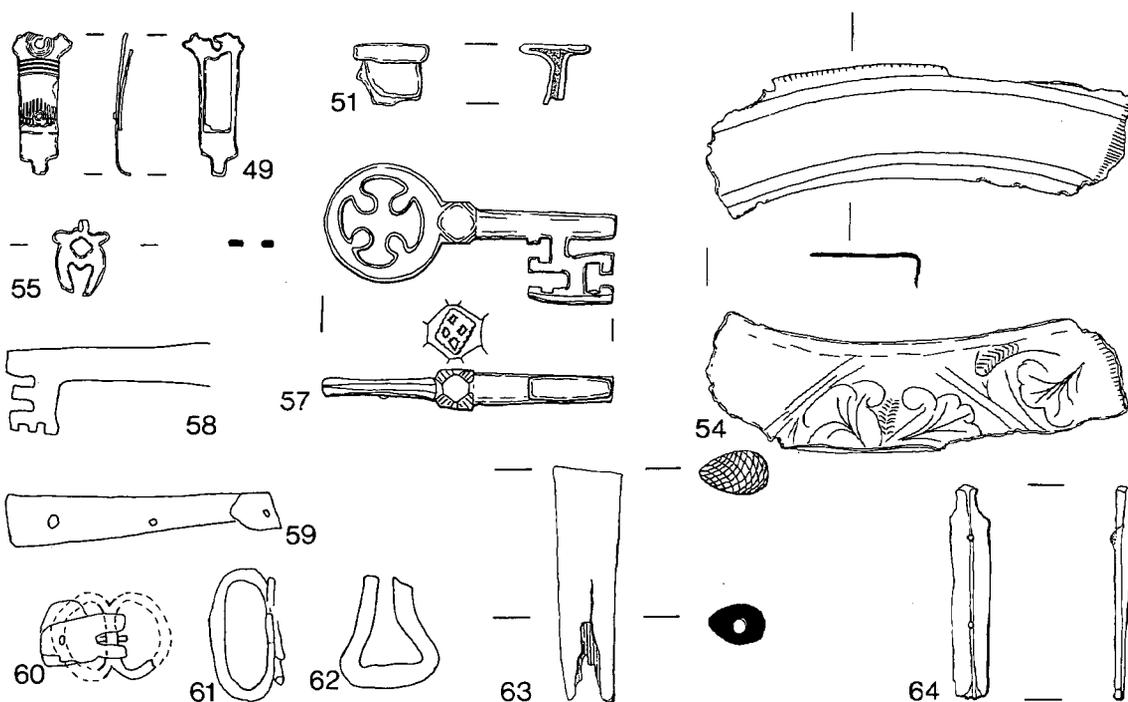


Fig. 12 Metal and Bone Objects (1/2; No. 51 and stamp on key 57 1/1 scale).

the Civil War, let alone the 12 to the pound official weight. However, these musket balls are comparable to those found in the Bastion ditch filling at the Castle and outside the Plummer Tower (see Goodhand, S., in *Bastion*, 205 and Vaughan in Nolan 1993, 146). It is most likely that their presence here results from the siege of Newcastle in 1644.

Another lead item of military equipment found was the cap from a charge holder (Phase 2.3). A musketeer carried a belt with usually twelve charge holders or cartridges suspended from it. Each held enough powder to discharge one shot. Three were found in the fill of the Bastion Ditch (see *Bastion*, fig. 17, nos 122-4) while a more complete example of a cap, with two side loops for strings attaching it to the body of the cartridge, was found elsewhere at the Castle (Nolan 1990, fig. 14, no. 46).

A few pieces of window came were found in Phase 2.3 deposits, the rest of the fragments were scraps and unidentifiable lumps.

Bone Objects

Both illustrated items from Phase 2.4.

63. Fragment of knife handle.

64. Half of double leaved knife handle with two copper stained rivet holes.

THE FISH BONES

by Rebecca Nicholson

Introduction

Unusually, the fish remains from Trench One can be fairly closely dated, making the small assemblage of archaeological importance. Additionally, almost all the bones were recovered by sieving, so that, despite the poor state of preservation of the fish remains, most of the bones were from relatively small fish, in contrast to assemblages recovered by hand-picking only. The sieved assemblage mainly comprised small or medium gadids (cod family) with a lesser representation of clupeids

(probably all herring) and flatfish.

A detailed account of the recording methods, criteria reflecting preservational state, and problems of quantification and analysis are contained in the archive report, along with a full species/sample type table, and only a summary of salient points is included here.

Results

Gadid fish (cod family) of small or medium size dominated the assemblage, while herring and eel, which frequently dominate urban medieval deposits, were relatively scarce. Of the gadid bones, most were from haddock, generally of 3-6 years of age (Muus and Dahlstrom 1985, 104). Other species represented included cod, ling, whiting, pollack and saithe. Several other species were represented in small numbers, including roker (thornback ray), plaice or flounder and eel. Trench Two yielded one vertebra from a brown trout.

Discussion

The dominance of haddock from the Civil War ditch fill, and the scarcity of other large gadids, notably cod, saithe and ling, is fairly unusual for British urban sites. This may in part be explained by the sieving policy; small sieved assemblages of similar date at both Quayside sites in Newcastle (Queen Street and Crown Court—Nicholson 1988; 1989) produced proportionately high numbers of small gadid bones, particularly from whiting and haddock. This was not the case for hand-picked assemblages, where larger fish dominated.

The low frequency of herring and eel is more surprising, as these species typify medieval urban deposits where deposits have been sieved. As herring and eel bones are fairly small in comparison with bones from similar sized gadids their scarcity may reflect poor preservation on the site: many of the gadid bones were abraded or incomplete. Surprisingly few other species of fish were represented, and the dominance of haddock and

other small gadid fish could represent a fairly low status diet. Other interpretations are possible; large fish could have been filleted on the boats or at the Quayside, for example (as in modern times), so large bones may infrequently have found their way inland, as suggested for the post medieval site at Blackfriars (Rackham 1987, 141). It is also possible that catches of small gadid fish tended to be consumed close to the port where they were landed, preservation by salting and drying being reserved for larger specimens.

In life, haddock live close to the sea bed at depths of up to 300m, but seasonally migrate inshore. They are traditionally caught in winter around the coasts of North-East England (Northumberland Sea Fisheries Committee, Northern District: summary of fish landed, 1916-1949). While haddock may be caught on lines, the abundance of fairly small fish suggests capture in trawl or seine nets. Although it is likely that the marine fish represented at this site were captured in the North Sea, from the Tudor period at least, English fishermen exploited waters as far afield as Iceland, and from the mid-16th century, Newfoundland. Fish were preserved on board ship by salting in barrels. At this time, Dutch fishing fleets fished the coasts of North-East England, and sold vast quantities of fish on the English market (Muus and Dahlstrom 1985, 212).

THE ANIMAL BONES

by *L. J. Gidney*

Introduction

This report is a summary of the main findings from Trench One, the Civil War town ditch. These animal bones form an unusually closely dated group, spanning only 40 years from 1640 to approximately 1680.

A full archive report is available from Newcastle City Council or the Biological Laboratory, Department of Archaeology, University of Durham and should be consulted for details of the recording system used and all analyses.

Results

Four main phases of deposition were identified within the ditch but only Phases 2.2-4 produced animal bones.

Phase	No. of identified fragment	%
2.2	126	9
2.3	685	47
2.4	632	43

The state of preservation of the bone fragments was reasonably good but brittle. However, the partial piglet skeletons recovered were in pristine condition suggesting rapid burial without prior exposure and an excellent burial environment. The incidence of gnaw marks is very low suggesting that rubbish deposited in the ditch was rapidly buried before scavenging dogs could attack the bones.

The number of butchery chopping marks was low, knife marks were rare and saw marks absent. This may reflect poor surface condition on the bones and butchery practices not centred on crude hacking. Sagittally split vertebrae of cattle and sheep/goat indicate that these carcasses were commonly suspended and split into two sides.

Sampling

The rigorous sieving to 10 mm of all the deposits in Phase 2.2 and most of the deposits in Phase 2.3 has enhanced the recovery of smaller bones. Phase 2.4 was not sieved. The difference in the number of identified fragments found in Phases 2.3 and 2.4 is partly a reflection of the enhanced recovery by sieving in Phase 2.3. The bulk samples sieved to 2 mm also recovered more rabbit, small mammal and bird bones. These would not have been retrieved by hand excavation and would have passed through the 10 mm sieve.

Species

Table 3 shows that the majority of the identified fragments are from domestic mammals. The relative proportions of the three common domesticates are calculated from the fragment counts for: cattle plus large ungulate; sheep/goat plus small ungulate; pig.

Sheep/goat remains are more abundant than those of cattle in all phases. Their highest proportion occurs in Phase 2.2 reaching values of 71% and dropping to 50% in Phase 2.4. Conversely cattle remains recover from a low of 22% in Phase 2.2 to a high of 42% in Phase 2.4. Quantifying the pig remains in Phase 2.3 is complicated due to the presence of approximately seven individuals of about the same age which have been counted as single bones for Table 3. While this may be slightly inaccurate, pig remains are indubitably more abun-

dant in Phase 2.3 and this abundance has depressed the proportion of cattle remains rather than those of sheep/goat.

Cattle

The most abundant identified fragments are from the lower jaw and horn core, which far outnumber other parts of the head. Two trends are suggested: firstly disposal of specialized/industrial waste in the form of lower jaws and horn cores and secondly food debris drawn fairly indiscriminately from all parts of the carcass, incorporating both the better and poorer cuts of beef. Perren (1978, 26) notes that "the subtle differences of taste that are apparent between different joints of meat when they are roasted disappear when it is stewed". Perren further comments that in 19th-century Scotland where the "people were

Table 3 Fragment counts for the species present (* partial skeleton counted as one bone)

	Hand recovered and >10mm fragments Trench 1			Sieved >2mm Trench 1	
	Phase 2	Phase 3	Phase 4	Phase 2	Phase 3
Cattle	23	199	215	1	7
Sheep/Goat	73	255	267	8	11
Sheep	2	6	3		
Pig	8	(7*) 85	35	1	1
Horse	1	14	19		
Fallow Deer			1		
Deer		1			
Cat	4	12	9		2
Dog	4	(2*) 23	7	2	3
Rabbit	1	2		3	
Small Ung.	5	46	29	1	1
Large Ung.	2	18	24		
Rat		3	1		
Small Mammal					3
Frog/Toad	1			2	
Fowl	1	7	11		1
Duck		6			
Goose	1	5	10		
Turkey		1			
Raven		2			
Rook/Crow			1		
Small Passerine				1	
Totals	126	685	632	19	29

much in the habit of living on broth and boiled meat . . . there was no strong consumer preference for particular joints”.

Numerous cattle horn cores probably indicative of industrial processing have also been found in the Castle ditch (Rackham 1981), post-Dissolution features at Black Friars (Gidney unpubl.) and the Town ditch at Bath Lane (Gidney 1989).

Loose teeth comprise 15% of the identified cattle fragments. This figure may suggest the breakage of jaws, probably for culinary purposes, rather than serious decay of jaw bones leaving only the teeth surviving. The animals represented by these tooth wear groupings range from infant calves through, in modern terms, prime beef animals to mature beasts, possibly used in life as breeding stock, oxen or dairy cattle. The presence of very young calves has been noted in other seventeenth-century urban deposits, for example Leicester (Gidney 1991) and Exeter (Maltby 1979), and may be related to a general growth in urban dairying at this time.

The evidence from the epiphyseal fusion data suggests that only 3% of the bones are from animals killed before *c.* 18 months of age. Some 40% of the vertebrae are from animals killed after full skeletal maturity at about five years. The remaining epiphyses indicate culling in the intervening age groups.

From the seven entire measurable cattle bones the animals appear to have ranged in withers height from 1.07m–1.32m. This variation may indicate the size range within one population, encompassing cows, steers and bulls, rather than animals from populations of different stature.

Sheep/Goat

None of the sheep/goat fragments exhibited the characters associated with goat; over a quarter were specifically sheep. All sheep were horned but the low incidence of sheep horn cores suggests that these were not valued for craft working in the same way as cattle horn. Polled sheep skulls have, however, been found in the Castle ditch (Rackham 1981, 237). The three intact sheep bones indicate animals of

very similar size, all at 0.52–0.54m withers height.

The most common fragments encountered were from the shoulder, followed by the jaw, tibia and metapodials. A high proportion of sheep shoulder bones has been noted in 17th-century deposits at Leicester (Gidney 1991) and York (O'Connor, pers. comm.). O'Connor suggests that this may indicate a change in butchery practice in the 17th century. None the less all parts of the carcass are represented indicating dismemberment within the town, although the majority of the bones deposited here are from the less prized cuts of meat. These could include sheep's heads and trotters which may equally represent food debris or skin processing waste. Drummond and Wilbraham (1991, 100) comment that the 17th century “poorer town dwellers . . . now and again could afford the cheaper meats such as sheep's heads or pig's trotters”.

The mandibles indicate the presence of one lamb, a few animals in their second year and the remainder of increasing age beyond two years, including one very aged animal. This cull pattern suggests prime lamb and mutton from the younger animals, together with a wool clip from the second year sheep, and the culling of increasingly elderly breeding stock which would have provided several wool clips prior to slaughter. The epiphyseal fusion data also suggests a minimal cull of animals less than a year old, with an increasing cull up to about four years, and only some 20% of the animals slaughtered over the age of five years.

The sheep slaughter pattern from the Bastion also showed an increased cull amongst animals aged approximately 2–3 years. A similar preferential cull of sheep aged about 2–4 years was also noted at Black Friars (Rackham 1987). Like this assemblage, no goat bones were found in the deposits associated with the 17th century Castle bastion (Rackham 1983).

Pig

All parts of the pig carcass are represented, though this is influenced by the presence of the partial skeletons. However, the tibia is the overall most frequent element encountered.

This bone is unlikely to fragment more than, for example, the humerus and femur and this may indicate that besides whole pig carcasses, lower hind legs were also consumed in the vicinity and the bones disposed of in the ditch.

This selection of leg of young, even suckling, pork contrasts with the choice of shoulder of mutton and little apparent selectivity of beef joints. These pig bones may represent debris from a particular feast or household whereas the cattle and sheep/goat bones may derive from more than one household in the vicinity and reflect consumption patterns in the locality.

No mature animals are represented by teeth. The mandibles suggest an animal little more than a year old and another slightly younger animal. There are four jaws probably from animals aged 4–6 months, which include those from the partial skeletons. There is one jaw from a foetal or neonatal piglet.

Virtually all the epiphyses found are unfused. Only 7% of the epiphyses in the first age group, up to one year, are fused. There is no epiphysial evidence for any pig surviving beyond this, which accords with the tooth evidence.

Five of the pig bones are probably from neonatal piglets and one femur was from a foetal animal. The estimated length of this bone indicates 87–9 days gestation, estimated after Prummel (1989), whereas the full term of pregnancy in the pig is 115 days. There would seem little doubt that pigs were breeding in the vicinity of this site, an unprecedented observation among other contemporary sites in Newcastle, though a partial immature pig skeleton lacking feet, skull and vertebrae was found in the Castle ditch (Rackham 1981). A foetal pig bone besides neonatal bones were found at Black Friars (Rackham 1987).

Horse

Remains of horse were not common and certainly no largely complete horse carcass appears to have been dumped in this section of ditch in contrast with the Castle ditch (Rackham 1981) and the Town ditch at Bath Lane (Gidney, unpubl.).

Most horse bones would seem to have been random fragments incorporated in the detritus used to infill the ditch as part of the urban "background" of general bone debris. However, a complete front foot besides skull, pelvis and hindleg fragments were found, possibly all from the same animal. These may represent a carcass disturbed and reincorporated in the material used for backfill. The metacarpal gives an estimated withers height of 1.27 m, a pony of 13 hands (von den Driesch and Boessneck 1974, 333). A further three bones probably from one animal were found, from which a withers height of 1.09 m was estimated, a pony of about 11 hands.

All but one of the horse teeth and bones found were from skeletally mature animals, except one animal of less than two years old; too young to have been broken in for harness or riding.

No gnawed or butchered horse bones were seen which would suggest utilization of horse carcasses. However, over half of the horse fragments derive from heads, feet and lower limb bones so it is possible that some hide processing debris may be represented.

Dog

Remains of dog occurred in similar numbers to those of horse. However, two partial adult skeletons of this species were found. A further concentration of dog bones probably represents dispersed elements of an animal aged about 6 months and a withers height of 30 cm estimated after Harcourt (1974, 154). A further bone was comparable to a recent specimen with an estimated height of 70 cm. One maxilla from a short-snouted animal with only two premolars present instead of the usual four was seen. No evidence of skinning or butchery marks was seen on any of the dog bones. The ditch would seem to have been used as a suitable repository for the disposal of dog corpses.

Dog bones and partial skeletons from animals of widely differing size and conformation have been found in other ditch fills in Newcastle. For instance another example of a particularly large dog was recovered from the

Town ditch at Bath Lane (Gidney, unpubl.).

Cat

Two concentrations of four or five bones were noted which may indicate parts of redeposited corpses. The animals represented were all adult. An elderly animal which had lost all but tiny stumps of its cheek teeth and incisors during life—the alveoli have healed with fresh bone growth, must have been a favoured domestic pet fed on suitable soft pap to have survived without its teeth long enough for the tooth sockets to heal up. A jaw from a further old, almost toothless cat was found at Black Friars (Rackham 1987).

Rabbit

Rabbit bones were scarce, only six were found. Three of these were retrieved from the 2mm sieve. Four of the six rabbit bones were found in Phase 2.2, a period of low intensity human activity which may indicate that rabbits were colonizing the ditch as much as the deposition of food debris. Rabbit would appear to have been rarely exploited as a food source.

Fallow Deer and Intermediate Deer

Fallow Deer is represented by a single bone and a small piece of antler tine, and indicate minimal exploitation of deer either for food or as a source of raw material for artifact manufacture.

Small Mammals

The 10mm sieved fractions produced four rat limb bones, which cannot be used to distinguish between black and brown rat. The 2mm sieved fractions produced mouse/vole sized bones from Phase 2.3. These few bones probably under-represent the numbers of rodents originally scavenging organic garbage deposited in the ditch.

Frog/Toad

Only four amphibian bones were seen, and none could be distinguished between frog and toad. All four bones were from Phase 2.2 when there was moving water present in the ditch but human activity was of low intensity.

Birds

The most commonly found bird bones were those of a medium size galliform, almost certainly domestic fowl. Fowl bones are infrequent compared to those of the domestic food mammals which suggests that chicken was an infrequent treat and not a significant source of food.

Goose bones are only slightly less common than those of fowl. 15 of the 19 goose bones present are from the wing and the remaining four bones from the pectoral girdle. This suggests the use of the wing feathers for such things as brushes, arrow flights and quill pens. All the goose bones were comparable with a modern greylag skeleton and could have been wild or domestic, though more probably the latter.

Duck remains were the next most frequently encountered bird bones, including a partial skeleton comprising the greater part of two wings and the pectoral girdle. All the duck bones were comparable with modern mallard skeletons and so may have been wild or domestic.

A turkey humerus was found of which both articular ends have been gnawed, probably by a cat or very small dog. The turkey is thought to have been introduced to England from 1540 and "by Queen Anne's reign was expected to grace every board on Christmas Day" (Simon 1983 ed., 606–7). Turkey bones have also been found in the Castle Ditch and Bastion excavations.

The raven bones comprise two articulating bones from one wing, of which one has been broken in antiquity with no sign of healing. The raven was an urban scavenger within the historic past. This bird could have been killed as such or perhaps for its wing feathers. Raven bones have also been found in the Castle ditch.

The 2mm sieve contributed the presence of a small passerine to the species list and the flotation residues produced bird bones not identifiable to species but fowl sized.

Shellfish

Despite the proximity of coastal resources to

Newcastle, shellfish did not appear to have provided a significant item of the diet in this part of the town.

Summary and Discussion

The faunal assemblage recovered from this site appears to be primarily domestic refuse dominated by the bones of the domestic food animals: cattle, sheep/goat and pig. The cattle horn cores found suggest a component of industrial debris from horn working mixed in with the household refuse. While whole carcasses of both cattle and sheep/goat were procured for the town, little selectivity was observed among the beef bones, although the mutton bones suggest a slight preference for the shoulder. In contrast the pig bones suggest some preference for the hind leg. The presence of infant piglet bones indicates that pigs were breeding in the vicinity.

The use of the 10mm sieve as an adjunct to the hand recovered bones has produced an assemblage with known parameters of fragment/size recovery. The use of the 2mm sieve and the sorting of the flotation residues has provided little extra information on the mammal and bird species, though this level of recovery is essential for fish bone.

Overall this assemblage of animal bones shows similarities with the bones found in other ditch sections excavated in Newcastle but less affinity with the bones from other sites in Newcastle, such as the Quayside and Closegate, which did not include sections of the Town or Castle ditches.

THE PLANT REMAINS

by Jacqueline P. Huntley

The site was not waterlogged and therefore preservation through carbonization or mineralization only was expected. As a result bulk samples of 15–30 litres volume were passed through a siraf-style tank on-site and with the flot being retained upon 500u mesh and the

residue upon 500u mesh. 79 contexts were sampled in this way, representing 100% of undisturbed deposits, of which 33 were selected for full analysis.

Results

Material was preserved through carbonization and waterlogging, the latter arising from differential preservation of organic material. Seeds and pips were present in generally low numbers, the most common being blackberry, dead nettle type, elderberry, strawberry, henbane, hemlock, stinging nettle, fig and grape. Some must represent food remains such as blackberries, strawberries and fig, probably deposited in faecal matter. Ruderals, and shrubs like elder, may have grown in or overhanging the ditch during periods of low activity.

Carbonized seeds were mainly cereal grains, but present in very low numbers. Oats, barley, wheat and rye were in use during the filling of the ditch, with oats predominating, although it is not clear whether they were all from the cultivated species.

In total, a small but interesting dataset that provides information about the 17th century for which few other data exist and none, to the author's knowledge, from Newcastle.

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