

Big Data on the Roman Table Workshop Volume Paper

Eating in and dining out in Roman Leicester:

Exploring pottery consumption patterns across the town and its suburbs

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Abstract

This paper presents an analysis of three ‘atypical’ or ‘snapshot’ assemblages of pottery from Roman Leicester (*Ratae Corieltavorum*) that provide valuable insights into evolving dining practice, and sets them against the patterns already established for pottery supply and vessel use from the more ‘typical’ mixed urban rubbish deposits from across the town. Spatial correspondence analysis is then used to map the variations represented by these ‘typical’ assemblages within the urban area and its suburbs.

Large-scale excavations in Leicester over three decades have provided a substantial dataset for broader analysis of vessel supply and usage but only rarely do tightly-dated groups, relating to specific buildings and food remains, occur. These groups therefore present the opportunity to view food preparation and consumption assemblages alongside the associated plant and animal remains from a short-lived episode of activity.

Two of these ‘atypical’ groups present evidence for ‘dining out’ during the second century. The first is from the backfill of a cellar perhaps from below a tavern on Little Lane containing table wares, drinking vessels, amphorae, and flagons, alongside animal bones and oysters. The second is the fill of a latrine pit from Castle Street containing amphorae, flagons, table ware bowls and dishes, but no drinking vessels, alongside exotic plant foods, fish and smoked shoulders of beef, and is considered to relate to a ‘delicatessen’-style ‘take-away’. The third group represents ‘eating in’ at the later third-century courtyard house on Vine Street and comprises a wide range of animal and plant foods alongside cooking pots, bowls and dishes, and large colour-coated ware beakers, excavated from the kitchen drain and two latrine pits.

The mapping of data gathered from 26 assemblages, dating between the mid-first and second centuries, highlights two spatial trends in vessel deposition across the town. The first is a north-south opposition, with more vessels associated with drinking in the central and northern parts of the town, whilst the second shows a contrast between the centre, around the forum/basilica, where there is a greater proportion of fine wares, and the suburbs, where there are larger numbers of jars. Together, these trends suggest that we can identify zonation within Leicester that can be related back to different depositional practices and ultimately patterns of use and consumption.

5000 words

Up to 20 illustrations

Introduction

Roman Leicester, *Ratae Corieltavorum*, was the civitas capital of the Corieltavi tribe, which occupied the East Midlands of Britain during the Late Iron Age and Roman period. Following the Conquest in AD43, the oppidum that was located at a crossing point on the River Soar eventually developed into a walled town of 44.5 ha, formally appointed towards the end of the first century. Outside London, Leicester is one of the most intensively investigated towns in Roman Britain and knowledge has benefitted from a series of large-scale excavations since the late 1980s, notably in the north-east quarter of the town (Figure 1; Bidwell 2015, 117; Buckley, Morris and Codd 2011; Cooper and Buckley 2003; Connor and Buckley 1999). Large quantities of pottery and other material culture relating to cuisine, as well as assemblages of animal bone and plant remains have been analysed from these sites over three decades, allowing the broad patterns of supply and consumption to be established (e.g. from Causeway Lane: Clark 1999; Cooper 1999; Davies 1999; Gidney 1999; Monckton 1999). Some synthesis of this information has previously been published (Cooper 2007; Monckton 2004; Score *et al.* 2010) and the analysis of assemblages from the Highcross Shopping Centre excavations between 2003-6, and other sites in the north-east quarter, has been overviewed thematically, in a volume to be published in the near future (Buckley, Cooper and Morris in prep) with one chapter specifically looking at Food and Drink (Browning *et al.* in prep). The aim of the present paper is to suggest ways in which we can use these data to identify dining practices across the Roman town. This is achieved firstly, by highlighting the character of three dining-related assemblages of pottery from these excavations, and secondly, by analysing the quantitative data for spatial patterns of deposition, consumption and use across the town and its suburbs.

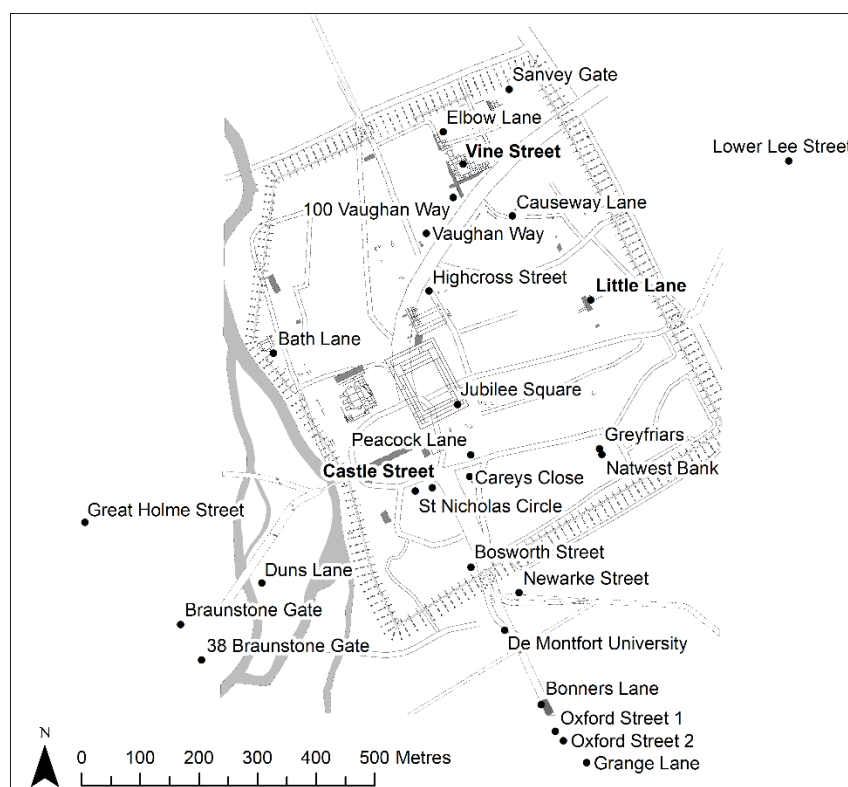


Figure 1: The Roman walled town of Leicester (*Ratae Corieltavorum*) showing the location of pottery assemblages mentioned in the text (atypical groups in bold), against the remains Roman buildings and outline of modern streets.

The search for objectivity: ‘typical’, ‘atypical’ and ‘background noise’

This paper presents the data from three closed groups, associated with specific activities and buildings, and deposited over a short period of time. These groups have been labelled as ‘atypical’ or ‘snapshot’ assemblages because their contents, in terms of the proportional contribution of certain vessel types, are markedly different to what would be expected from other ‘typical’ domestic rubbish deposits of the same date. Of course there is no such thing as a ‘typical’ assemblage as when ceramic rubbish lands on the midden, it is a reflection of a range of eating-related behaviours linked to the supply and breakage rates of particular vessel types, before being subject to a host of other taphonomic factors by the time it reaches the pottery specialist (Pena 2007). However, as that rubbish becomes mixed with other ‘atypical’ assemblages through disturbance, the distinctiveness is inevitably ironed out, and we are left with what might be termed the background noise of urban rubbish disposal, perhaps similar to what coin specialists would term the British Background; the expected pattern of ‘loss’ against which ‘atypical’ occurrences can be observed and measured (Reece 1995). The ceramic specialist will similarly develop an expectation of what will typically occur but the sheer amount of data will probably prevent them from appreciating that there is patterning within that highly volatile and (mostly) indecipherable background noise, which only becomes visible when we step back from the raw numbers and data tables and consider the assemblages as part of a single related data-set.

When trying to characterise pottery consumption at any settlement, be it urban or rural (Cooper 1998; 2004), there is inevitably a trade-off between sample size, sample quality and chronological resolution. Individual context groups of less than 50 sherds might be judged too small to be statistically valid (Evans 1991, 70) and the temptation is to gather together all those that belong to an occupational phase, in order to create a better impression from a numerically larger sample, but this inevitably sacrifices quality. The greater the aggregation, the more that deposits from different activities, times and places within a site will be mixed, therefore lowering chronological, spatial and functional resolution, especially when contexts contain a lot of residual material; the curse of urban sequences. The alternative, if available, is to choose a single large coherent group from each occupational phase to represent a snapshot of supply and consumption at a particular time. The danger here is that such groups are ‘atypical’ of supply across an entire phase of 50-100 years, or are related to a specific activity or place, and therefore unrepresentative. This is because such large coherent groups are likely to represent a specific activity such as the clearing out of premises for example, and are therefore closer to the character of what Orton defines as the ‘life assemblage’ (e.g. the contents of the kitchen or shop) rather than the ‘death assemblage’ (the gradual accumulation of rubbish dependent upon rates of supply and breakage) (Orton 1989, 95). A good example of such a group would be the military period assemblage used to characterise supply during Ceramic Phase 1 at Roman Cirencester, considered to have been the contents of a quartermaster’s store perhaps (Cooper 1998, 325, Table 18 and fig.197; 2007, 42; Rigby 1982, 179). Although the group exaggerates

the proportions of fine wares that would have found their way into rubbish deposits closer in character to the ‘death assemblage’ (due to their lower breakage rates), it does serve to highlight the remarkable range of wares that were available to the Army, compared to the civilian settlement that succeeded it. The trade-off can perhaps be expressed most simply by considering that ‘typical’ and ‘atypical’ lie at opposite ends of a continuum, the former coupled with low chronological resolution and closer in character to the ‘death assemblage’, whilst the latter will have high chronological resolution and be closer to the ‘life assemblage’.

Pottery vessels as part of the dining material culture of Roman Leicester

The assemblages from the north-east quarter emphasise the important role that ceramics (132K sherds), and to a lesser extent glass vessels (3172 fragments), have in reconstructing dining practice, in the absence of organic objects that have perished or metals and glass that were recycled (Table 1).

Table 1: Roman kitchen utensils and vessels from sites in the north-east quarter of Leicester (Cool 2009a Table 00, with additions)

<i>Site Utensil/Vessel</i>	<i>Vine Street</i>	<i>Vaughn Way</i>	<i>Free SchL</i>	<i>EBond Street</i>	<i>Little Lane</i>	<i>Sanvey Gate</i>	<i>Blue Boar L</i>	<i>Cause Way L</i>	<i>Total</i>
Bone spoon	1	-	-	-	1	-	2	1	5
Cu alloy spoon	1	-	-	-	3	1	3	5	13
Iron ladle	1	-	-	-	-	-	-	-	1
Knives	6	1			1	1	1	37	47
Whetstones	3	-	-	-	12	2	-	9	26
Quernstones	5	2			17		-	7	31
Shale vessels	-	-	-	-	-	-	-	5	5
Metal Vessels	-	-	-	-	-	-	1	-	1
Cheese press	2	-	-	-	-	-	-	-	2
Pottery sherds	30k	2466	1708	1239	30k	8k	3k	55k	132k
Glass frags	458	20	44	5	1637	101	230	677	3172

When attempting to recreate the contents of the Roman kitchen or dining room, for example, three features of Table 1 will suffice to demonstrate the impact of preservation and recycling, the first of which is the complete lack of turned wooden bowls and other utensils in wood. Whilst no doubt dictated by the lack of waterlogged conditions in this part of the town (although none have been found by the river either), it has been argued that Roman pottery was so cheap that turned wooden vessels were not as common as in the medieval period (Mould 2011, 164-5). The fact that they must have played a large part in Iron Age dining, since they rarely occur in pottery before the conquest, and that turned shale bowls from Dorset were still in demand at Causeway Lane, would support the idea that they still figured in the ‘life assemblage’ even though none survive. The second is the occurrence of only one handle from a lidded bronze water jug from the 2nd-century town house at Blue Boar Lane (a second example recently came from Friars Mill by the river Soar). Bronze vessels must have played a bigger part in the dining rooms of wealthy households at least, since they were integral to the wine drinking ritual (Cool 2006, 138-40, table 15.3), and were a way of putting distance between their owners and those who could only afford pottery flagons. Assiduous repairing and recycling of such valuable vessels evidently dictated that they rarely entered the archaeological record in Leicester. The last feature is to consider the impact of the recycling of vessel glass on the resulting assemblage.

Taking the figures from Causeway Lane (Tables 2 and 3 below for which we have EVEs data for the entire assemblage from the Roman phases), the pottery totals 469 EVEs and the vessel glass nearly 8 EVEs indicating that glass contributed less than 2% to the combined assemblage. Glass vessels were primarily intended for the table and so considering only equivalent ceramic table wares, the figure might rise to over 5%, but presumably this is far lower than their representation in the life assemblage, particularly in wealthier households.

In contrast to the preceding Iron Age, the Roman period in Britain saw an explosion in the use of ceramics, as mass production, enabled by the wide adoption of wheel-throwing and kiln-firing, made a much wider range of vessel shapes available to ordinary people. The volume of ceramic rubbish found across the Roman town, is testament to the relative ease by which broken vessels could be replaced, and by inference, the cheap unit price that must have been accorded to them. Imported samian table wares are the only vessels which, occasionally, show signs of repair, and so even these must have been affordable to most pockets. Jars used for cooking and storage were the most common vessel type, as they had been during the Iron Age, but the repertoire was now supplemented by table wares comprising bowls, dishes and drinking vessels, together with serving vessels such as flagons, and specialised vessels that were new to Britain such as mortaria for preparing food, and amphora used to transport imported staples such as olive oil as well as wine, fish products and occasionally fruit such as dates.

Looking at the contribution of pottery in detail, the excavation of stratified sequences across the Roman period in Leicester allows us to trace the changing contribution of different vessel types over time. Table 2 presents phase group data spanning the 1st to 4th centuries AD from Vine Street (Johnson 2009a Tables 00-00) and from Causeway Lane (Clark 1999, tables 9-28) whilst Table 3 presents vessel glass data from those sites for comparison. The pottery data from both sequences have been simplified in graphical form (Figures 2 and 3) to illustrate the varying contribution of the four major vessel categories; jars, dishes and bowls, drinking vessels, and flagons, with mortaria, amphora and lids grouped under 'other vessels'. To give a longer sequence, the Vine Street pottery data have been supplemented by the mid-1st century Conquest-period group from Bath Lane (Merlin Works) and the mid-late 4th century group from Freeschool Lane (Johnson 2009b plus Merlin Assess doc). All the assemblages were quantified by sherd count, weight and EVEs (Estimated Vessel Equivalents using the percentage of rim present), the EVEs data being presented here (with the exception of the Bath Lane and Freeschool Lane groups, expressed by % sherds) as the most objective way of measuring the comparative contribution of different vessel types in large, coherent groups, although it does tend to over represent narrow-mouthed vessels such as flagons. It is perhaps worth noting here that two of the authors (NJC and EJ), after many years of worrying about it, are happy that all three quantification methods used here produce broadly comparable results, and that pragmatically (if not theoretically) it is valid to present data from different methods together (Evans 1991, 72).

Table 2: Changing proportions of pottery vessel types (%EVEs) over time from Vine Street (Johnson 2009a) and Causeway Lane (Clark 1999 tables 9-28)

Site 1	Jar	Bowl	Dish	Plate	Lid	Cup	Beaker	Flagon	Mortar	Amph	Tot. EVEs
Ph.2 L1st-E2nd	66	18	1	4	2	4	3	1	0.1	0.1	14.96
Ph.2 E-M2nd	57	7	1	3	5	3	6	15	2	0.1	16.70
Ph.3 M-L2nd	47	11	7	2	2	8	7	14	3	1	26.73
Ph.3 L2nd-E3rd	50	11	9	1	1	8	5	13	1	0.1	24.54
Ph.3 E-M3rd	47	12	14	2	1	9	6	7	2	1	49.32
Ph.4 L3rd-E4th	39	15	16	0.1	-	2	9	17	2	0.1	26.65
Ph.4 E-M4th	49	20	12	0.3	0.1	1	9	0.1	8	0.1	18.86
Total EVEs											177.76
Causeway La.	Jar	Bowl	Dish	Plate	Lid	Cup	Beaker	Flagon	Mortar	Amph	Tot. EVEs
Ph.1 M-L1st	47	6	-	12	-	7	23	5	-	-	9
Ph.2 L1st-M2nd	49	14	2	8	2	6	9	7	2	0.5	125
Ph.3 M2nd-E3rd	33	15	6	6	4	8	16	8	3	0.3	56
Ph.4 M-L3rd	40	11	18	0.6	0.4	9	13	2	6	-	26
Ph.5 L3rd-M4th	35	13	14	1	2	5	13	10	6	1	182
Ph.6 M-L4th	33	12	25	0.1	0.7	3	10	5	10	0.8	71
Total EVEs											469

Table 3: The glass vessels quantified by EVEs arranged by functional groupings and site phase from Site 1 (all phases from Cool 2009) and Causeway Lane (only Roman phases compiled by Cool 2006, Table 18.1 from data by Davies 1999 and converted to % figures). * = residual

Site 1	Drinking	Bowls	Jugs	Bottles	Jars etc.	Total EVEs
Ph.2 M1st-E2nd	-	-	35	65	-	1.96
Ph.3 M2nd-3rd	36	15	14	32	3	6.40
Ph.4 4th cent	42	13	12	33	-	4.7
Residual	43	8	14	31	4	4.91
Total EVEs	6.30	1.92	2.78	6.32	0.37	17.97
Causeway Lane	Drinking	Bowls	Jugs	Bottles	Jars etc	Total EVEs
Ph.2 L1st-M2nd	8	38	16	16	22	2.61
Ph.3 M2nd-E3rd	49	-	9	42	-	1.64

Ph.5 L3rd-M4th	55	16*	23	6	-	3.64
Total EVEs	3.0	1.6	1.4	1.32	0.57	7.89

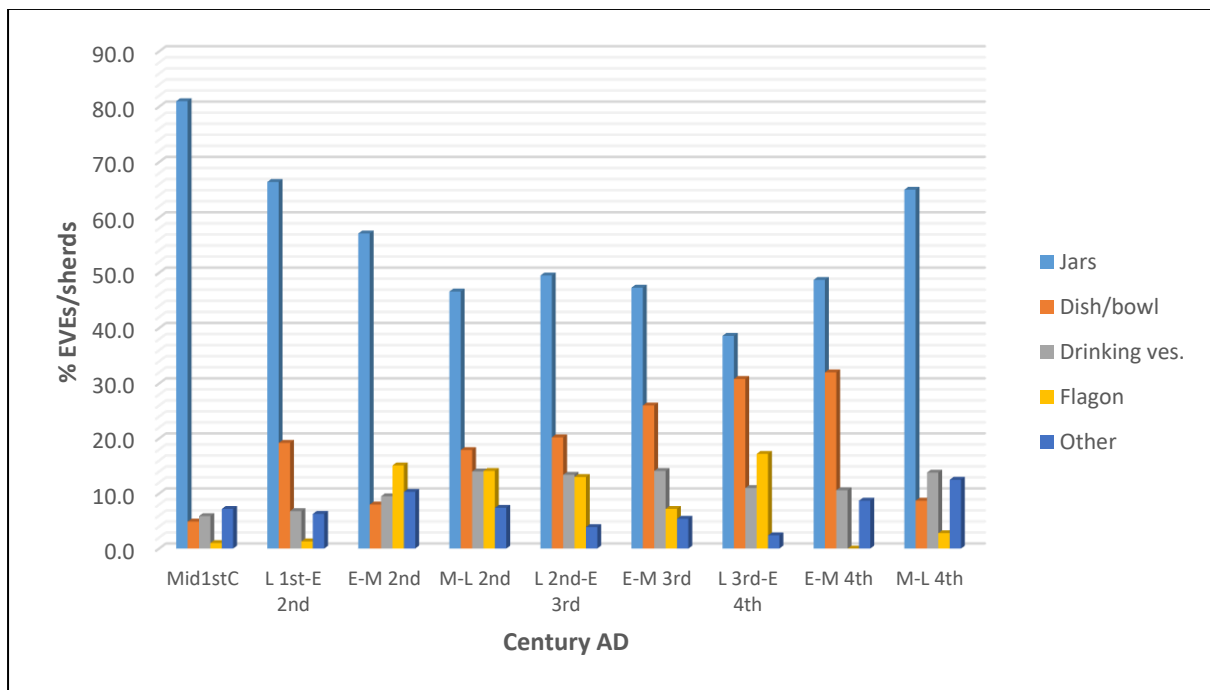


Figure 2: The changing proportions of jars, dishes and bowls, drinking vessels, flacons and other vessels over time from Vine Street (measured by % EVEs) with mid-1st century group from Bath Lane Merlin Works, and mid-late 4th century group from Freeschool Lane (both measured by % sherds).

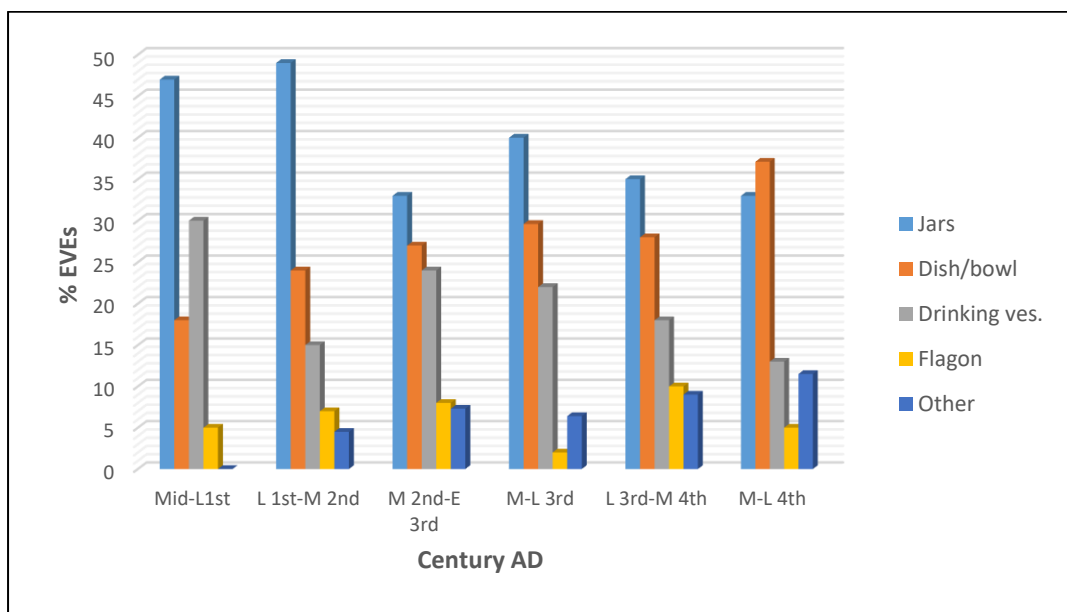


Figure 3: The changing proportions of jars, dishes and bowls, drinking vessels, flagons and other vessels over time from Causeway Lane (measured by % EVEs) (Clark 1999, Tables 9-28).

Figures 2 and 3 illustrate that jars contribute 80% to the Conquest-period assemblage at Bath Lane but that the sequence at both Vine Street and Causeway Lane indicates a dramatic drop in the dominance of the jar down to below 50% during the 2nd and 3rd centuries, with a low of 33%, coupled with signs of a resurgence amongst 4th-century groups at Vine Street and Freeschool Lane. Bowls and dishes, suitable for serving and eating food, as well as for certain methods of cooking, show a corresponding rise across the period from 5% in the mid-1st century to over 30% by the 4th century and, within that trend, there is a move away from shallow platters by the later 1st century towards dishes and bowls. The occurrence of drinking vessels similarly rises from 5% at the Conquest (with an abnormally high level of 30% within a small group from Causeway Lane) to levels of between 13% and 24% during the 2nd and 3rd centuries, declining to as low as 10% during the 4th, probably because of the increased availability of free blown glass drinking vessels (Table 3). The trend for flagons tends to mirror that for drinking vessels, rising to as high as 17% in the 2nd to early 4th centuries and declining sharply thereafter. Amphora routinely contribute less than 1% and are probably not imported after the early 3rd century, whilst mortaria tend to contribute less than 3% before the mid-3rd century, rising to between 6% and 10% in the later 3rd and 4th-century groups. Considering briefly the trends in vessel glass over the same period there is distinct shift from the storage and serving of liquids in jugs and bottles, and the serving of food in bowls, towards a greater emphasis on drinking vessels, as commonly seen at other sites (Cool 2006, 224, Table 19.1 and fig.19.1).

Within Leicester then, figures for individual ceramic vessel categories will vary at the same date in different sequences but the broad trends in vessel use over time are fairly consistent and in line with other urban assemblages in Britain, for example from Verulamium (St Albans), Colchester and Alcester (Evans 2001, 29-31). The contrast with contemporary rural assemblages, is that whilst they will often possess the same range of vessel types as their urban counterparts, they will continue to be jar-dominated with all other vessel types, in some cases, contributing as little as 10%-20% combined, the figure rising for villas and small towns (e.g. Cooper 2007, 44, fig. 4.4a and b).

Dining out in second century Leicester

Overview

This section of the paper looks at two case-studies where ‘atypical’ deposits of ceramics are associated with specific buildings and food remains, suggesting that they had a specialised function related to eating and drinking outside the household. The first is from the fill of a cellar, which perhaps lay below a tavern on Little Lane, containing table wares, drinking vessels, amphorae, and flagons alongside animal bones and oysters. The second is the fill of a latrine pit from Castle Street containing amphorae, flagons, tableware bowls and dishes, but no drinking vessels, alongside exotic plant foods, fish and smoked shoulders of beef, and is considered to relate to a ‘delicatessen’-style ‘take-away’.

The Little Lane cellar

Structure 8 on Little Lane, excavated in 1988 in advance of the Shires shopping centre, was the remains of a timber-lined cellar, belonging to a building fronting on to the east side of the street, and constructed in the middle of the 2nd century (Lucas and Buckley 2007, 29, Fig 19 Ph.5.6/6.3 F186; Sawday 1989, 32-35). The date of the pottery indicates that the building above was demolished and the cellar backfilled soon afterwards, probably between 160 and 180, and certainly no later than 200 (Pollard 2007, 213). A remarkable assemblage of over 5,600 sherds of pottery (163kg, 173 EVEs with high average sherd weight of 29g), was retrieved from the back fill, alongside animal bone representing the main domesticates and some wild species, and large numbers of discarded oyster shells (Monckton 2007, 481). The plant remains were sparse except for a scatter of cereal remains including wheat grains, probably spelt.

Table 4 Quantified analysis of vessel forms from the Little Lane cellar measured by EVEs

Little Lane Cellar Phase 6.3 F186 c.160-180		
Form	EVEs	% EVEs
Flagons	56.05	32
Jars	40.73	24
Bowls	19.48	11
Dishes	22.54	13
cups	9.76	6
beakers	13.96	8
Amphora	1.78	1
Tazza	2.14	1
Misc. Mort/Lids etc.	6.85	4
Total	173.29	100

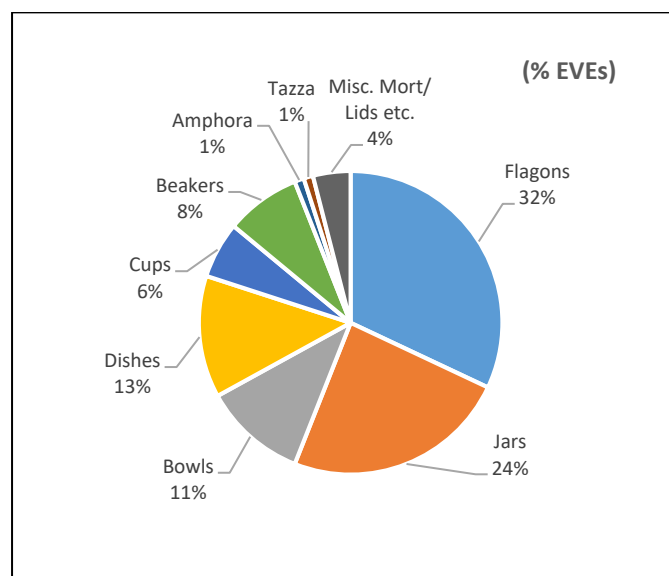


Figure 4. Pie chart showing quantified analysis by vessel form of the Little Lane cellar assemblage, expressed as percentage EVEs.

The pottery assemblage (Table 4, fig. 4 above) contained a very high proportion of white ware flagons (over 30% by EVEs) when compared to the contemporary phase groups from Vine Street and Causeway Lane, whilst the proportion of bowls, dishes and drinking vessels are actually as expected, with jars being markedly lower. Amphora contribute an expected 1% and comprise at least five of Dressel 20 (olive oil) from southern Spain and one of Gauloise 4 (wine) from southern Gaul, with sherds of Dressel 2-4 (wine), Cam186 (fish sauce) and the basal spike of a 'carrot' amphorae Cam189, thought to transport dates, all of which are possibly residual in this context (Pollard 2007, 213-20). Imported Gallic samian table wares, contribute 14% which is slightly above what might be expected and included 27 decorated bowls and 30 stamped vessels, together with an unusually large proportion of cups, mainly of Form 33, with about one third as many Form 27s, all of which show a degree of wear on their foot rings (6%). Whether these samian cups were used for drinking or as mixing bowls for sauces on the table, is a matter of debate (Dannell 2006, 158), but additionally, the assemblage contained many bag-shaped beakers (8%) with clay roughcast, roulette and *en barbotine* figural decoration, made locally in orange fabrics and, further afield, with dark colour-coats from the Lower Nene Valley and Cologne, alongside handled mugs made in BB1 from Dorset. The most unusual occurrence was that of tazza (1%), frilled rim bowls popularly considered to be incense burners. There were also a significant number of jugs and drinking vessels in glass from the cellar fill (Monk 2007, 382), perhaps indicating an establishment of some class.

The oysters had been opened on the premises, as triangular notches caused by inserting a pointed knife blade between the valves and twisting, were apparent on many, usually directly opposite the hinge. The oysters were then presumably presented for consumption inside the cupped valve, on dishes, perhaps. However, the fact that there are 25% less cupped valves than flat ones, would indicate that some oysters were eaten off the premises, as take-away items. Mussels and a small number of whelks were also consumed on the premises. According to Apicius (Edwards 1984), sauces popularly served with oysters, contained wine, olive oil and fish sauce, which might therefore explain the presence of the relevant amphorae, although the small number of those for transporting wine may not accord with the numbers of drinking vessels, if that was the beverage being consumed. The presence of large numbers of drinking vessels sets this assemblage apart from the proposed delicatessen at Castle Street, described below, and in conjunction with the large numbers of oysters imported from the east coast, suggests the remains of a tavern, selling snacks alongside alcohol, to be consumed on the premises, as paralleled by the Room 4 frontage in *Insula XIV* at Verulamium where a large deposit of oyster shells was also found (Frere 1972, 12).

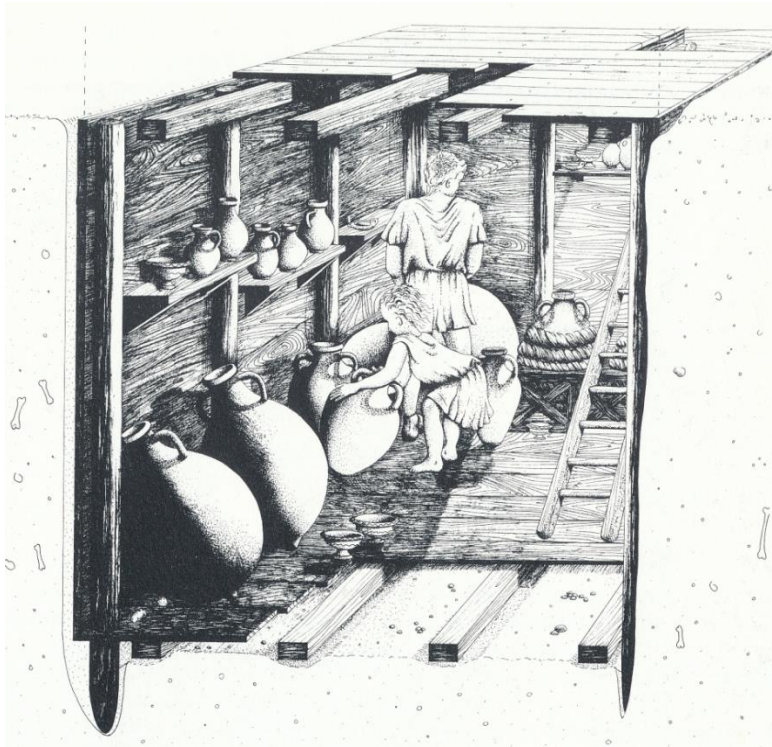


Figure 5 Artist's impression of the Little Lane Cellar showing olive oil and wine amphorae on the floor and a tazza and flagons on the shelf above. Drawing by Sue Moodie copyright Leicester City Museums (Sawday 1989, 35).

The Castle Street 'Delicatessen'

Excavations at the junction of Castle Street and 72, St Nicholas' Circle (Score *et al.* 2010, 78) revealed a colonnaded shop front facing east on to the main street, to the south of the forum, behind which was a cess pit (Pit 1067) containing evidence to suggest that one of the shops had been the Roman equivalent of a delicatessen, selling meat, fish, fruit and wine during the middle of the 2nd century. Conditions in the cess pit allowed for the mineralisation of an exceptional range of seeds including exotic imports, alongside an 'atypical' assemblage of animal bone and pottery which would not be found in a domestic rubbish deposit.



Figure 6: Selection of fine and specialist wares from the latrine Pit 1067, showing decorated samian bowls (left), Dressel 20 olive oil amphorae (centre) and white ware flagons (right). Notice the lack of drinking vessels in the group.

The assemblage of 469 classifiable sherds (20kg), of later 1st to mid-2nd century date, comprised a higher proportion of amphorae (20%) and flagons (33%) than found in contemporary deposits on Vine Street and Causeway Lane (Fig.7 below). The amphora types comprised Dressel 20, Gauloise 4, Dressel 2-4, *Cam* 186 and Fishbourne 148.3, representing at least six vessels; Baetican Dressel 20 olive oil and Gaulish Gauloise 4 wine amphorae are the most common types found in Leicester. The Dressel 2-4 wine amphora is most likely to have come from Italy, and the *Cam* 186 (Cadiz fabric) is thought to be used for transporting fish sauces (Peacock and Williams 1986, Class 17). The source of Fishbourne 148.3 amphorae is unknown, although it may be related to the *Cam* 189 ‘carrot’ amphora, which has been associated with the transport of fruit such as dates (Peacock and Williams 1986, Class 12). The average sherd weight of 42g is exaggerated by the presence of these bulky amphora, but even without them, the figure is a respectable 26g, supporting the contention that this is a primary deposit. At least 17 flagons, including devolved ring-necked and two-handled collared forms, are represented from sources such as Mancetter-Hartshill, Northamptonshire and Verulamium. In addition, 77% of the bowls, dishes, plates and platters are imported samian table wares from Southern and Central Gaul, representing at least 26 vessels. The forms present include Dragendorff 15/17, 18, 18/31, 18/31R, 79, 30, 37 and Curle 11, ranging in date from the late first century through to the middle of the 2nd century. Significantly, however, in contrast to the cellar group from Little Lane, there is a complete absence of samian cup forms Dr. 27 and 33 or, indeed, cups or drinking beakers in any other ware.

Table 5 Quantified analysis of pottery by sherd count and weight from latrine Pit 1067, Castle Street

Form	Sherds	% Sherds	Weight (g)	% Weight
Amphora	94	20.0%	10184	51.5%
Bowl/Dish	60	12.8%	1616	8.2%

Flagon	156	33.3%	4035	20.4%
Jar	145	30.9%	3627	18.3%
Mortarium	6	1.3%	282	1.4%
Plate/Platter	8	1.7%	49	0.2%
Total	469	100.0%	19793	100.0%

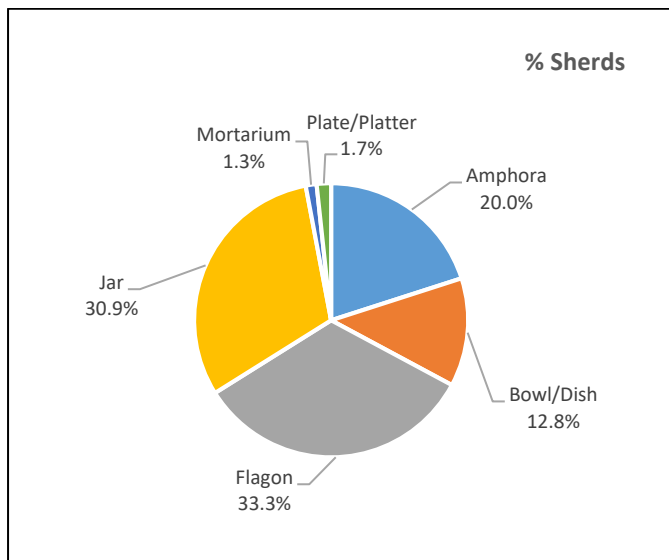


Fig. 7 Pie chart showing the proportions of vessel types from Castle Street latrine Pit 1067 by % sherd count

The preserved plant foods included grape pips, apple pips, stones of small plum or bullace, seeds of wild strawberry and figs and a single seed of opium poppy, which was used both medicinally and as a food flavouring. The animal bone assemblage of 198 fragments, included the remains of 16 adult cattle scapulae, all butchered in a distinct manner and with a hole through the blade used to suspend the shoulder during the drying or smoking process (Cool 2006, 89). Oblique knife cuts on the scapulae suggested that the cured or smoked beef was sliced off the bone. Both pig and sheep skull fragments were recovered from the pit as well as other meat-bearing sheep bones, and the assemblage also included domestic fowl. The fact that all parts of the carcass were being exploited alludes to the possibility that products, for which we have no direct evidence, such as sausages and blood pudding, were also being sold on the premises. The environmental samples produced a small number of fish bones and scales among which eel was identified, as well as a few bones which may belong to herring (Score *et al.* 2010, 00).

In summary, the pottery indicates the presence of imported olive oil, wine and preserves transported in amphorae, but probably decanted into the flagons for sale, whilst the presence of samian dishes and bowls, but not cups, or beakers in other wares, would suggest the presentation of items for sale rather than the consumption of food and beverages on the premises. The botanical evidence demonstrates the importation and introduction of a range of fruit and seeds which may also have been sold on the premises, whilst the faunal remains

indicates the selling of smoked or cured beef carved off the bone and fish, both freshwater and marine, perhaps preserved in salt or prepared as a sauce.

Eating in at Vine Street: the kitchen and dining room of a wealthy later Roman household

The room at the southern end of the west range of the Vine Street courtyard house, when it was at its height of sophistication, was identified as a kitchen due to the presence of hearths and a drain, and traces of cereals accumulated on the floors detected by micromorphological analysis of the soil (MacPhail 2009). An impression of the contents of the kitchen, and some of the food cooked there is provided by two deposits dating to the later 3rd and into the mid-4th century. The first of these is the fill of two latrine pits G526 dating to the later 3rd or early 4th century (Table 6 and Figure 8), and the second is the fill of the kitchen drain G1004 at the time when it was being re-used as a culvert for the workshop, which had taken over the kitchen space when the house was in decline by the middle of the 4th century. The latrine pits contained a range of pottery vessels dating to the later 3rd century, together with a variety of exotic food remains unlike any from the earlier phases of the site.

Table 6: Quantified analysis of pottery from latrine pits G526 at Vine Street courtyard house

Form	Sherds	% Sherds	Weight (g)	% Weight	EVEs	% EVEs
Amphora	9	1.8%	901	4.0%	0	0.0%
Beaker	35	7.0%	586	2.6%	1.875	9.2%
Bowl	40	8.0%	1781	7.9%	2.07	10.1%
Cup	5	1.0%	38	0.2%	0.36	1.8%
Dish	42	8.4%	2918	12.9%	3.245	15.8%
Flagon	89	17.8%	2445	10.8%	4.575	22.3%
Jar	261	52.1%	8351	37.0%	7.815	38.1%
Mortarium	20	4.0%	5520	24.5%	0.55	2.7%
Total	501	100.0%	22540	100.0%	20.49	100.0%

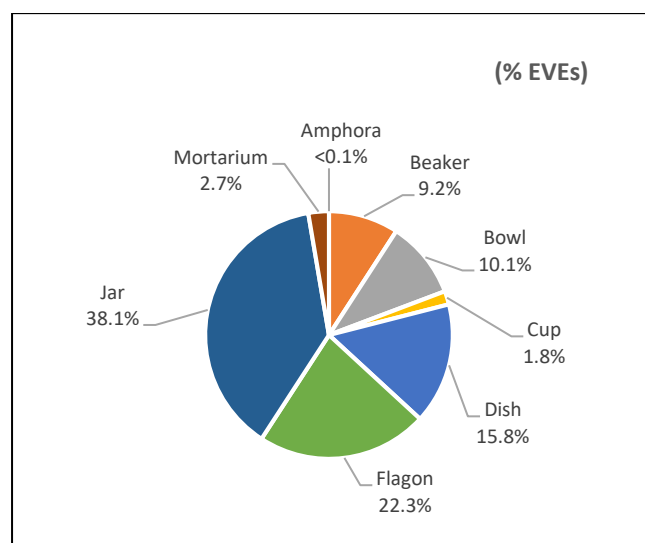


Figure 8. Pie-chart showing proportions of vessel types from latrine pits G526 at Vine Street, expressed as % EVEs.

The pottery from the latrine pits comprised colour-coated ware beakers and flagons together with a wide range of cooking vessels in black burnished ware 1 from south-east Dorset, including at least 12 cooking pots, nine plain rimmed dishes and a number of flanged bowls. Four of the cooking pots had soot deposits on their exterior surface, together with lime scale on their interiors, whilst the dishes were generally large (260mm and 280mm in diameter) with sagging bases (Fig.9). This type of base makes the vessel less appropriate for flat surfaces but may have been intended to sit in the ashes of a hearth or perhaps on a brazier, and recalls the convex bases of a specialised casserole used in North Africa, designed to sit on a brazier, and made briefly in York in the first decade of the 3rd century, when the African emperor Septimius Severus was in residence (Cool 2006, 40 and fig.6.1). This vessel type, which was suited to the cooking of dishes with a drier texture than that possible in a cooking pot (Cool 2006, 39), might have been particularly useful. Certainly dishes of this diameter and larger (over 300mm) generally become more popular from the later 3rd century onwards (Holbrook and Bidwell 1991, 100) and probably point to the growth of a more communal style of eating, whereby individuals could more easily help themselves to portions placed centrally on a table. This suggests a form of ‘commensalism’ which was probably becoming more widespread with the rise of Christianity in the 4th century, and has been detectable in the evolution of dish forms in African red slip ware, the successor to samian across much of the Western Empire, small amounts of which come to Britain (e.g. Tyers 1996, 152, fig177.23). The pottery vessels found lining the workshop drain G1004 were presumably those used in the kitchen at the end of its life and included a similar range of BB1 cooking pots, bowls and dishes to that from the latrine pits, together with the more gracile, reeded-rim mortaria from Mancetter-Hartshill and large indented beakers from the Lower Nene Valley (Fig.9).

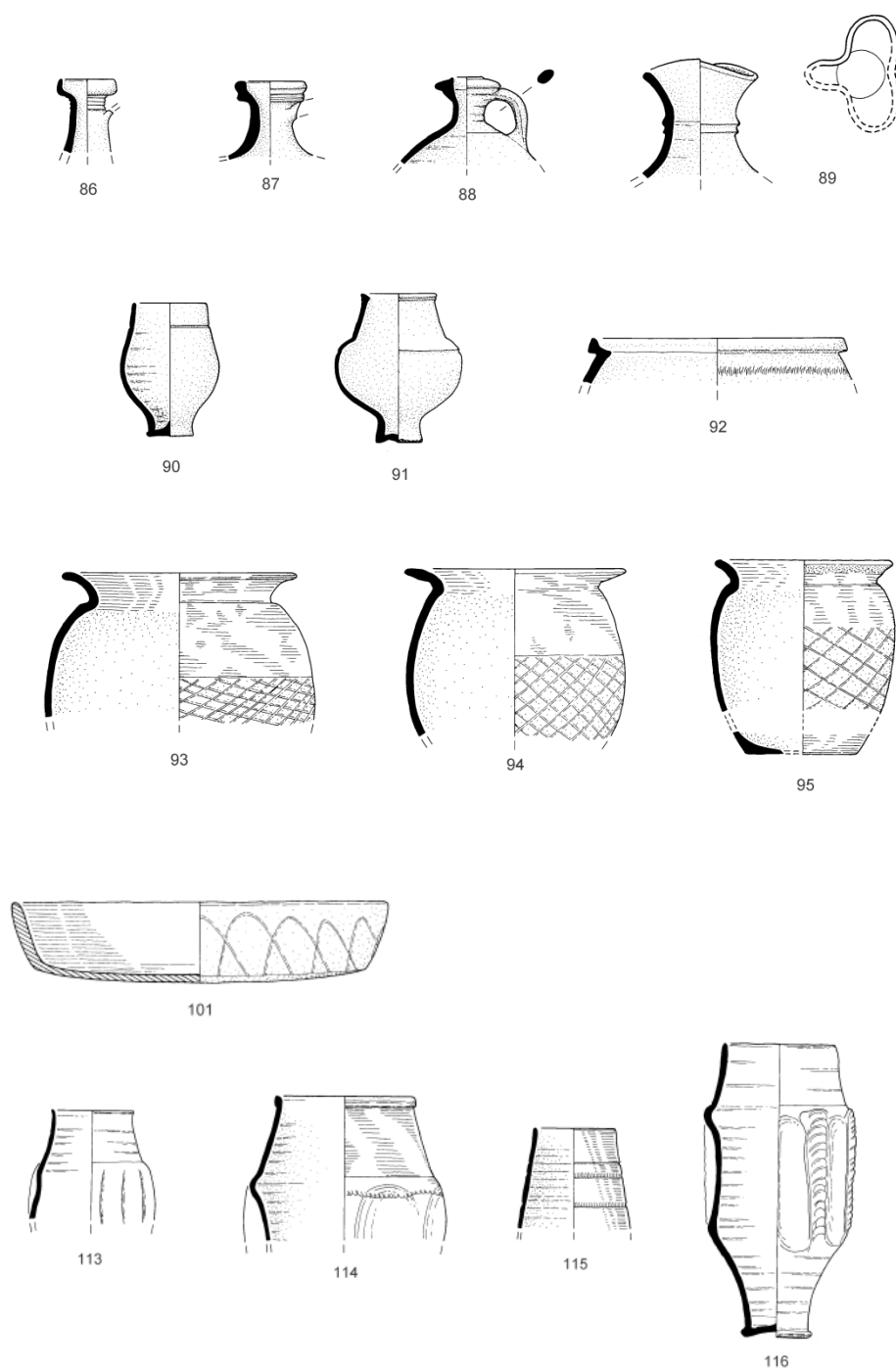


Fig 9 Selection of vessels from the latrine pits from the Vine Street courtyard house, showing colour-coated ware flagons (86-89), colour-coated beakers (90-91) black burnished ware cooking pots and dish (93-95) and colour-coated indented beakers from the kitchen drain (113-116).

The conditions in the latrine pits had allowed for the mineralisation of a range of plant remains comprising numerous fruit stones of sloe, bullace, plum, cherry and apple from one, and fig and opium poppy seeds from the other (Monckton 2009, 00). Both pits also contained evidence of spelt wheat grains and cereal cleaning waste as well as abundant remains in the form of

bones and scales for both freshwater and marine fish, including herring, eel, smelt, perch, small cyprinids such as bream and grayling. Whilst evidence of chewing showed that many of these small bones had passed through the gut, of particular note was the occurrence of the remains of a barbel skeleton, 460mm in length, indicating table waste of an elite nature. A group of oyster shells from the cesspit were noticeably larger than those from other sites in the town and the presence of diagnostic infestations, indicated that some may have derived from the south coast rather than the usual east coast source previously identified (Hill 2009, 490). Animal remains included a cattle scapula with suspension hole from a cured or smoked shoulder of beef of the kind for sale at the delicatessen in Castle Street, above (Browning 2009, 00). The implication that the household could afford to buy a whole shoulder, rather than a few slices of beef, is another measure of their likely wealth. Other species from the site, but not specifically from the deposit, included roe deer, red deer, hare, domestic fowl and goose.

Dissecting the ‘typical’ assemblages: trends across the town and suburbs

Background and methodology

Besides the large-scale excavations in the town, there have been numerous other interventions over the last three decades that have generated pottery assemblages varying in size from thousands of sherds (e.g. early phases at Vine Street) down to less than a hundred (e.g. Duns Lane), and within which quality will inevitably vary. The aim of this last section of the paper is to take data from 26 of these assemblages, dating broadly between the mid-late 1st and later second centuries AD when activity was most intense in Leicester and rubbish disposal at its highest level. About 6000 vessels (using row counts; a single sherd or sherd family; EVEs data are unsuitable as not whole numbers) were identified by form and fabric within these groups using the vessel classes already described and simplifying the fabrics into generalised local (e.g. grey wares), regional (e.g. BB1 and colour-coated wares) and imported (**fine**) (e.g. samian and amphora) sources of supply, in order to create 23 discrete fabric/form categories (**Table 7**). Since little is known of Roman pottery production within the local hinterland of Leicester (*c.* 15 mile radius), the distinction between local and regional categories is arbitrary in some cases, but not significant (see Cooper 2004, fig. 00). The assemblages were analysed using the *ade4* package in R to conduct a spatial Correspondence Analysis (sCA, Chessel *et al.* 2004; Dray and Dufour 2007; see also Sterry, this volume for a fuller discussion of its potential use with archaeological material). This is similar to a standard correspondence analysis (e.g. Baxter 1994; Cool and Baxter 1999), but spatial information is included via a spatial weighting matrix.

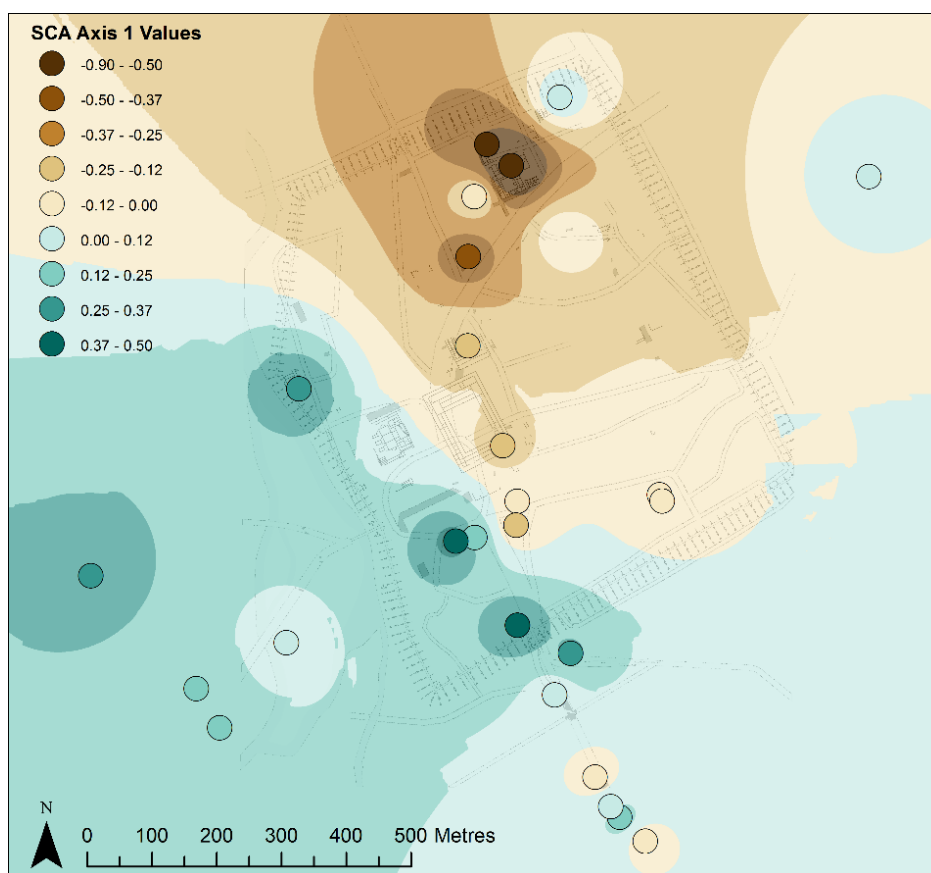
Table 7. Ceramic assemblages from mid-late 1st to later 2nd century Roman Leicester and suburbs. Data supplied by ULAS from project archives.

The results and how to read them

There are two elements to the results which should be read together. Firstly, the bi-plots generated by the sCA (fig. 10a and b) should be read such that the origin represents ‘the average profile’ and that locations away from this represent ‘departures away from the average’ (Shennan 1997, 321). The axes themselves represent part of the chi-squared distance between row profiles (in this case the different site assemblages). Points that plot together should share

some similar characteristics, while points that are diametrically opposed should have dissimilar characteristics. In the spatial visualisations (fig.11 a and b), the axes scores are used to generate colours; **in all cases**, sites and locations with similar colours should have similar characteristics because they plot near to each other on the bi-plot, hence they can be read intuitively. In the visualisation of a single axis, using a divergent colour scheme generated with colorbrewer 2.0, the axis scores are interpolated using a simple inverse distance-weighted method. In the visualisation of the two axes (fig.12), the colour of each site symbol represents the direction from the origin on the bi-plot and the size of the symbol represents its distance from the origin.

Figure 10. sCA bi-plot of first and second axes (a) fabric/form categories, (b) site assemblages.



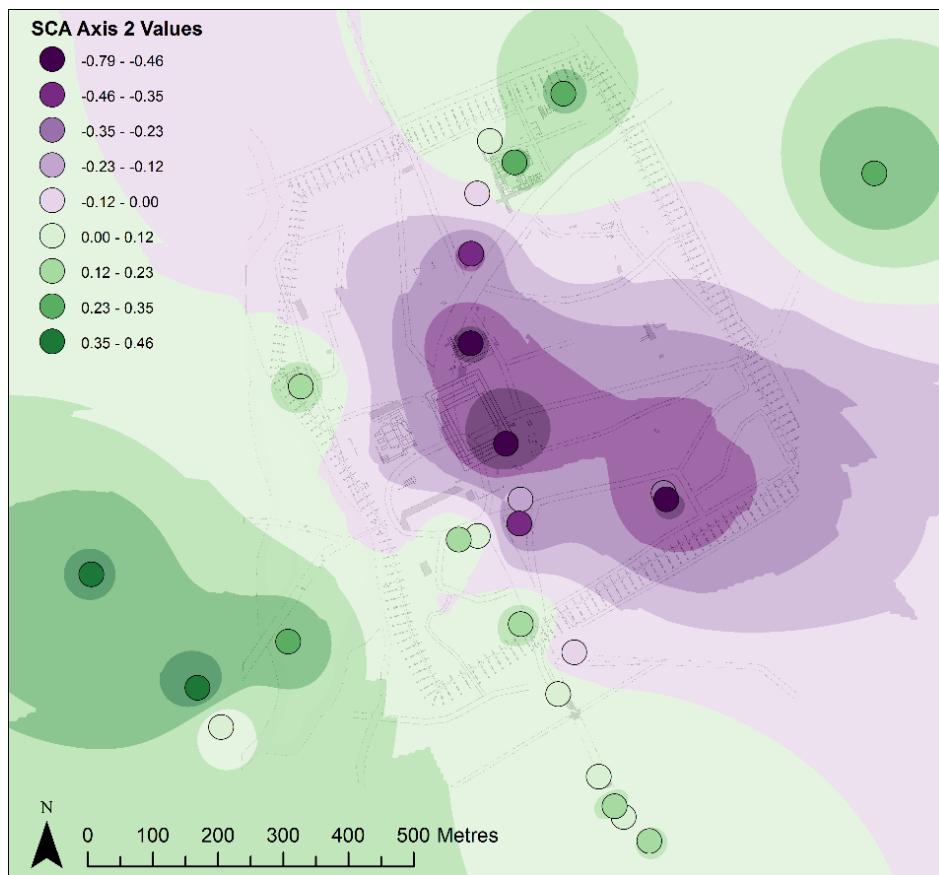


Figure 11. Spatial visualisation of sCA axis values for site assemblages (a) axis 1, (b) axis 2.

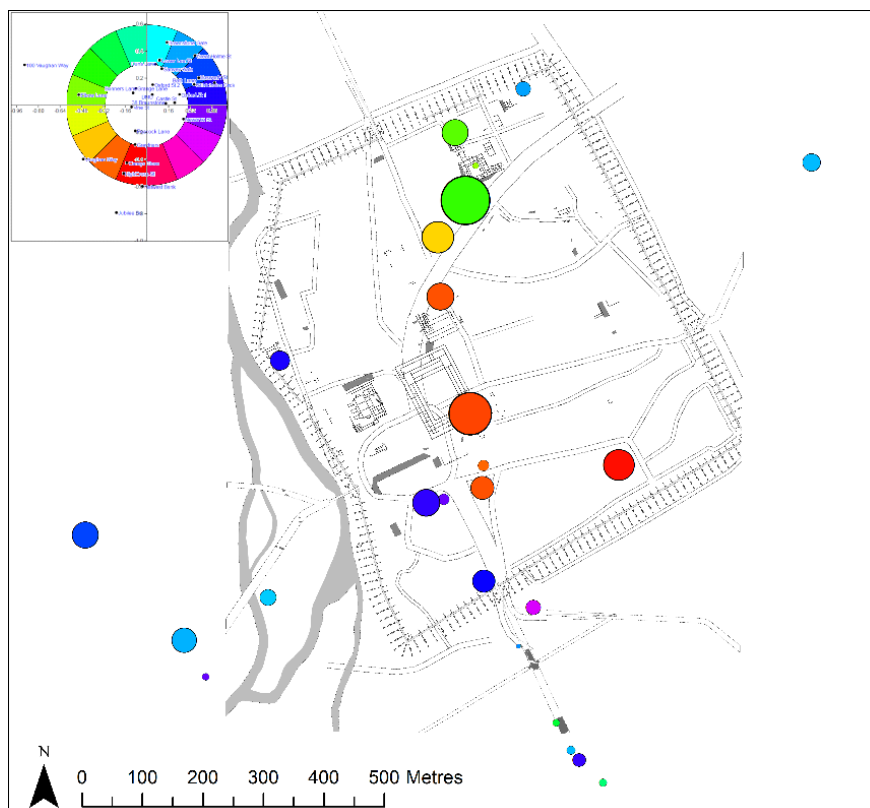


Figure 12. Spatial visualisation of sCA bi-plot. Colour of symbol denotes direction from origin and size denotes distance from origin.

The results of the spatial Correspondence Analysis suggest that there is a strong spatial structure to the assemblages in both the first and second axes. In the first axis (Fig.11a), sites from within the (later) enclosed area of the town, tend to more negative values, especially in the north-east quarter, while sites along the waterfront and in the western and southern suburbs (as well as Lower Lee Street to the east) tend to more positive values. In the second axis (Fig.11b), the central part of the town has more negative values, whilst the more peripheral parts, and the suburbs, have more positive values. This implies that we should be able to distinguish between assemblages, firstly from the central part of the town around the Forum/basilica and Macellum; secondly, the residential parts, particularly the town houses in the north-east quarter, and lastly the waterfront and the suburbs.

Defining the character of these assemblages in terms of vessel types is perhaps less straight forward. On the first axis, flagons and dishes (negative) are opposed by amphora and platters (positive) with local vessels are mostly central and no clear groupings for cups, beakers and bowls. On the second axis, imported (fine) vessels (negative) are largely opposed by regional vessels (positive) with local vessels again fairly central to the plot. Vessel types that occur commonly in all assemblages of this date range, such as local jars, regional flagons and imported cups and dishes in samian ware, tend to cluster around the origin, whilst platters and amphora will denote sites of earlier date, opposing regional bowls and dishes which do not become common until the later 1st and 2nd century. Outliers such as local flagons, imported jars and flagons only occur in small numbers and are anomalous or wrongly attributed to source (i.e. flagons and jars are not imported).

Interpretation

How can these variations be interpreted? It is considered that the visualisation of Axis 1, is likely to be an expression of the chronological variation within the 26 assemblages; the waterfront and river crossing, centring on the location of the oppidum, have greater numbers of earlier vessels (first century AD) and those further away, that develop once the street grid is in place, have greater numbers of later vessels (second century AD). Referring back to the data presented figures 2 and 3, the changes to the vessel repertoire are quite rapid during the second half of the first century and the second century, and so this would not be a surprising explanation. Whilst it may not help distinguish different contemporary table habits, it does give some insight into how the city developed as well as emphasising how chronologically sensitive dining practices can be across a 150 year period.

The second axis, perhaps contains more useful information. It suggests that there are some differences in depositional practices between the civic centre around the forum and the more residential parts of the settlement. For example, consumption patterns and depositional practices relating to rubbish collection and disposal, as well as vessel curation, may have differed markedly between the shops and tavernas closer to the centre and the town houses towards the periphery. As evidenced by the 'atypical' groups detailed above, such variations

clearly existed and, but for the intervening two millennia of urban growth and consequent disturbance, would be far more widespread and obvious to us today.

Conclusion

This study has enabled the publication of two previously unavailable ‘atypical’ assemblages and their associated plant and animal evidence, and the exposure of another such assemblage to a wider audience. There is no doubting the importance of publishing such groups so that we can start to discuss eating and drinking, which was on everybody’s mind at the time, rather than just pots, which certainly never entered the consciousness of most people! The application of spatial correspondence analysis to a large body of data has allowed a preliminary appreciation of the potential for looking at town-wide trends which could easily be transferred to other urban centres with digital pottery archives, and no doubt in time will become standard practice. It has demonstrated that there is meaningful patterning in the assemblages from Leicester that goes beyond a generic ‘background noise’ that might otherwise be ignored. It is a potential starting point from which to consider zonation and differentiation within an urban context, and further chronological refinement of the data sets will no doubt lead to greater clarity. In addition, there are large numbers of rural settlement assemblages from the hinterland of Leicester, from farmsteads, villas and small towns that will allow us to advance our understanding of the urban/rural divide more coherently than we currently do (Cooper 2007, 00).

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