Excavations of a Saxon site in St James' Square, Northampton 1981

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St James Square
Sequence Diagram

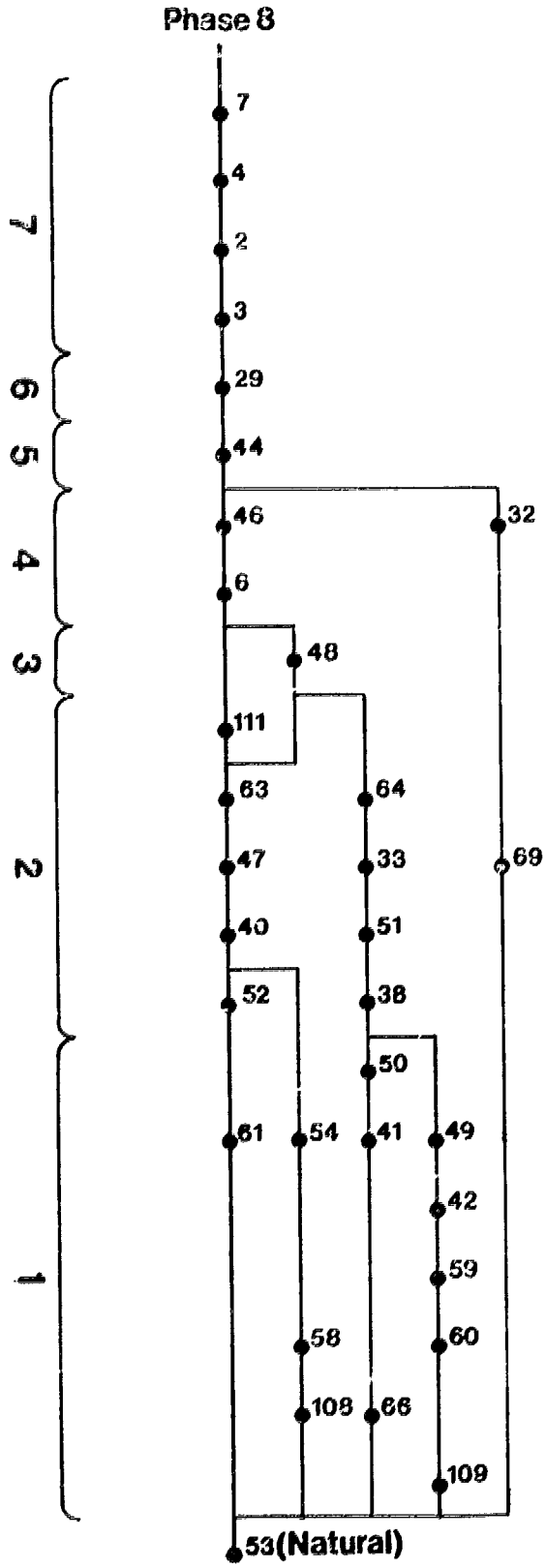


Fig M1

LAYER LIST TRENCH A

The following layer list only includes those layers appearing on the published plans and sections (see main text). For other layers, mainly in the east face of the trench, and from which no finds were recorded, it is necessary to consult the site archive.

ABBREVIATIONS

CF	charcoal flecks/fragments	(M)	Munsell colour
E	east	N	north
ES	environmental sample (see p.)	NOSD	not on sequence diagram
Fe	iron object	S	south
FL	furnace lining > 100gm	SD	surviving depth
fl	" " < 100gm	TS	tap slag > 100gm
fs	forging slag <100gm	ts	" " < 100gm
H	hone	W	west
IF	ironstone fragments	WB	worked bone
L	leather	WD	wood
LW	loomweight	WF	worked flint

Layer no	Phase	Description	Finds
2	7	=(105). Pale brown to brown (M) clayey loam, CF, IF, clay flecks.	TS
3	7	=(37, 76). Dark greyish brown (M) clayey loam, CF, IF.	ts; WF2
4	7	=(27, 75). Light yellowish brown (M) clayey loam, CF, IF, patches of light brownish grey (M) clay.	ts
5	8	=(107). Wall foundation for wall 106; ironstone blocks loosely set into brown (M) clayey loam matrix, clay patches. NOSD.	
6	4	=(24, 25, 28, 34). Dark greyish brown to dark brown clayey loam, CF, IF, clay flecks.	Fe1; fl; fs; LW1; TS; WB1 WF3, 4
7	7	=(9, 10). Yellowish brown (M) clayey loam, CF, IF. E section shows a lens (9) of brown clayey loam, CF, IF.	TS

Layer no	Phase	Description	Finds
A20	8	Pit, SD 0.5m; brown (M) clayey loam, CF, IF, LF. Disturbed deposit containing slag. NOP, NOSD.	ts
21	8	=(22, 23, 26). Shallow depression, SD 0.15m; S fill (23) brown (M) clayey loam, CF, IF, clay flecks; central fill (21) brown clayey loam, CF, IF; N fill (22) pale brown (M) clay, IF. NOSD.	ts
29	6	=(30, 31, 35, 36, 39, 67, 68). Brown (M) clayey loam/clay, CF, IF, ironstone rubble; concentration of ironstone rubble and large animal bones in area of pit 44.	TS; WF1
32	4	Compact surface of small pieces of ironstone.	
33	2	Ironstone rubble, some burnt, frequent animal bone, CF, in dark brown (M) clay loam; compacted surface.	
38	2	Ironstone rubble, some burnt, frequent animal bone, CF, in dark brown (M) clay loam, compacted surface.	
40	2	Dark greyish brown (M) clayey loam, IF, CF. Possibly equivalent of 38.	ES
A41	1	=(65). Brown to dark greyish brown (M) clayey loam, CF, IF.	
42	1	=(43, 55-7). Light yellowish brown (M) clay, CF, IF.	ES; ts
44	5	=(45). Pit, SD 0.70m, not bottomed; S side revetted with 3 vertical oak planks (WD2-4); fill dark grey (M) clayey loam, IF, CF.	ES; L1-6; WD2-4
46	4	Mottled clay layer; visible only in W section.	
47	2	=(110). Dark brown (M) clayey loam, CF, frequent IF; at N send dips to dark greyish brown (M) clayey loam with IF and ironstone rubble. Possibly equivalent of 33.	ts
48	3	Pit, SD 1.10m; very dark greyish brown (M) clayey loam, CF, IF.	ES
49	1	Pit SD 0.25m; dark greyish brown (M) clayey loam, CF, IF.	FL
50	1	Depression, SD 0.10m- brown clayey loam, CF, IF.	
51	2	Shallow pit, SD 0.2[illegible]m; dark greyish brown (M) clayey loam, CF, IF.	
52	2	Disturbed area of IF with iron-panning.	
53	N	=(62, 70). Natural pale brown (M) clay.	ES

Layer no	Phase	Description	Finds
54	1	Shallow pit, SD 0.13m; greyish brown (M) clay, IF, CF.	
58	1	Brown (M) clay, IF, CF.	
59	1	Shallow pit; .1, dark brown (M) clayey loam, IF, CF; .2, brown (M) clay, IF. Lined with stakes (WD5-9). See microfiche 23-24)	ES; WD5-9
60	1	Gully, SD 0.4m; 60.1, brown (M) clay, IF, CF; 60.2, grey (M) clay, IF, CF.	ES
61	1	Shallow pit, SD 0.20m; 61.1, brown clayey loam, IF, CF; 62.2, pale brown-grey (M) clay, IF; possible evidence of basket-work lining.	WD1
63	2	Stone lining of pit 48 to north of 48; ironstone rubble in greyish brown (M) clayey loam; probably the same as 64.	
64	2	Stone lining of pit 48 to S of 48; ironstone rubble in greyish brown (M) clayey loam; probably the same as 63 but less rubble.	
66	1	Pit, SD 0.30m; light yellowish brown (M) clay, IF. Possibly same as 108.	
69	2	Pale brown (M) clay, IF.	
93	8	Brick wall. NOSD.	
94	8	94A: robber trench of wall 94B: mixed light grey (M) clay, brown (M) loam, yellow (M) clay, strong brown (M) clayey loam, IF. NOSD. 94B: Ironstone foundations in brown (M) clayey loam, IF. NOSD.	
95	8	Foundation trench for wall 93. Loose dark greyish brown (M) loam, IF, CF. NOSD.	
96	8	Foundation trench for wall 93. Loose dark greyish brown (M) loam, IF, CF. NOSD.	
97	8	Pit, SD 0.25m; fill dark brown (M) loam, IF, CF. NOSD.	
98	8	Dark yellowish brown (M) clayey loam, IF, CF. NOSD.	
99	8	Pit, SD 0.15m; fill dark brown (M) clayey loam, CF. NOSD.	
100	8	Brown clayey loam, CF. NOSD.	
101	8	Very dark greyish brown (M) loam, IF, CF. NOSD.	
102	8	Dark yellowish brown (M) loam, IF and gravel. NOSD.	

Layer no	Phase	Description	Finds
103	8	Brown (M) clayey loam, CF, IF. NOSD.	
104	8	Gravel and IF. NOSD.	
106	8	Ironstone wall. NOSD.	
108	1	Pit, SD 0.20m, greyish brown (M) clay, CF, IF. Possibly same as 66.	
109	1	Light brown (M) clay, clay particles.	
111	2	Dark greyish brown (M) clay, CF, IF.	

THE POTTERY

by V Denham

1. Codified summary of pottery.

Example:

A 302 11 T2 A3 / ABC 7 33, 60
W15 ABC 1

Layer A 302, 11 sherds.

Fabric T2: 3 cooking pots, 7 body sherds; see illustration Nos 33, 60.

Fabric W15: 1 body sherd.

Code of vessel forms:

A	cooking pots
B	bowls
C	jugs
C_4	pitchers
D	lamps
U	uncertain

The combinations AB, ABC, BD, etc indicate uncertainty as to vessel type.

Trench A

Phase 1

A42	3	T1 AB3	
A49	1	T1 AB1	
A50	1	T1 B1	35
A54	1	S3/T1 AB1	3
A105	7	S3/T1 AB6	
		T1 AB1	

Phase 2

A33	3	S3/T1 A2	1, 2
		T1 B1	
A38	6	T1 A3/AB4	16, 17
A40	1	T1 AB1	48
A47	5	W1 AB1	
		T1 A1/B1/AB2	6, 18, 27
A52	3	T1/2 AB3	
A63	2	T1 AB1	
		T1/2 AC1	55

Phase 3

A48	1	T1 AB1	

Phase 4

A6	142	T1 A3/B9/AB108/AD1	9, 11, 12, 26, 31, 32, 33, 36, 38, 40, 42, 49
		$X1_1$ A1 C_4 C	4, 5
		V5 A1	61
		T1/2 A1/B1/AB1/ABC10	53, 54, 56, 59
A46	3	T1 A1/B1/AB1	21, 34

Phase 5

A44	6	T1 A2/AB3	20, 39
		U AB1	

Phase 6

A29	28	T1 A2/B2/AB15	47
		$X1_1$ $C_4$6/A1	
		T1/2 AC1	57
		T2 A1	63

Phase 7

A2	4	S3/T1 AB1	
		T1 AB3	
A3	9	S3/T1 AB1	
		T1 A1/AB3	14
		$X1_1$ $C_4$1	
		T1/2 ABC1/D1	60
		T2 B1	64
A4	4	T1 AB2	
		T1/2 ABC2	
A7	16	T1 AB12	29
		$X1_1$ $C_4$1	
		W4 U1	
		V5 AB2	62
A21	70	T1 A5/B2/AB53/ABD1/AD1	10, 13, 22, 24, 28, 41, 43, 44, 50, 52
		$X1_1$ $C_4$1	
		$W3_1$ ABC1	
		T1/2 AC1/ABC4/D1	58, 60

Phase 8

A1	5	T1 A1/AB4	45
A5	3	T1 A1/AB1	7, 8
		$X1_1$ $C1_1$1	
A20	2	T1 AB1	
		T1/2 AB1	

Unstratified

A	U/S	28	T1 A1/B2/AB22	15, 19, 30, 37, 51
			$V1_1$ AB2	
			T2 ABC1	

Trench Z

Z7	1	S3/T1 AB1
Z6	9	T1 B2 AB4
		T1/2 ABC2
		T2 ABC1
Z9	9	T2 A1
		V1 A8

ii) Notes on specific fabrics.

XI Stamford ware.

Stamford ware sherds were recovered from Phases 4 to 8, and make up 5.5% of the stratified pottery. This reinforces the long standing connection between Northampton and Stamford suggested by finds from St Peter's Street (McCarthy 1979, 164) and Chalk Lane (Gryspeerdt 1981, 118).

The majority of the material probably comes from spouted pitchers (Form 5, Kilmurry 1980). One handle (Form 38) is present (Illustration no 5). The glaze (Type 1) is clear and glossy but thin, and of a pale green colour. Parallels with material from Chalk Lane (Gryspeerdt 1981, 118 and Kilmurry, microfiche frames 64-65 in Williams and Shaw 1981) suggest a date of approximately 1020-1175AD, although the form is known from the late 10th century in Stamford.

The remainder of the material comprises two unglazed body sherds which probably derive from cooking pots or bowls, and have evidence of sooting and wipe marks.

W1 Northampton ware.

Only one sherd of Northampton ware was found, and this was probably from a cooking pot or bowl. The lack of this ware from St James' Square is somewhat surprising in view of the presence of a W1 horizon on both Chalk Lane and St Peter's Street (McCarthy 1979, 227) at a similar date and in association with a comparable suite of regional imports. This absence may be explained by the small size of the sample, in particular the paucity of material from Phases 5 and 6, or alternatively the differences between the T1 and W1 horizons may lie in function or social strata. Further work on Saxon contexts from Gregory Street, Northampton (Williams et al forthcoming) may help to elucidate this problem.

Catalogue of Illustrated Pottery : M407 St James' Square Reference code: M115 St Peter's Street Report & ill. no. (McCarthy 1979)
M139 Chalk Lane Report & ill. no. (Gryspeerdt 1981)

No	Reference Drawings	Fabric	Form	Sherd	Diam (mm) Rim	Base	Colour (Munsell) Ext	Core	Int	Comments	Small Find no	Layer	Phase
1	*	S3/T1	A	rim	140		7.5YR 2/0	7.5YR 4/0	7.5YR 3/0	Sooted around rim	216	33	2
2	*	S3/T1	A	rim	200		7.5YR 6/2	7.5YR 5/0	7.5YR 6/2	Sooted on exterior	219	33	2
3	*	S3/T1	AB	base		160	7.5YR 6/2	7.5YR 6/0	7.5YR 7/2		263	54	1
4	*	$X1_1$	C	base		160	5Y 6/3	7.5YR 7/0	10YR 7/1	Full external glaze	218	6	4
5	M139 180	$X1_1$	C	handle			5Y 6/3	5Y 6/1	5Y 6/3	Full external and internal glaze	214	6	4
6	*	T1	A	rim	170		10YR 3/2	10YR 4/1	10YR 3/2		244	47	2
7	ibid 6	T1	A	rim	240		7.5YR 2/0	7.5YR 3/0	7.5YR 3/0		240	8	5
8	M139 52	T1	A	rim	140		7.5YR 5/4	10YR 5/1	7.5YR 6/4		1	5	8
9	*	T1	A	rim	150		7.5YR 6/4	7.5YR 5/0	7.5YR 6/4		161	6	4
10	ibid 9	T1	A	rim	140		10YR 4/1	10YR 4/1	10YR 4/1	Sooted around rim	151	21	7
11	M115 41	T1	A	rim	150		7.5YR 3/0	7.5YR 5/0	7.5YR 7/2	Sooted around rim	243	6	4
12	ibid 11	T1	A	rim	140		7.5YR 5/2	7.5YR 5/0	7.5YR 6/4		133	6	4
13	*	T1	A	rim	140		7.5YR 6/2	7.5YR 5/0	7.5YR 7/2		237	21	7
14	M115 41	T1	A	rim	200		7.5YR 3/2	7.5YR 5/0	7.5YR 6/4		106	31	7
15	M139 54	T1	A	rim	150		7.5YR 5/2	10YR 4/1	10YR 5/2		69	U/S	9

No	Reference Drawing	Fabric	Form	Sherd	Diam (mm) Rim	Base	Colour (Munsell) Ext	Core	Int	Comments	Small Find no	Layer	Phase
16	M115 500	T1	A	rim	220		10YR 4/1	10YR 4/1	10YR 6/2	Sooted on exterior	250	38	2
17	*	T1	A	rim	240		7.5YR 6/4	7.5YR 5/0	7.5YR 6/4		251	38	2
18	*	T1	A	rim	140		7.5YR 6/4	7.5YR 5/0	7.5YR 5/2		264	47	2
19	*	T1	A	rim	140		7.5YR 6/2	7.5YR 5/0	7.5YR 6/2		-	U/S	9
20	ibid 11	T1	A	rim	140		5YR 5/3	7.5YR 5/0	7.5YR 5/2	Sooted around rim	252	44	5
21	ibid 19	T1	A	rim	180		10YR 4/1	7.5YR 5/0	7.5YR 6/4		58	46	4
22	ibid 19	T1	A	rim	140		7.5YR 6/4	7.5YR 5/0	7.5YR 6/4		122	21	7
23	M139 56	T1	A	rim	100		10YR 4/1	7.5YR 5/0	7.5YR 5/2		84	29	6
24	M139 49	T1	A	rim	180		7.5YR 5/2	7.5YR 4/0	7.5YR 5/2		115	21	7
25	*	T1	A	rim	160		5YR 5/4	7.5YR 5/0	5YR 6/6		89	29	6
26	M139 72	T1	B	rim	130		5YR 6/6	7.5YR 5/0	7.5YR 7/4		63	6	4
27	*	T1	B	rim	180		7.5YR 6/4	7.5YR 4/0	7.5YR 6/4		57	47	2
28	M139 77	T1	B	rim	160		5YR 4/1	5YR 6/4	5YR 5/4		148	21	7
29	M139 91	T1	B	rim	180		5YR 3/1	7.5YR 3/0	5YR 4/3		30	7	7
30	M115 191	T1	B	rim	140		5YR 5/4	7.5YR 5/0	7.5YR 6/4		72	U/S	9
31	*	T1	B	rim	250		7.5YR 5/2	7.5YR 5/0	7.5YR 5/2		209	6	4
32	M139 89	T1	B	rim	160		10YR 3/1	10YR 3/1	10YR 2/1		205	6	4
33	*	T1	B	rim	280		5YR 4/1	10YR 5/2	10YR 4/1		246	6	4

No	Reference Drawing	Fabric	Form	Sherd	Diam (mm) Rim	Diam (mm) Base	Colour (Munsell) Ext	Colour (Munsell) Core	Colour (Munsell) Int	Comments	Small Find no	Layer	Phase
34	*	T1	B	rim	340		7.5YR 5/2	7.5YR 5/0	7.5YR 6/4		257	46	4
35	M139 87	T1	B	rim	260		10YR 4/2	7.5YR 5/0	10YR 6/2		262	50	1
36	M139 87	T1	B	rim	280		5YR 6/1	10YR 6/1	5YR 6/1		200	6	4
37	*	T1	B	rim	300		5YR 4/2	7.5YR 5/0	5YR 5/4		300	U/S	9
38	M139 54	T1	AB	rim	?		7.5YR 3/2	7.5YR 4/0	7.5YR 3/2		211	6	4
39	*	T1	AE	rim	300		5Y 2.5/1	2.5Y 3/0	2.5Y 3/0		256	44	5
40	*	T1	?AD	rim	130		10YR 3/1	10YR 3/1	10YR 3/1		6	6	4
41	*	T1	AD	rim	100		7.5YR 2/0	7.5YR 2/0	7.5YR 2/0		27	21	7
42	*	T1	A	base		120	7.5YR 2/0	7.5YR 3/0	7.5YR 2/0	Hand made : coil built	171	6	4
43	M139 64	T1	A	base		100	7.5YR 3/0	7.5YR 5/0	7.5YR 6/2		235	21	7
44	*	T1	A	base		85	7.5YR 6/2	7.5YR 5/0	7.5YR 6/2		48	21	7
45	M115 545	T1	?A	base		160	7.5YR 2/0	7.5YR 3/0	7.5YR 3/2	Sooting on exterior	3	1	8
46	M139 63	T1	B	base		?	10YR 4/1	7.5YR 5/0	5YR 6/6		95	29	6
47	M115 205	T1	AB	base		120	7.5YR 2/0	7.5YR 3/0	7.5YR 2/0		247	29	6
48	*	T1	AB	base		120	10YR 6/2	7.5YR 5/0	7.5YR 6/2		267	40	2
49	M139 63	T1	AB	base		100	7.5YR 2/0	7.5YR 3/0	7.5YR 2/0		215 + 55	6	4
50	M139 63	T1	AB	base		150	7.5YR 2/0	7.5YR 2/0	7.5YR 4/2		28	21	7
51	M115 545	T1	AB	base		260	10YR 3/1	7.5YR 5/0	5YR 5/6		-	U/S	9
52	*	T1	AB	body			7.5YR 5/0	7.5YR 5/0	7.5YR 5/2	Thumb impressed cordon	41	21	7

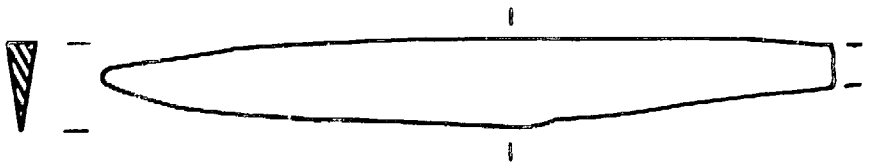
No	Reference Drawing	Fabric	Form	Sherd	Diam (mm) Rim	Base	Colour (Munsell) Ext	Core	Int	Comments	Small Find no	Layer	Phase
53	M115 266	T1/2	B	rim	160		5YR 5/4	7.5YR 5/0	5YR 5/4		145	6	4
54	*	T1/2	AB	rim	220		5YR 6/6	7.5YR 5/0	5YR 6/6		159	6	4
55	*	T1/2	AC	rim	140		7.5YR 6/4	7.5YR 6/0	7.5YR 6/4		242	63	2
56	M115 548	T1/2	AC	rim	150		5YR 6/6	7.5YR 7/0	5YR 6/6		217	6	4
57	*	T1/2	AC	rim	140		7.5YR 6/4	7.5YR 5/0	7.5YR 6/4		87	29	6
58	M115 448	T1/2	AC	rim	160		5YR 6/4	5YR 6/0	5YR 5/4		80	21	7
59	M115 331	T1/2	ABC	rim	?		5YR 6/2	7.5YR 5/0	5YR 6/2		212	6	4
60	*	T1/2	D	base		65	5YR 6/6	7.5YR 4/0	10YR 4/2		107 + 21	3	7
61	*	V5	A	rim	220		7.5YR 5/4	7.5YR 5/0	7.5YR 6/4	Heavily sooted on exterior	226	6	4
62	*	V5	AB	base		?	7.5YR 4/0	10YR 4/1	7.5YR 4/0		17	7	7
63	*	T2	AB	rim	180		5YR 5/2	7.5YR 5/0	5YR 5/2		98	29	6
64	M115 267	T2	B	rim	?		5YR 6/4	7.5YR 4/0	5YR 5/4		103	3	7

THE IRON OBJECT (FIG M2)

by I Goodall

Fe 1 Iron whittle tang knife. A6, SF Fe1, Phase 4.

The Iron Object



Fe 1

Fig M2

THE FERROUS SLAGS AND ASSOCIATED MATERIAL (FIG M3)

by H Cleere

Just under 3kg of slag and furnace lining were examined and the results are tabulated in table M1. No furnace or associated structure was identified but the furnace bottom of a forging hearth and the slagged end of a tuyere from a smelting furnace were recovered. Most of the slag was tap slag from smelting.

Table M1 : The ferrous slags and associated material (Figures and weights in grams).

Phase	Layer	Forging slag	Forging slag?	Tap slag	Tap slag?	Furnace lining
1	A42			413		
	A49					240[1]
				413		240
2	A47			175		
				175		
4	A6	6	6	1264	53	18
		6	6	1264	53	18
6	A29			280		
				280		
7	A2			151[2]		
	A3			9		
	A4			10		
	A7			123		
				293		
8	A20			99		
	A21			31		
				130		
TOTAL		6	6	2555	53	258

[1] Furnace bottom of forging hearth.

[2] Slagged end of tuyere for smelting.

The Tuyère

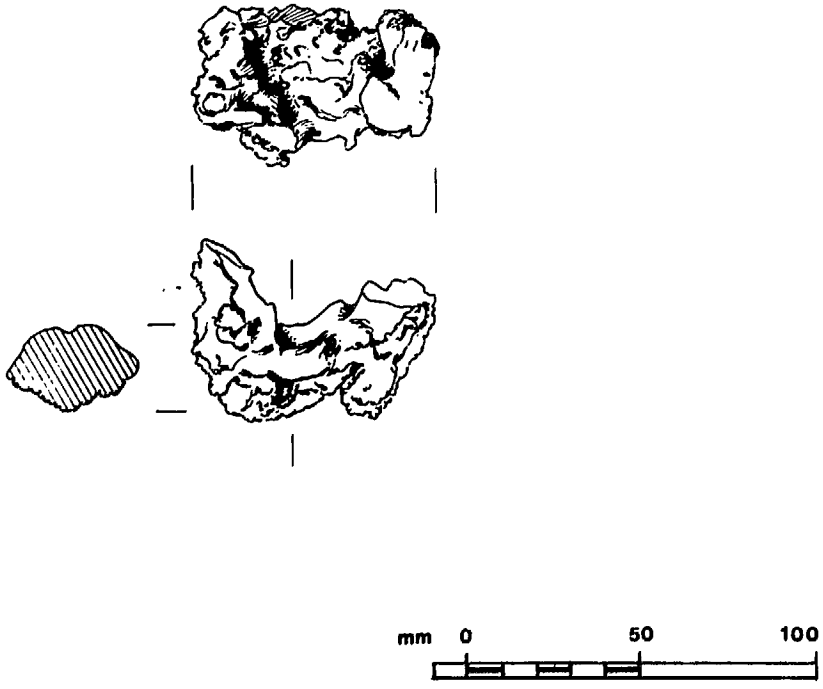


Fig M3

THE WORKED FLINTS

by Helen Bamford

WF1 Flake (A31)=A29. Phase 6. SF Fl.1.

WF2 Small flake or blade, broken bulbar end. Utilised. A3. Phase 7. SF Fl.2.

WF3 Small flake, broken left side and bulbar end (A24)=A6. Phase 4. SF Fl.3.

WF4 Flake, broken dorsal end. Utilised. (A24)=A6. Phase 4. SF Fl.4.

The worked flints comprise four struck flakes, three of them broken, including what appears to be the distal end of a small blade. Under x20 magnification this and at least one of the other flakes show regular edge damage and wear which appears to be the result of deliberate use. There are no other diagnostic features.

THE HONE

by D T Moore

H1 Norwegian Ragstone. Fragment of mullion; both narrow surfaces worn smooth, one narrow surface notched at both ends, other at single end. L : 71mm; W : 33mm; Th : 12mm. Z6. SF ST1.

THE CLAY LOOMWEIGHT

by Varian Denham

LW 1 One fragmentary loomweight was recovered from Phase 4. This would appear to be of the "bun-shaped" variety, the small central hole having been pierced into a disc of clay. (Dunning et al., 1959, 23-5, Fig 6). In this region "bun-shaped" loomweights are known from the 9th century onwards at St Neots (Tebbutt, 1933, 149) and Oxford (Jope, 1958, 73, Fig 23).

The fabric is low fired and contains abundant angular quartz (0.2mm diam), very fine mica platelets, rare flint, iron ore and sandstone, and rare organic matter, chiefly grass. The core is grey (N4/0) and the surface is reddish-buff (2.5YR 5/6). Diam. (long axis) : c.80-90mm; diam. (short axis) : c.50-60mm; diam. hole (long axis) : c.20mm; diam. hole (short axis) : c.10mm; depth at centre : c.30mm. (A34) = A6, SF ST1, Phase 4.

THE WOOD (FIG M4)

by G C Morgan (1, 3, 5-9) and Jacqui Watson (2, 4)

WD 1 Several twigs 30-70mm long x 10mm diam. Hazel - Corylus Avellana. A61, SF WD2, Phase 1.

WD 2 (ill) Flat stave shaped to a point, 625 x 117 x 48mm. Oak - Quercus sp. A44, SF WD3, Phase 5.

WD 3 Flat stave shaped to a point, 730 x 120 x 45mm. Oak - Quercus sp. A44, SF WD4, Phase 5.

WD 4 (ill) Flat stave shaped to a point, 358 x 57 x 25mm. Oak - Quercus sp. A44, SF WD5, Phase 6.

WD 5 Cut stick with bark, 145mm long x 25mm diam. Hazel - Coryllus Avellana. A59, SF WD6, Phase 1.

WD 6 Cut stick with bark, 130mm long x 35mm diam. Hazel - Coryllus Avellana. A59, SF WD7, Phase 1.

WD 7 Pointed stake with bark, 220mm long x 45mm diam. Hazel - Coryllus Avellana. A59, SF WD8, Phase 1.

WD 8 Pointed stake with bark, 440mm long x 45mm diam. Hazel - Coryllus Avellana. A59, SF WD9, Phase 1.

WD 9 Pointed stake with bark, 200mm long x 40mm diam. Hazel - Coryllus Avellana. A59, SF WD10, Phase 1.

The Wood

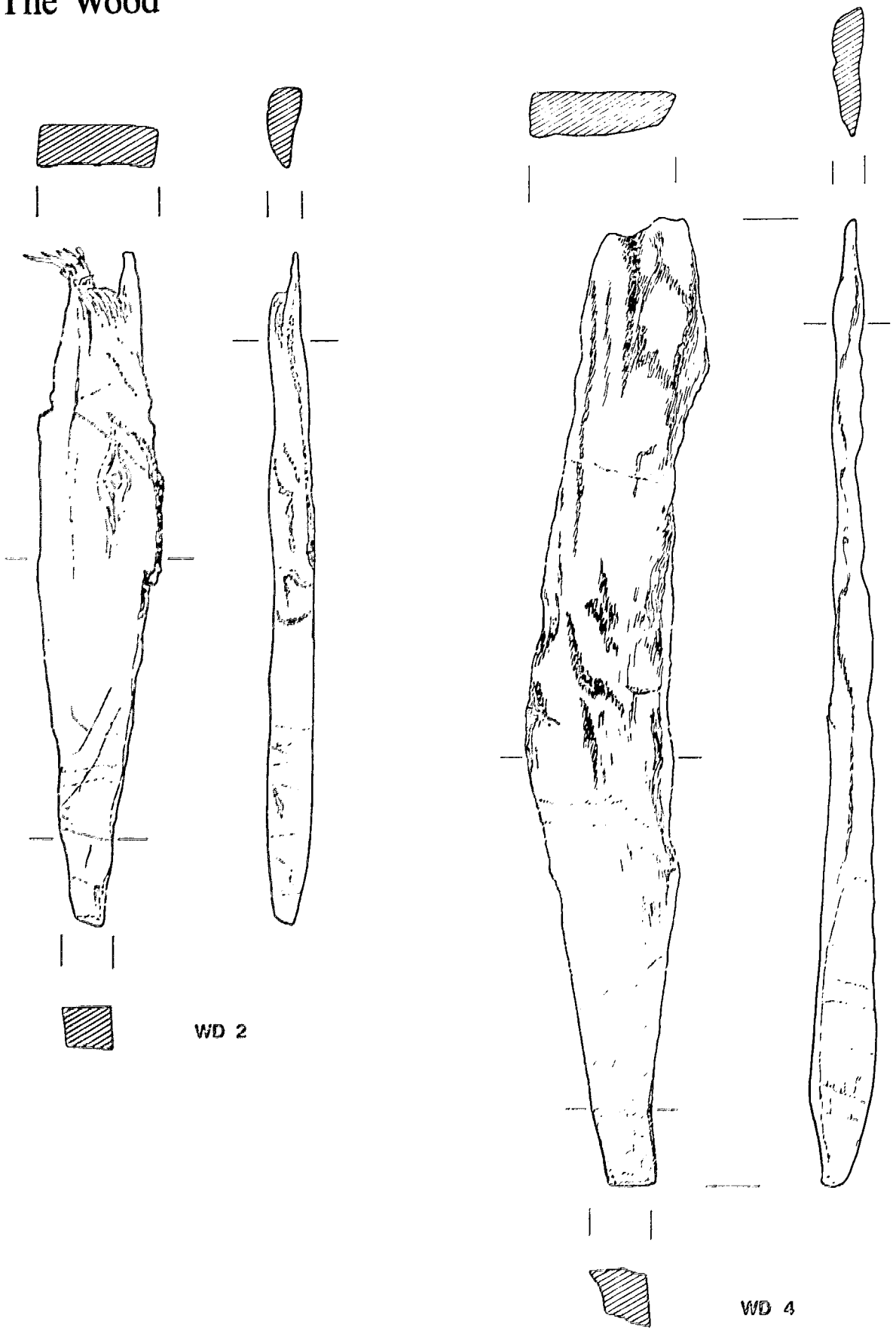


Fig 14

THE LEATHER (FIG M5)

by J M Swann

The leather was recovered as a waterlogged mass mixed with soil from pit A44. The acidity of the soil, with a PH of 6, had brought about deterioration of the leather which was broken up by iron pan. Some pieces could only be identified from soil stains. Its present thickness ranges from 0.5 to 1mm. Most, if not all, the fragments probably belonged to footwear. Because of their thinness, it is assumed they are all upper fragments, and it is odd that there is no evidence for soles which are normally more substantial, with the possible exception of one fragment (L7). Nonetheless, with so little footwear surviving from this period (9th-11th century), and none previously recorded from Northampton, it is important to try to ascertain the significance of these pieces.

L1 This is the most impressive piece, with the ladder pattern decoration usually associated with the centre of a shoe vamp in the Late Dark Age-Early Medieval period. Because of the state of the leather, it has not been possible to decide if the cross pieces were produced by interwoven strips of leather or other material, or merely impressed rectangles stamped in. A single stripe as centre front decoration first appears in a Ravenna mosaic of 549 and the ladder type occurs on Coptic shoes loosely dated 5th-7th century. The ladder type also occurs on surviving northern European shoes from the 9th century (Hald 1972, 74, 107, 126). In Britain there appears to be no record of such material before the 10th century, but this may be due to the dearth of surviving material. At least two shoes from the Winchester, Upper Brook Street site, dated pre 980, have two lines of squares which appear to have been produced by interlacing. A contemporary manuscript, the British Museum Benedictional of St Ethelwald (Ely) also shows the ladder pattern. It appears as well on Edward the Confessor's shoes in the Bayeux Tapestry of 1070 and contrasts with the rest of male footwear depicted; this may suggest either that it was a Saxon feature or just too decorative for military wear. It is shown on a manuscript picture of King Edgar (959-975) dated to the second half of the 11th century.

From then on, to at least the end of the 13th century, it occurs quite frequently in religious manuscripts and ivories, worn by biblical characters and both sexes. The only other excavated shoes which are comparable, were described as having horizontal striations. They came from three Saxo-Norman tenements in Durham, dated to the later 11th century (Thornton, J H, in Carver 1979, 26-36). The Northampton vamp is incomplete, with only a fragment of the throat edge with stitch holes possibly for a binding remaining and no lasting margin.

One of the Winchester shoes had the sole thonged on, while the Durham ones were stitched with thread.

L2 Three of the Northampton fragments have what may be thong holes at ¼ inch (= 6.5mm) intervals, which would be very coarse work for a decorated shoe, if this is the sole seam. There is nothing to indicate that all the pieces are part of the same shoe, or even parts of shoes.

L3 A fourth piece has two similar thong holes, with a butted seam at right angles suggesting an upper seam, the latter with a stitch length of ⅛ inch (= 3mm).

L4 There are four other fragments with similar finer stitch holes, ranging from approximately 7 to 9 to 1 inch (28-36 to 10cm). One of these pieces has a pair of ?thong holes, at a ¼ inch (=6.5mm) interval (as L2 above), with the thong/lace in situ. This is not near enough to the edge of the leather to suggest a sole seam, and may, therefore, be part of the method of tying the shoe on the foot. Another fragment with fine stitch holes appears to be in the form of a fringe with dagged edge. No parallel can be traced for such a shape at this date, dagging usually being 14-15th century.

L5 Two overlapped pieces also have the thongs/laces in situ, but it is impossible to guess from these fragments what the method of fastening was. There is quite a variety in the Late Saxon period : pairs of slots round the ankle, or low down on the outside quarter, being the commonest.

L6 Two irregular curved lines in the soil indicating stitch holes form no recognisable pattern, though presumably they must be part of a decorative feature.

The Leather

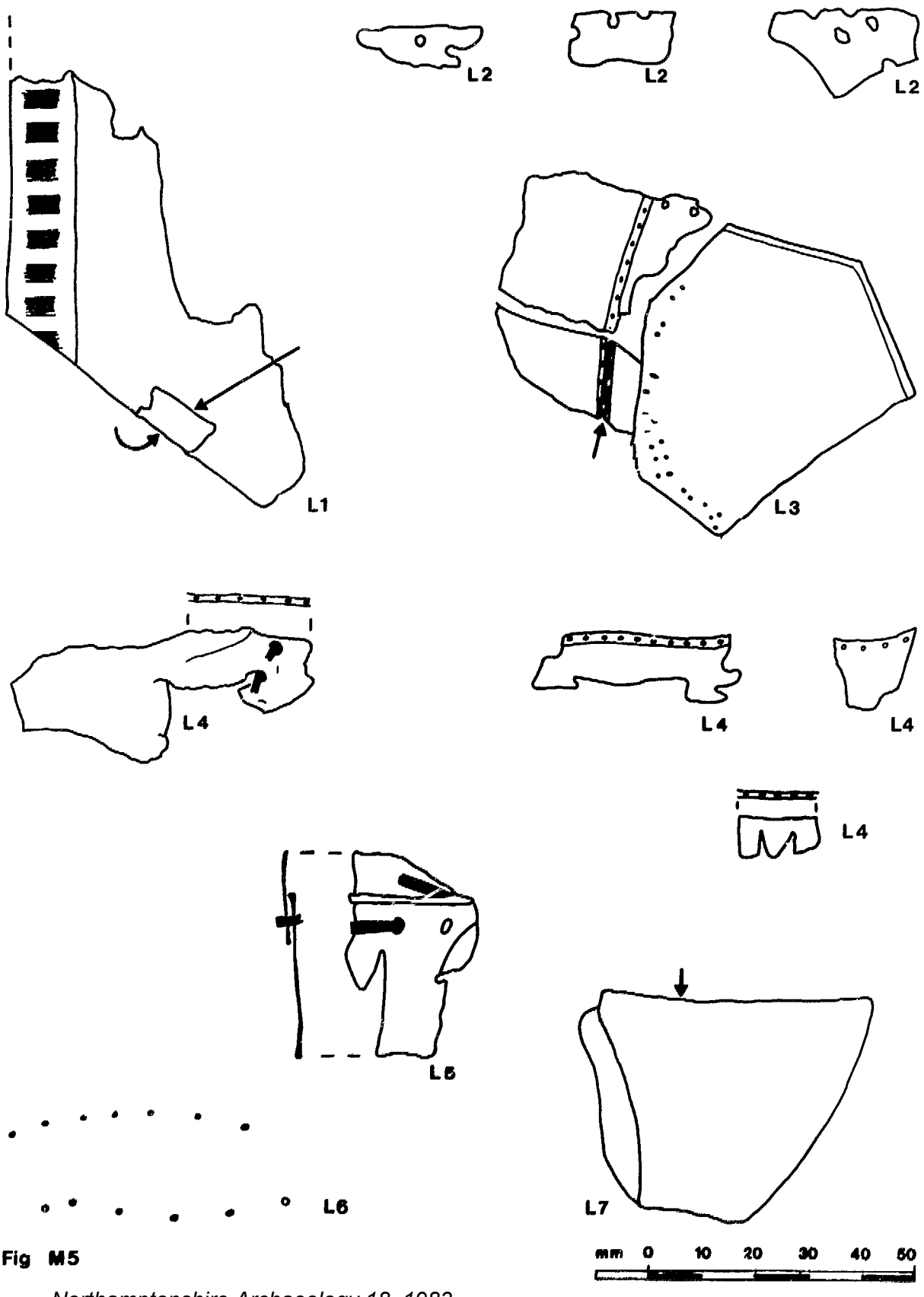


Fig M5

THE WORKED BONE (FIG 8)

by John H Williams

WB 1 Single sided composite comb of antler, 6 central tooth segments c.10-13mm across, with teeth broken off, held by 5 surviving iron rivets (8 rivet holes identified) between 2 connecting plates, broken at 1st and 8th rivet holes. Top of tooth segments not flush with top of connecting plates. Decoration of groups of 5 rings and dots set within a chequer pattern of blocks of vertically incised lines and spaces. Rivets so positioned as to disrupt design. Surviving length : 95mm. (A24) = A6. Phase 4. SF WB1.

THE LATE SAXON ENVIRONMENT

by Mark Robinson

Eight 1kg samples from various 10th-11th century contexts were examined for macroscopic plant and invertebrate remains.

THE SAMPLES

A53 — Mottled pale grey and pale brown micaceous clay. Jurassic clay. (Natural).

(A43) = 42 — Grey clay loam with very heavy iron panning and a little charcoal. (Phase 1).

(A70) = 53 — Light brown clay with iron panning. Natural.

A60 — Mottled pale grey and brown micaceous clay with a few charcoal flecks. (Phase 1).

A59 — Orange, heavily iron panned clay with a few grey flecks. (Phase 1).

A40 — Grey brown clay loam with iron panning. (Phase 2).

A48 — Dark grey silty clay with veins of iron panning. (Phase 3).

A44 — Dark grey organic silt with some iron panning and patches of gritty loam. (Phase 5).

The samples were washed through a stack of sieves down to a mesh size of 0.2mm and the residues sorted. Identifiable plant remains were recovered from the following samples, and have been listed in Tables M2-4 : (A43) = 42, A59, A40, A48 and A44. In addition, there were a few insect remains in A59, which have been listed in Table M5. There was not sufficient insect material to justify the examination of a larger sample from this context. Mollusca were absent from all the samples.

PRESERVATION

In the general levels preservation due to waterlogged, anaerobic, conditions was either very poor or did not occur at all. Only seeds which are very resistant to decay, such as Sambucus nigra, survived. This would suggest that while the site must have been wet, and the water table was close to the surface, the ground surface was not permanently waterlogged.

Preservation of waterlogged material in the pits was better, yet not good enough for the extensive survival of insect remains, although the bottoms of the pits were below the modern permanent water table, and this ought to have resulted in excellent preservation. It seems likely, therefore, that there has been a slight rise in the water table of the site, which once perhaps fluctuated about the level from which the samples had been taken.

THE PLANT REMAINS

Over 70 taxa of plants were identified from the samples, mostly from waterlogged seeds. Taken together, the plant remains seem typical of Late Saxon and Medieval urban assemblages : a great diversity of species from many habitats, some of which grew on the site as weeds, others which were imported, both intentionally and accidentally. The flora of the site itself is likely to have included Urtica dioica (stinging nettle) and Sambucus nigra (elder) growing in neglected corners. The nutrient-rich deposits of refuse probably favour Anthemis cotula (stinking mayweed) and Hyoscyamus niger (henbane), plants which are no longer thought of as urban, but are frequently identified from early Medieval waterlogged deposits. Another 30 or more of the species of disturbed or neglected ground listed in the tables could have been growing on the site. Only sample A48 contained a significant quantity of seeds from an aquatic or marsh plant, Ranunculus sceleratus being well represented. It is an early colonist of bare mud, especially nutrient rich, either just above or just below water. Perhaps it grew in a wet hollow on the site or even on the site of Pit 48. The few seeds of other marsh and aquatic plants in the samples could all have been brought to the site accidentally; the flora does not suggest general marshy conditions at St James' Square.

Several categories of plant material had been brought to the site. The charred grain provided evidence for the use of three, perhaps four species of cereal : bread/club wheat, rye, barley and, if cultivated rather than wild, oats. There was only a small quantity of carbonised grain and it could have arisen from ordinary domestic processes. The waterlogged plant remains add several more species of economic plants : flax, hazelnut and perhaps Prunus sp. A few flax seeds are frequently found in samples from Medieval contexts but sample 59 contained abundant remains of flax. The 79 capsule fragments of Linum usitatissimum were the most numerous of the identifiable plant remains in that sample. Sample A59 also contained three flax seeds, but they were all badly preserved and it is likely that further flax seeds had decayed beyond recognition.

The quantity of flax capsules discovered suggests that flax was rippled (threshed) on the site. Flax plants are pulled, bundled then rippled. To prepare fibre for linen, the bundles are submerged in ponds of water for retting, a process in which decay frees the individual fibres. The bundles of fibres are then dried and beaten and this serves to clear the remaining debris from them. The threshed seeds can be pressed for linseed oil and the residue used for animal feed. Fragments of flax stems were not recognised in sample A59, but conditions for preservation were by no means perfect and pit 59 could have served as a very small retting tank. Flax retting does, however, create a disgusting smell, and a more suitable place for retting would have been some distance from the occupation area, using trenches dug below the water table. A 9th century wattle-lined gully containing flax retting debris was excavated on the Thames flood-plain in Oxford at St Aldate's, Oxford (Brown in Durham 1977, 169-72; Hedges in Durham 1977, 200-1).

Frond fragments of bracken were present in samples A59 and A44. Bracken seems to have been brought into Medieval towns, perhaps for use as a bedding material (Robinson in Palmer 1980, 204). There is a suggestion of meadowland about some of the plant remains in sample A44 which includes Rhinanthus sp. (yellow rattle) Trifolium sp. (clover) and Leontodon sp. (hawkbit). Perhaps hay had been brought to the site but it is also possible that these remains arrived in the dung of domestic animals.

Some of the plant remains identified are from weeds which had been present amongst the crops processed on the site. Seeds of Agrostemma githago (corn cockle), a plant very closely associated with arable agriculture, were found in sample A59 and it seems likely that they were brought to the site with the flax. Anthemis cotula (stinking mayweed) now tends to be regarded as an arable weed and it is possible that its seeds had been imported too. A community of weeds of acidic arable soil, consisting of Raphanus raphanistrum (wild radish), Spergula arvensis (corn spurrey) and Rumex acetosella agg. (sheep's sorrel), can be recognised amongst the plant remains from sample A44. That sample contained a very small quantity of waterlogged chaff from three crops : flax, barley and rye, but their preservation could well be fortuitous.

While the plant remains are not uniform from the various pits, the differences need reflect no more than the particular activities which happened to be taking place on the site when the deposits accumulated. There is no evidence for changing conditions on the site or a change in its use. The purpose of the pits is unknown but they did not contain the "fruit salad" of macroscopic plant remains which seems to characterise waterlogged urban cess pits (Greig 1981).

THE INSECT REMAINS

Unfortunately the insect remains from sample 59 add very little extra information about the site. Almost half of them are water beatles which probably lived in stagnant water in the bottom of the pit. The discovery of Apion urticarium, however, provides yet another archaeological record for this now rare nettle-feeding weevil (Robinson 1981, 277).

TABLE M2

WATERLOGGED SEEDS

		Number of seeds in sample:				
		43	59	40	48	44
Ranunculus s. Ranunculus sp.	Buttercup	-	8	-	-	1
Ranunculus sceleratus L.		-	-	-	205	2
Papaver rhoeas L. dubium L., lecoqii Lamotte, or hybridum L.	Poppy	-	3	-	-	1
P. argemone L.	Poppy	-	2	1	2	12
Brassiceae gen. et sp. indet.		-	-	-	-	1
Coronopus squamatus (Forsk.) Aschers.	Swine cress	-	2	-	-	-
Thlaspi arvense L.	Penny-cress	-	1	-	-	1
Rorippa nasturtium - aquaticum (L.) Hayek	Watercress	-	1	-	-	-
Cruciferae gen. et sp. indet.		-	4	-	-	6
Hypericum sp.	St John's wort	-	1	-	-	-
Agrostemma githago L.	Corn cockle	-	6	-	-	-
Stellaria media gp.	Chickweed	-	6	4	1	4
Spergula arvensis	Corn spurrey	-	-	-	-	2
Caryophyllaceae gen. et sp. indet.		-	1	-	-	-
Chenopodium album L.	Fat hen	-	3	-	-	20
Atriplex sp.	Orache	-	3	-	2	-
Chenopodiaceae gen. et sp. indet.		-	3	-	-	2
Malva sylvestris L.	Common mallow	-	1	-	1	2
Linum cf. usitatissimum L.	Flax	-	3	-	-	2
L. catharticum L.		-	-	-	-	1
Potentilla cf. reptans L.		-	2	-	-	-
Potentilla sp.		-	-	-	-	1
Prunus sp.	Sloe, plum	-	1	-	-	-
Anthriscus caucalis Bieb.		-	1	-	-	-
Torilis sp.		-	-	-	-	4
Apium nodiflorum (L.) Lagg. or inundatum (L.) Reichb	Fool's watercress	-	2	-	1	-
Daucus carota L.	(Wild) carrot	-	1	-	-	-
Polygonum aviculare agg.	Knotgrass	-	26	-	-	1
P. persicaria L.	Red shank	-	2	2	2	-
P. hydropiper L.	Water-pepper	-	2	-	-	-
Rumex acetosella agg.	Sheep's sorrel	-	1	-	-	2
Rumex spp.	Dock	-	8	1	-	5
Urtica urena L.	Small nettle	-	15	-	1	6
U. dioica L.	Stinging nettle	-	57	14	72	78
Corylus avellana L.	Hazel	-	1	-	1	-

TABLE M2 continued

WATERLOGGED SEEDS		Number of seeds in sample: 43	59	40	48	44
Anagallis sp.	Scarlet pimpernel	-	1	-	-	-
Hyoscyamus niger L.	Henbane	-	3	-	-	-
Solanum cf. Nigrum L.	Black nightshade	-	1	-	8	1
cf. Scrophularia sp.		-	-	-	-	1
Pedicularis sp. (Lousewort)		-	-	-	-	1
Rhinanthus sp.	Yellow rattle	-	-	-	-	-
Euphrasia or Odontites sp.		-	1	-	-	1
Mentha sp.	Mint	-	1	-	-	-
Lycopus europaeus L.	Gipsy-wort	-	2	-	-	-
Ballota nigra L.	Black horehound	-	7	-	-	-
Lamium sp.	Deadnettle	-	-	-	-	1
Galeopsis tetrahit agg.	Hemp-nettle	-	-	2	-	-
Nepeta cataria L.	Cat-mint	-	-	-	-	2
Plantago major L.	Plantain	-	5	-	-	2
Sambucus nigra L.	Elder	3	3	4	33	35
Anthemis cotula L.	Stinking mayweed	-	13	-	1	47
Tripleurospermum maritimum (L.) Koch	Scentless mayweed	-	-	-	-	1
Carduus sp.	Thistle	-	6	-	-	-
Carduus or Cirsium sp.	Thistle	-	1	-	-	-
Onopordon acanthium L.	Cotton thistle	-	1	-	-	-
Centaurea sp.	Cornflower or knapweed	-	-	-	-	1
Lapsana communis L.	Nipplewort	-	1	-	-	1
Leontodon sp.	Hawkbit	-	-	-	-	2
Pichris echioides L.		-	-	-	-	1
Sonchus asper (L.) Hill	Sow-thistle	-	2	-	-	2
Taraxacum sp.	Dandelion	-	1	-	-	-
Juncus spp.	Rush	-	40	-	10	-
Carex spp.	Sedge	-	4	-	-	1
Cramineae gen. et sp. indet.	Grass	-	6	-	-	2
Ignota		-	20	-	-	1
Total		3	286	28	341	259

TABLE M3

OTHER WATERLOGGED PLANT REMAINS		Presence or number of fragments in sample:					
			43	59	40	48	44
Bryophuta	(Moss)		-	+	-	-	+
Bud scales			-	+	-	-	-
Gramineae gen. et sp. indet.	(Grass)	Glume base	-	-	-	-	1
Hordeum sp.	(Barley)	Rachis F	-	-	-	-	1
Linum usitatissimum L.	(Flax)	Capsule Fs	-	79	-	-	3
Papilionaceae gen. et sp. indet.		Pod Fs	-	-	-	-	+
Pteridium aquilinum (L.) Kuhn	(Bracken)	Frond Fs	-	+	-	-	+
Raphanus raphanistrum L.	(Wild radish)	Capsule F	-	-	-	-	1
cf. *Secale cereale* L.	(Rye)	Rachis F	-	-	-	-	1
Trifolium sp.	(Clover)	Calyx	-	-	-	-	1
Twigs and wood fragments including *Quercus* sp.	(Oak)		-	+	-	-	+

F(s): fragment(s)

TABLE M4

CARBONISED PLANT REMAINS

			Number of fragments in sample: 43	59	40	48	44
Triticum aestivocompactum Schiem.	(Bread/club wheat)	Grain	3	-	1	4	-
Triticum sp.	(Wheat)	Grain	2	-	-	1	-
Secale cereale L.	(Rye)	Grain	1	-	-	-	-
Hordeum sp.	(Barley)	Rachis F	-	-	-	1	-
Avena sp.	(Wild or cultivated oat)	Grain	-	-	-	1	-
Avena sp.	(Wild or cultivated oat)	Awn F	-	-	-	-	2
Cereal indet.		Grain	1	-	1	-	-
Weed indet.		Seed	-	-	-	1	1

F(s): fragment(s)

TABLE 45

WATERLOGGED COLEOPTERA	Minimum no. of individuals in sample: 59
Harpalus S. Ophonus sp.	1
Hydroporus sp.	1
Helophorus grandis Ill. or aquaticus (L.)	1
Helophorus sp. (brevipalpis size)	3
Philonthus sp.	1
Aphodius sp.	1
Anobium punctatum (Deg.)	1
Lyctus linearis (Goez.)	1
Apion urticarium (Hbst.)	1
Ceuthorhynchinae gen. et sp. indet.	1

THE MAMMALIAN BONES

by M Harman

Table M6 Phase 1 : Number of Bones from Different Species Present

	Cattle		Sheep		Pig		Horse	
	L	R	L	R	L	R	L	R
Horn core		1	3	3				
Skull	1						one probably whole	
Maxilla			1	1				
Mandible		3	1	1				
Tooth								
Vertebra	1			1			1	
Rib	9							
Scapula		1						
Humerus								
Radius+ulna								
Metacarpal	1							
Pelvis								
Femur		1						
Tibia	1					1		
Astragalus		1						
Calcaneum								
Scapho-cuboid								
Metatarsal	3	1						
Phalanx 1								
Phalanx 2								
Phalanx 3								
Total (excluding T, V, R)	14		1		1		1	

Also: Dog: mandible L, 1 vertebra

Table M7 Phase 2: Number of Bones from Different Species Present

	Cattle			Sheep			Pig		Horse	
	L		R	L		R	L	R	L	R
Horn core			1	11		1				
Skull		1							2	1
Maxilla										1
Mandible	1		1	2		3	2	1		
Tooth		2			3				4	
Vertebra		3			1				2	
Rib		15			4					
Scapula	1	2	3	1	1	2			1	1
Humerus	5		4	1		1		1	2	1
Radius+ulna	1		2	3		2				2
Metacarpal	1		1	1						1
Pelvis	1		1					1	1	1
Femur	4		1				1			1
Tibia	2	1	1			3				1
Astragalus										
Calcaneum			1							
Scapho-cuboid										
Metatarsal	5			2	2	3			1	
Phalanx 1			1						1	
Phalanx 2										
Phalanx 3										
Total (excluding T, V, R)	42			44			6		18	

Also: Dog: tibia R

Table M3 Phase 3: Number of Bones from Different Species Present

	Cattle		Sheep		Pig		Horse	
	L	R	L	R	L	R	L	R
Horn core								
Skull								
Maxilla								
Mandible		1						
Tooth								
Vertebra								
Rib								
Scapula	1						1	1
Humerus								
Radius+ulna		1						1
Metacarpal	1	1						
Pelvis								
Femur								
Tibia		1			1			
Astragalus								
Calcaneum								
Scapho-cuboid								
Metatarsal	1	1						
Phalanx 1								
Phalanx 2								
Phalanx 3								
Total (excluding T, V, R)	8				1		3	

Table M9 Phase 4: Number of Bones from Different Species Present

	Cattle			Sheep			Pig			Horse		
	L		R	L		R	L		R	L		R
Horn core			1	9	3	7						
Skull	1	2	3	2				1			1	
Maxilla	1		1						2			
Mandible	1		3	5		6						
Tooth		3			14							
Vertebra		8			7			1				
Rib		18			2							
Scapula			1		3	1			2			
Humerus	3	1	1	4		3						1
Radius+ulna	2	1	1	3		1		1	1	1		
Metacarpal	3			1							1	
Pelvis	3	1	3			2	2					
Femur			1	2	4							1
Tibia	3	1	3	4		5	1			1		1
Astragalus									1			
Calcaneum												
Scapho-cuboid						1						
Metatarsal	2		1	3	1	2						
Phalanx 1	1						1				1	
Phalanx 2			1								1	
Phalanx 3			1									
Total (excluding T, V, R)		48			72			12			9	

Also: Dog: maxilla R, 1 tooth, humerus L

Cat: humerus L

Table M10 Phase 5: Number of Bones from Different Species Present

	Cattle			Sheep		Pig		Horse	
	L		R	L	R	L	R	L	R
Horn core	2	2		2	4				
Skull									
Maxilla									
Mandible	2			2	1		2	1	2
Tooth		1							
Vertebra		1						6	
Rib		2			1			1	
Scapula		1	1		1		1		
Humerus			1	1					1
Radius+ulna	1		1	1				1	
Metacarpal	2		1						
Pelvis							1	1	
Femur	1		2		1				1
Tibia	2								
Astragalus									
Calcaneum									
Scapho-cuboid									
Metatarsal	2	1	1	1					
Phalanx 1									
Phalanx 2									
Phalanx 3									
Total (excluding T, V, R)	23			14		4		7	

Table M11 Phase 6: Number of Bones from Different Species Present

	Cattle			Sheep			Pig			Horse		
	L		R	L		R	L		R	L		R
Horn core	2		4	9	1							
Skull					1							
Maxilla									1			
Mandible	1		2	1			2			2		1
Tooth					1			3				
Vertebra		3										
Rib		4			1						3	
Scapula	1		1							1		
Humerus	2		3						1	2		
Radius+ulna	3		6	2		1	1			2		2
Metacarpal	4		2		1	1						1
Pelvis	1		4				1			2		1
Femur	2	1	2	1		1				1		1
Tibia	4		2	5		2			1	1		2
Astragalus	1											
Calcaneum												
Scapho-cuboid	1											
Metatarsal	2	1	1	3						1		1
Phalanx 1											1	
Phalanx 2												
Phalanx 3												
Total (excluding T, V, R)	53			29			7			22		

Also: Dog: tibia L

Roe Deer: metacarpal R

Table M12 Phase 7: Number of Bones from Different Species Present

	Cattle		Sheep			Pig		Horse	
	L	R	L		R	L	R	L	R
Horn core	1	1	1						
Skull									
Maxilla									
Mandible	1	2			1				
Tooth				2					
Vertebra				1					
Rib	2			3					
Scapula		1							1
Humerus	1	2		1					
Radius+ulna	1		1	1	1				1
Metacarpal			1	1					
Pelvis					1				
Femur									
Tibia	1				3				
Astragalus									
Calcaneum									
Scapho-cuboid									
Metatarsal			1		1				
Phalanx 1									
Phalanx 2									
Phalanx 3									
Total (excluding T, V, R)	11		14					1	

Table M13 Phase 8: Number of Bones from Different Species Present

	Cattle		Sheep		Pig		Horse	
	L	R	L	R	L	R	L	R
Horn core	1	1				1		
Skull								
Maxilla								
Mandible					2			
Tooth	1		3					
Vertebra			1					
Rib	7		1					
Scapula			1	2				
Humerus	1		1					
Radius+ulna	1	1		1	1			
Metacarpal			2	2			1	
Pelvis								
Femur	1			1	1			1
Tibia	1		1	3		1		1
Astragalus		1						1
Calcaneum	1							
Scapho-cuboid								
Metatarsal	1		1	2		1		
Phalanx 1								
Phalanx 2								
Phalanx 3						1		
Total (excluding T, V, R)	10		16		8		4	

THE PATHOLOGICAL BONES

by J R Baker

Phase	Deposit	Bone
2	A33	Rib fragment, probably bovine. There is evidence of a smooth swelling on the lateral aspect of this bone fairly close to the dorsal end. Due to the p.m. fracture through the site, I cannot be certain as to the cause, but it is probably an ossified haematoma following a blow. (This specimen was damaged in transit).
2	A47	Posterior part of skull, horse. There is a smooth but irregular mass of new bone on the posterior part of the nuchal crest. I have not seen any such lesion before and the absence of the adjacent bone makes diagnosis difficult, but there may have been some tearing of the insertion of the ligamentum nuchae. It is difficult to see how this could have happened other than by the horse getting its head trapped and violently trying to free itself.
2	A47	Fragment of right mandible, sheep. There is evidence of periodontal disease with alveolar recession around the site of PM4, M1 and M2 with the probable loss of M1 in life.
4	A6	Horn core, probably goat. There are two deep, confluent depressions with relatively smooth contours near the base of this horn core. These have been produced by slowly

		expanding soft tissue lesions such as a chronic abscess or tumour.
6	A29	Left metatarsal and lower tarsals, horse. There is considerable new bone on the antero-medial aspect of the canon bone and lower tarsals which were fused to it in life. The joint surfaces between the bones show degenerative changes. This is a severe case of spavin.
6	A29	Distal end left metatarsus, ox. The distal end of this bone has been modified by chopping but there appears to be a fairly smooth swelling on the posterio-medial aspect, probably an ossified haematoma following a blow.
6	(A35) = A29	Right metatarsus with scaphoid cuboid and long and small cuniform all fused together, horse. The bulk of the new bone producing this ankylosis is on the antero-medial aspect. This is a severe case of spavin.
6	(A35) = A29	Right radius, horse. There is new bone around virtually the entire circumference of the proximal articular surface. It is difficult to be certain about this case but I have seen similar lesions in a modern horse associated with an untreated fracture of the proximal end of the ulna which is missing from this sample.

THE BIRD BONES

by R T Jones

The following bird bones were found. No measurements were taken.

A1	unstrat	Domestic fowl (*Gallus* sp. domestic) tarsometatarsal.
A6	Phase 4	Domestic fowl ulna and coracoid. Unidentifiable humerus.
A22	Phase 8	Goose (*Anser* sp.) coracoid.
A29	Phase 6	Domestic duck/mallard (*Anas* sp.) carpometacarpus.